# Credit Substitution and the Euro-Currency Market

## I. Introduction

The inflationary implications of the Euro-currency market continue to be a source of contention and misunderstanding.

One view of the matter is that the market, having some potential for net credit creation, adds dangerously to the rate of world credit expansion. This process, it is said, has undesirable inflationary consequences even for countries with comprehensive exchange controls, since such countries cannot avoid the "indirect" effects of excessive credit expansion. The sheer size of the Euro-currency market, together with its recent rapid growth, is taken as a rough indication of its net credit impact on the system as a whole. The policy conclusion drawn from this is that some form of joint action is necessary to keep the growth of the market within acceptable bounds. It is not sufficient, in other words, that each country should be responsible for regulating the participation of its own residents in the market.

As a challenge to this view, there are others who caution that the case for joint action is not yet well-founded. This case, they argue, has been based too much on purely theoretical inference and assertions of a disputable nature. They consider that there are equally plausible grounds for thinking that the market's size and growth may give a misleading impression of its effect on world credit expansion. Thus, to avoid incorrect policy conclusions, it is necessary first to look at the behaviour of alternative sources of credit supply on a case-by-case basis. This would, of course, not rule out the possibility of joint policy action if it is then considered to be needed.

I myself side with the second of these standpoints, for I believe that considerable evidence can be found to show that the growth of the Euro-currency market represents to a significant extent a

substitution for, rather than an addition to, credit expansion in other forms. By its nature, in other words, the Euro-currency market acts partly as a credit-substitution market. Euro-currency credits would appear to be substitutes for four alternative types of accommodation in particular.

1. *Euro-currency credits as a substitute for domestic credit to non-banks*

Substitution effects of this kind normally occur under conditions of relatively tight domestic monetary policy.[1] However, so far as the Euro-currency market is concerned, these effects must be seen as only one part of the broader pattern of "dis-intermediation" that takes place with respect to the domestic banking system. Indeed, relatively heavy recourse to credit from the Euro-currency market does not necessarily imply that domestic monetary restraint is less efficient than in other countries. To judge this, one has to examine the responsiveness of total net credit growth[2] to changes in monetary policy. This responsiveness depends on (i) the relative degree of monetary restraint; (ii) the rôle of domestic non-bank financial intermediaries; (iii) the size and efficiency of domestic money and capital markets; and (iv) the use made of exchange controls. Clearly, the pattern of response may be different from country to country. This will be shown in Section II, which compares the experience of the United States, Japan and Germany.

Still more to the point, the credits taken up abroad (including those from the Euro-currency market) can in various cases be shown to be significant substitutes for domestic credit. To do this in a meaningful sense, however, it is necessary to demonstrate that, in the *absence* of such credits, the monetary authorities *would have had* to provide a larger volume of domestic credit in order to avoid imposing an excessive degree of monetary restraint.[3] On the basis of recent experience, Section III discussess three

1 But in some cases, too, monetary authorities have encouraged residents to shift from domestic to external sources of funds for balance-of-payments reasons.

2 After eliminating the double-counting involved in "intermediary" lending by financial institutions.

3 In other words, as a substitute for domestic borrowing, credit obtained from abroad can be broken down into two elements, one being the part which the monetary authorities regard as frustrating their control efforts and the other being the part which, were it not available, would have to be replaced by credit from domestic sources.



cases — Germany, the United Kingdom and Italy — in which such substitution effects were pronounced. Other examples might be found for the same period.

2. *Euro-currency credits as a substitute for domestic "monetary base" creation*

From the point of view of domestic banks, recourse to foreign funds is a source of "high-powered" reserve money equivalent to that of central-bank credit. As is well-known, the Euro-currency market has largely served as an interbank market to which banks may readily turn, in so far as they are free to do so, to obtain additional liquid funds. As a matter of effective credit control, therefore, most monetary authorities have devised means by which their banks' access to foreign funds can be regulated. In doing so, the desirability of such inflows is judged mainly on balance-of-payments grounds.

A variety of techniques has been used to control net inflows via the banks.[4] Most commonly, guide-lines or directives are laid down with respect to net foreign (or foreign currency) positions, In Germany and the United States special reserve requirements have been applied, while certain countries (e.g. Switzerland and France) have on occasion provided for a direct sterilisation of net inflows by means of special deposits with the central bank. In the United Kingdom, on the other hand, inward switching by the banks has normally been permitted, provided the funds so borrowed are covered forward. And so on.

Controls on net outflows have been less common, though several countries introduced them temporarily in 1969 when sharply-rising Euro-rates attracted funds from abroad. The banks of certain countries, particularly Germany, the Netherlands and Switzerland, have used the Euro-currency market as an off-shore money market for excess liquid funds.

Under conditions of monetary restraint, banks may find it possible to borrow in the Euro-currency market either because controls are loose or non-existent or because the authorities permit or encourage it on balance-of-payments grounds. Whatever the reason,

4 See Milton Gilbert and Warren McClam, "Regulations and policies relating to the Euro-currency market", in *The Euro-dollar*, edited by Herbert V. Prochnow (1970), especially pp. 353-54.

the monetary authorities generally have sufficient instruments at hand to enable them, in so far as they wish, to make compensatory reductions in domestic sources of bank liquidity. Section IV discusses the question of substitution effects between foreign and domestic sources of reserve funds.

## 3. *The Euro-currency market as a substitute for foreign money markets*

Viewed in a longer-term context, the development of the Euro-currency market can be seen as a substitution for foreign money markets, as a result, on the one hand, of non-resident borrowers' restricted access to the New York and London money markets and, on the other hand, of the limited development of money markets on the continent and in Canada and Japan (see Section V).

Following the introduction of the US Voluntary Foreign Credit Restraint Programme in March 1965, short and long-term claims on foreigners reported by US banks levelled off and were permitted little scope for growth until 1970 and after.

Similarly, lending in sterling by London institutions to borrowers outside the sterling area has for many years now been of negligible importance. Indeed, the development of the Euro-dollar market received a strong impetus in 1957 when the UK authorities placed certain limitations on British banks in the financing of foreign trade between other countries on a sterling acceptance basis.

At the same time, there has been no evident tendency for other countries to take over part of the rôle of New York and London as international markets. Money markets in most continental countries and in Japan are principally local interbank markets, usually small and circumscribed. Except in Germany and Switzerland, exchange controls are employed with a view to regulating both outflows and inflows of bank and non-bank funds. Moreover, apart from bank deposits in local currencies (and even this may not be allowed), the range of money-market assets available to non-residents is quite limited. The aversion to the development of the market appears to be of long historical standing, stemming from the desire for monetary autonomy and the fear of volatile capital movements.[5]

5 Switzerland's attitudes were already well-established over thirty-five years ago. "... The Swiss National Bank has not favoured or encouraged the development of an international money market. The central bank authorities have felt that foreign funds come to Switzerland not primarily because of the country's outstanding qualifications as an international money market, but rather for the sake of safety, and that they are therefore subject to instant withdrawal". JOHN T. MADDEN and MARCUS NADLER, *The International Money Markets* (1935), pp. 510-11.



## 4. *The Euro-currency market as a substitute for forward exchange markets*

Under normal conditions, when exchange rates are not in doubt, forward exchange facilities, either domestic or in other centres, are generally adequate to meet hedging requirements. The mechanism tends to break down, however, when rate relationships come under suspicion, as was the case almost continuously from 1967 to 1971. In these circumstances, with the demand for forward exchange falling short of supply, the Euro-currency market becomes an alternative means for obtaining exchange cover. What generally happens is that the exporter, anticipating foreign exchange (say, dollar) receipts, borrows spot in the Euro-dollar market, switches into the strong currency (say, Deutsche Mark) and places the funds temporarily in Germany or on the Euro-DM market.[6] When subsequently received, the dollar proceeds are used to liquidate the Euro-dollar credit.

Moreover, changes in terms of payment probably also give rise indirectly to an increased demand for Euro-currencies. If, for example, a German importer delays the settlement of a contract in dollars with a US multinational firm, the latter may turn to the Euro-dollar market for additional funds.

In view of the exchange uncertainties in recent years, a considerable amount of borrowing in Euro-currencies, particularly the dollar, may have been attributable, directly or indirectly, to hedging (and speculative) motives.

The four substitution possibilities mentioned above are not always pure categories. In Germany, for instance, in 1970 and early 1971, company borrowing in the Euro-dollar market may have served both as forward cover for export proceeds and as a substitute for domestic credit. The German experience is discussed in Section VI.

6 To the same effect, the exporter may sell forward exchange to his bank, which in turn covers itself by borrowing spot in the Euro-currency market.

## II. Monetary Restraint and the Growth of Total Net Credit

The application of monetary restraint causes the demand for credit to shift in part from the banks to non-bank financial intermediaries, to "direct" borrowing from the public in domestic markets and to borrowing from abroad (of which Euro-currency borrowing is only a part). Conversely, when monetary ease is pursued, the banks are able to attract a greater proportion of financial funds. However, the pattern of flows under changing monetary conditions differs considerably from one country to another.

### 1. *The United States*

As reflected in the graph, the main periods of monetary restraint have been 1955-57, 1959, 1966 and 1968-69. Also in 1953 restraint was applied up to about the middle of the year.

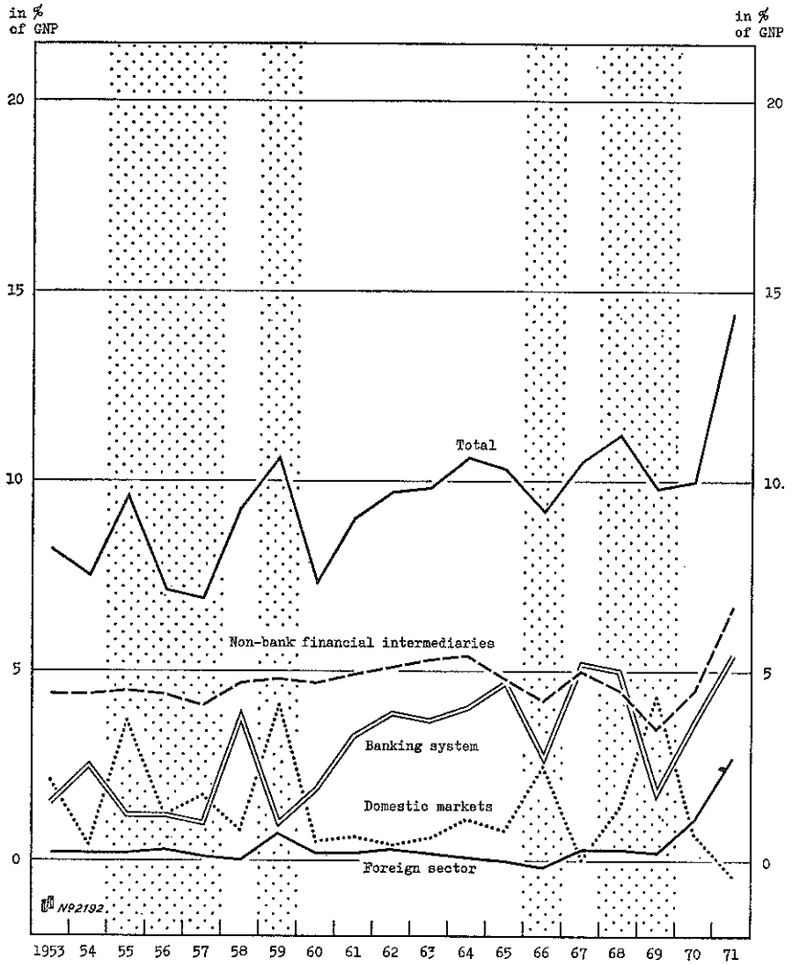
In 1955, 1959, 1966 and 1969 the reduction in new lending by the banking system was approximately offset, or even more than offset, by the growth of direct lending outside the system of financial intermediaries. Dis-intermediation of this kind has long been a feature of the US monetary system. The rise in market rates relative to deposit rates induces lenders to invest directly in money-market paper and securities. The scale on which this has happened is a reflection of the country's highly developed financial markets.

In 1955 and 1959, it will be noticed, the decline in bank credit was accompanied by an actual increase in total net credit expansion. Relative to the gross national product, lending by non-bank financial institutions remained stable, and the weak impact of the squeeze on bank credit was associated mainly with dis-intermediation via the markets. Thus, monetary policy worked only with a long lag, with declines in total net credit occurring only in 1956 and 1960.

The experience was different in 1966 and 1968-69. These were years in which Regulation Q ceilings on deposit rates were deliberately used as an element of monetary restraint. Not only the commercial banks but also the non-bank financial intermediaries (principally the mutual savings banks and the savings and loan companies) lost funds to the markets. Indeed, the impact appears to have come earlier for the non-bank financial intermediaries than for the commercial banks. At all events, the squeeze on bank credit in both 1966 and 1968-69 was accompanied by a decline, of smaller



UNITED STATES
TOTAL NET CREDIT GROWTH: CHANNELS OF SUPPLY *




* For data, see Annex 1. Shaded areas represent years dominated by credit restraint.

magnitude, in total net credit growth. Expressed as a proportion of gross national product, the banking system's new lending dropped from 1965 to 1966 by 2.0 percentage points (i.e. from 4.7 to 2.7 per cent), but the growth of total net credit declined by only 1.1 percentage points (from 10.3 to 9.2 per cent). This implies for 1966

a "coefficient of response" of total net credit with respect to the change in bank credit of 0.55 (i.e. — 1.1 divided by — 2.0), signifying that the decline in total net credit was 55 per cent of that in bank lending (both expressed as proportions of gross national product).[7] For the two-year restraint phase 1968-69, which was interrupted by a temporary easing in the latter part of 1968, the coefficient of response was only 0.21, while for the year 1969 alone, under conditions of particularly strong credit demand, it was 0.44.

Inflows from abroad have not played a significant rôle in weakening the impact of monetary restraint. The sharp rise in the foreign sector's lending from 1969 to 1971 reflects mainly the acquisition of government paper by foreign central banks as a counterpart to their large purchases of dollars.

In longer-term perspective, the graph shows that bank credit expansion proceeded at a much higher average rate in 1961-71 than in the period 1953-60. Since 1965 it has been not far short of new lending by the non-bank financial intermediaries. Among other things, these results reflect the relative ease of monetary policy which characterised the whole period 1961-71 except for 1966 and 1968-69.

## 2. *Japan*

Over the ten years 1954-63 the growth of total net credit accelerated sharply relative to that of the gross national product. From 1964 to 1970 the two growth rates moved more in parallel, although total net credit continued to expand at a far higher average rate than in most other countries. The development in the earlier period is to be explained mainly by: (i) the growth of gross private investment from an average of 16.7 per cent of gross national product in the years 1953-55 to 28.6 per cent in 1961-63; (ii) the economy's heavy dependence on borrowed funds to finance investment; and (iii) the exceptional post-war need to build up liquidity. In the later period there was a continuation of a high rate of gross private

7 The "coefficient of response" between total net credit and changes in bank credit is here proposed as a measure, albeit crude, of the efficiency of monetary restraint. Scaling both variables to the gross national product, a coefficient of unity signifies that total net credit declines by exactly the same amount as bank credit alone. A coefficient of less than unity means that credit obtained via non-bank channels rises relative to GNP so as to offset in part the impact of monetary restraint on bank credit, while one of more than unity means that the decline in bank credit is reinforced by a falling-off in credit from other sources.



investment (which in 1969-71 averaged 29.6 per cent of gross national product) and of heavy reliance on borrowed funds.

In the graph the years in which monetary restraint predominated can be roughly identified as follows: 1954, 1957, 1961-62, 1964, 1968 and, to a moderate extent, 1970.

As can be seen from the graph, the behaviour of total net credit is much more responsive to changes in bank credit than it is in the United States. With the shift to monetary restraint in 1968, for example, the banking system's new lending declined as a proportion of gross national product by 2.3 percentage points (i.e. from 10.6 to 8.3 per cent), while total net credit dropped by 1.9 percentage points (from 23.5 to 21.6 per cent). The "coefficient of response" of total net credit to the change in bank credit was therefore 0.83, which compares, for instance, with that of 0.44 for the United States in 1969. In 1964, when restraint was applied contemporaneously with a severe current-account deficit, the coefficient was 1.76.

One reason for the relative efficiency of monetary policy in Japan is the under-developed state of its security markets. Up to 1964, it is true, direct security sales to the public were quite large, and even inversely related to changes in bank credit, but this was mainly a reflection of firms' heavy recourse to equity financing during this period. Moreover, foreign demand for Japanese securities was affected when the United States introduced the interest equalisation tax in 1963. Since that time direct acquisitions of securities have been moderate, though they accelerated somewhat in 1968-70 under the influence of relatively taut monetary conditions and sizable government flotations. But they do not appear to have provided borrowers with a very significant alternative to bank credit.

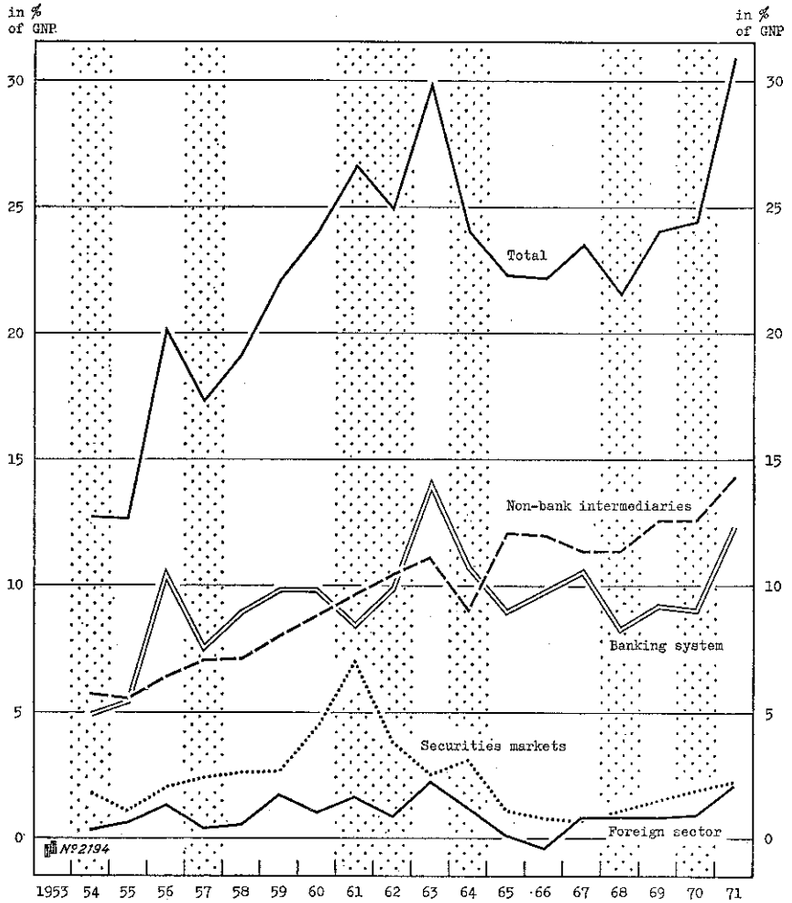
Nor has borrowing abroad been a feasible substitute for loans from banks. Exchange controls in Japan are very comprehensive, with the result that a squeeze on bank credit has often been accompanied by a fall or levelling-off in inflows from abroad (e.g. 1957, 1964-65, 1968 and 1970). The experience of 1971 was quite exceptional in that expectations of revaluation induced a huge inflow through shifts in the terms of payment.

On the other hand, monetary restraint efforts have to some extent been weakened by borrowers' recourse to non-bank financial institutions. This is mainly because the authorities have generally relied on the use of quantitative ceilings or guide-lines, the impact of which falls mainly on the big city banks. But the behaviour of

interest rates has also been a factor. Up to about 1964 monetary restraint was felt to an important extent by way of the call-money rate. When restraint was applied, this rate was pushed up to very high levels, the effect of which was to attract funds from the non-bank financial institutions. After 1964, however, the restraint phases tended to be milder because of balance-of-payments considerations. In 1966, moreover, the government began to make flotations on a

JAPAN

TOTAL NET CREDIT GROWTH: CHANNELS OF SUPPLY *




* For data, see Annex 1. Shaded areas represent years dominated by credit restraint.



substantial scale, and the authorities have since deemed it desirable to limit fluctuations in call-money rates to more modest proportions.

From 1953 to the early 1960s lending by non-bank financial institutions grew on average at about the same rate as bank lending. Since about 1963, however, bank lending has become relatively less important — a development just the opposite to that in the United States.

### 3. *Germany*

The proportion of total net credit growth accounted for by the banking system is quite large compared with that in most other countries. This is because the credit institutions generally engage in "mixed" banking business, both on the liability and asset sides, and the "banking system" is broadly defined. In addition to commercial banks, it includes savings institutions, mortgage banks and a variety of other credit organisations.

The "other financial institutions" shown in the graph consist only of the building and loan associations and the insurance companies. The funds channelled through these institutions grew at about the same rate as the gross national product over the years 1960-71. The rate of lending increased, though not very significantly, during the monetary squeeze of 1965-66.

The authorities sought to apply monetary restraint in 1960, 1962, 1965-66 and 1969-71. In the 1962 phase their policy stance could be a rather passive one, with the degree of restraint coming about automatically as the result of a swing into balance-of-payments deficit.

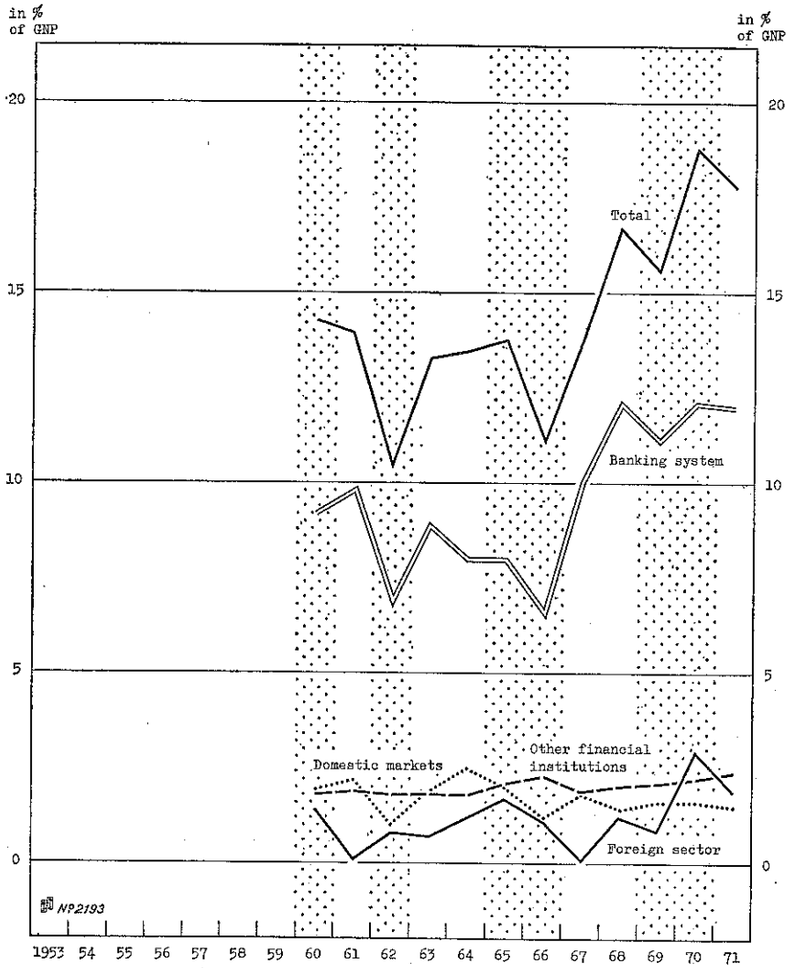
In 1962 and the two years 1965-66 monetary restraint appears to have been very effective. The "coefficient of response" of total net credit growth to the change in bank lending was 1.21 in the first period and 1.64 in the second — substantially higher than that in Japan in 1968 and far above that in the United States in 1966 and 1968-69.

As in the case of Japan, this effectiveness is attributable partly to the narrowness of the German security market. In neither of the four restraint periods in question was there any evidence of disintermediation of the kind observed in the United States. The credit institutions, it is true, have the incentive under conditions of restraint to unload securities onto the market. But these conditions themselves appear to have deterred the public from coming into the

market. Hence in both 1962 and 1965-66 the decline in bank lending was accompanied by a *fall* in the public's direct acquisition of credit and equity market instruments.

In contrast to Japan, on the other hand, monetary restraint has at times been frustrated in part by inflows of funds from abroad.

GERMANY
TOTAL NET CREDIT GROWTH: CHANNELS OF SUPPLY*




* For data, see Annex 1. Shaded areas represent years dominated by credit restraint.



Such inflows in 1960 were a prelude to revaluation and a temporary return to monetary ease in 1961. This experience led German industry to turn abroad to an even greater extent in the years 1964-66.

It was in 1969-71, however, that recourse to credits from abroad caused a virtual breakdown in the credit control mechanism. Despite the authorities' efforts to apply restraint, the banking system's new lending as a proportion of gross national product amounted in 1970 to 12.1 per cent, or the same as in 1968, while the proportion represented by total net credit rose from 16.7 to 18.8 per cent, mainly as a result of large inflows of credit from abroad. The problem intensified in the early months of 1971. On the basis of unadjusted flow-of-funds data, total net credit jumped up as a proportion of GNP from 12.6 per cent in January-June 1970 to 18.1 per cent in the first half of 1971, with the corresponding figures for bank lending rising from 7.9 to 10.4 per cent and for credit from abroad from 2.5 to 5.4 per cent.

The reason for the breakdown of credit control was the lethal mixture of full convertibility, relatively high German interest rates and prolonged uncertainties associated with the existing structure of exchange rates.

## III. External Credit as a Substitute for Domestic Credit

There are special reasons why in the preceding section attention was focused on the monetary mechanisms of the United States, Japan and Germany. First, measures of total net credit growth can be derived from these countries' flow-of-funds data fairly easily. Secondly, their experiences are illustrative of the different patterns of monetary response that can be found from one country to another. In this section, however, in looking more particularly at substitution effects between external and domestic credit, we shall analyse the recent experiences of Germany, the United Kingdom and Italy.

### 1. *Germany*

In 1970, under tight monetary conditions, the German enterprise sector (excluding housing) turned abroad for credit totalling some DM 20.0 milliard.[8] This amount represented over one-third of the

8 *Monthly Report of the Deutsche Bundesbank*, Vol. 23, No. 5, May 1971, p. 22, and Vol. 24, No. 5, May 1972, p. 13.

sector's total borrowing, whereas in earlier years of monetary restraint the proportion had never exceeded 20 per cent. Of the total, DM 9.7 milliard is estimated on the basis of the balancing item in the capital finance account of the rest-of-the-world sector. Direct loans from the rest of the world at short term are put at DM 7.0 milliard and at long term DM 3.3 milliard. More generally, on the basis of a detailed, though still partial, analysis of enterprises' foreign debt, the Bundesbank states that: "A breakdown of external liabilities by debtor countries shows that the bulk of the funds raised apparently stemmed from the Euro-currency market".[9]

It is probably not possible to be more precise than this as regards the proportion of total external credit that was linked directly or indirectly to Euro-currency transactions.

On the other hand, it does seem feasible, on the basis of certain assumptions, to give rough estimates of the extent to which overall recourse to external credit served as a substitute for, rather than as a supplement to, lending from domestic sources.[10]

In the case of Germany, let us assume:

(a) that the monetary authorities had been able, in 1970 and the first half of 1971, to block off all net borrowing from abroad, and thus to achieve their aims with regard to domestic credit restraint;

(b) that the object of policy, so far as the enterprise sector was concerned, had been to keep the expansion of gross domestic investment in money terms down to 12 per cent in 1970, which would have been 8 percentage points less than the rate actually realised; and, for the first half of 1971, when investment had already begun to taper off, that policy had aimed at a rate of gross domestic investment 5 percentage points lower than in fact occurred;

(c) that, as a result of the smaller investment multiplier, the enterprise sector's undistributed profits (saving) plus capital transfers had been lower by, say, three-fifths of the foregoing adjustments to gross domestic investment (i.e. by 5 per cent in 1970 and 3 per cent in the first half of 1971);

(d) finally, that the growth in the sector's accumulation of financial assets had been cut back by one-half in both 1970 and the first half of 1971.

9 *Monthly Report of the Deutsche Bundesbank*, Vol. 23, No. 11, November 1971, p. 25.

10 It should be noted, however, that the initiative for moving funds into Germany often lay with the foreign lender, for example, the head office of an international firm that wanted to acquire Deutsche Mark.



The two situations, actual and hypothetical, would then look as follows:

GERMANY: THE ENTERPRISE SECTOR'S SUBSTITUTION OF EXTERNAL FOR DOMESTIC CREDIT *

| Items | Actual results | | | Hypothetical | | |
|---|---|---|---|---|---|---|
| | 1969 | 1970 | 1st half 1971 | 1969 | 1970 | 1st half 1971 |
| | in milliards of Deutsche Mark | | | | | |
| Gross saving plus capital transfers | 73.7 | 89.1 | 48.0 | 73.7 | 85.0 | 46.6 |
| Gross capital formation (−) | −101.7 | −122.9 | −67.7 | −101.7 | −113.9 | −64.3 |
| Financial deficit (−) | − 28.0 | − 33.8 | −19.7 | − 28.0 | − 28.9 | −17.7 |
| *Corresponding changes in* | | | | | | |
| Financial assets | 20.1 | 25.1 | 18.6 | 20.1 | 22.6 | 14.4 |
| Financial liabilities (−) | − 48.1 | − 58.8 | −38.3 | − 48.1 | − 51.5 | −32.1 |
| Domestic | (− 43.1) | (− 38.8) | (−18.5) | (− 43.1) | (− 51.5) | (−32.1) |
| Rest of world | (− 5.0) | (− 20.0) | (−19.8) | (− 5.0) | ( — ) | ( — ) |

* Enterprise sector, excluding housing.

On the basis of the assumptions made above, the enterprise sector's financial deficit in 1970 would have been DM 28.9 milliard instead of DM 33.8 milliard, and the accumulation of financial assets DM 22.6 milliard instead of DM 25.1 milliard. Total borrowing, then, would have had to be DM 51.5 milliard instead of DM 58.8 milliard. But, with this borrowing coming entirely from domestic sources, domestic credit expansion would have been DM 12.7 milliard more than it was in actual fact in 1970, when DM 20.0 milliard was taken up from abroad. From this we may conclude that the equivalent of 64 per cent (DM 12.7 milliard divided by DM 20.0 milliard) of the credits taken up from abroad would, in the absence of such credits, have *had* to be provided by the domestic credit system. In the first half of 1971, the proportion was even higher. On the basis of the estimates given in the table, 69 per cent of external

credits would have had to be provided domestically. Over the eighteen-month period as a whole, therefore, about one-third of the funds borrowed from abroad can be said actually to have undermined monetary restraint efforts, while the other two-thirds was a true substitute for domestic credit.

Developments in the second half of 1971 help to substantiate this analysis. Following the floating of the Deutsche Mark in early May, there was some outflow of funds from Germany; moreover, resident enterprises, anticipating that the so-called "Bardepot" scheme would be brought into force,[11] ceased to take up new credits from abroad. At the same time, domestic demand conditions eased and monetary and fiscal policies were relaxed somewhat, so that enterprise investment and saving results in this period presumably approximated to the aims of policy. At DM 18.9 milliard, the enterprise sector's financial deficit was only slightly larger than a year earlier; but its borrowing from domestic sources leapt to DM 35.2 milliard from DM 22.3 milliard in July-December 1970. DM 5.7 milliard was needed to finance the net reflux of funds abroad, but this was offset by a reduced accumulation of liquid assets.

While the cash-deposit scheme should certainly render credit control more effective, it is worth remarking that some difficulties could in future emerge from a different source. Since the 1965-66 restraint phase business firms in Germany appear to have altered their habits with respect to the accumulation of liquid assets. Over the years 1960-66, when their financial deficit averaged DM 16.6 milliard, enterprises incurred financial liabilities sufficient to permit an annual average accumulation of financial assets of DM 6.9 milliard. From 1967 to 1971, on the other hand, with financial deficits averaging DM 22.5 milliard a year, the annual accumulation of financial assets leapt up to DM 20.7 milliard. In the next restrictive phase, therefore, enterprises might significantly blunt the impact of credit restraint merely by decreasing the rate of accumulation of financial assets.

11 According to this scheme, as enacted at the beginning of 1972, the authorities may call upon resident enterprises to place the equivalent of up to 50 per cent of their foreign borrowing on non-interest-bearing account with the Deutsche Bundesbank. The law was activated on 1st March 1972, with the cash-deposit ratio being fixed at 40 per cent in respect of credits taken up from the beginning of the year onwards. The provisions apply also to credit institutions' foreign liabilities not subject to compulsory reserve requirements.



## 2. *United Kingdom*

In 1969 and 1970 the company sector had large-scale recourse to funds from abroad. In absolute terms, however, the amounts taken up were appreciably smaller than in the case of Germany.

As in Germany, the company sector had become increasingly dependent on borrowed funds. After recording a financial surplus of £352 million in 1967, the sector faced a deficit of £357 million in 1969 and one of £987 million in 1970. Another similarity was that in both countries the availability of self-financing resources had become compressed as a result of rapidly rising wage costs.

U.K. COMPANY SECTOR: * SAVING, INVESTMENT AND CHANGES IN FINANCIAL ASSETS

| Items | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 |
|---|---|---|---|---|---|---|---|
| | in millions of pounds sterling | | | | | | |
| Gross saving plus capital transfers . | 3,065 | 2,714 | 2,873 | 3,363 | 3,526 | 3,274 | 4,043 |
| Gross investment (−) . | −3,003 | −2,821 | −2,521 | 3,198 | −3,883 | −4,261 | −3,952 |
| Financial deficit . | 62 | − 107 | 352 | 165 | − 357 | − 987 | 91 |
| *Corresponding changes in* | | | | | | | |
| Financial assets (+) | | | | | | | |
| Domestic . . | 964 | 464 | 1,298 | 1,085 | 1,138 | 778 | 1,919 |
| Rest of world | 494 | 469 | 508 | 715 | 790 | 669 | 515 |
| Financial liabilities (−) | | | | | | | |
| Domestic . . | −1,144 | − 851 | − 883 | −1,253 | −1,387 | −1,684 | −1,152 |
| Rest of world | − 252 | − 189 | − 571 | − 382 | − 906 | − 750 | −1,191 |

* Commercial and industrial companies only.

In contrast to Germany, however, gross capital formation by commercial and industrial companies in 1969 and 1970 can be taken as being reasonably consistent with the authorities' policy aims. Restrictive demand policies, it is true, were applied up to the budget of April 1970, when they were moderately eased. But qualitative credit guidance continued, as in previous years, to favour productive

investment as well as exports. In the years 1969-70 gross fixed investment excluding housing averaged about 14.5 per cent of gross national product, or about the same as in the two preceding years.

Another special feature was that the monetary authorities welcomed — or even encouraged — capital inflows for balance-of-payments reasons. In this connection the most significant factor was the public sector's sharp swing from a financial deficit of nearly £1,700 million in 1967 to a surplus of over £850 million in 1970. As this indirectly brought companies under severe liquidity pressure, they had to look elsewhere for funds. Another important element was the quantitative limitation of bank credit — by means of a ceiling up to April 1970 and a guide-line concerning permissible growth thereafter.[12] Still another factor, concentrated mainly in the first half of 1969, was the import-deposit scheme, which induced companies to seek compensatory financing from abroad.

In late 1969 and 1970 company financing requirements were growing rapidly. Borrowing from the capital market was inhibited by very high interest rates and that from the banks and other financial institutions by quantitative restrictions. In these circumstances, with refunds of import deposits getting under way only slowly, companies began to take in more funds from abroad. After increasing by only about £380 million in 1968, the company sector's financial liabilities towards the rest of the world rose on average by nearly £830 million per annum in the years 1969-70. During this period companies took advantage of a hitherto little used source of foreign funds. With exchange control approval, and with the London banks acting as intermediaries, they had recourse to foreign currency loans for domestic use. Such borrowing, which presumably came entirely from the Euro-currency market, amounted in 1970 to nearly £275 million ($660 million), to judge from balance-of-payments data. By January 1971, however, the inflows had become excessive in terms of both balance-of-payments and domestic liquidity considerations, and exchange controls were tightened. Residents were no longer permitted to borrow foreign currency for domestic use or to finance current payments to non-residents unless the loans were at more than 5 years, with forward cover being possible only during the last 6 months.

12 Quantitative limits on bank and finance-house lending were abolished in September 1971, when new arrangements for the control of credit, based on freer competition and greater reliance on the price mechanism, were brought into force.



From what has been said above one may conclude that most[13] of the increase in the company sector's financial liabilities towards the rest of the world in 1969 and 1970 represented funds which, had they not been available, would have had to be provided in some manner or other by the domestic credit system. As to how this might have been done, various possibilities, perhaps in combination, might be imagined: easier credit policy, more rapid import-deposit repayments or a relaxation of fiscal policy.

In 1971, when an increase in profit margins and a decline in investment helped to eliminate the company sector's financial deficit, the strength of sterling contributed to a further sharp increase in the availability of funds from the rest of the world. Had these funds not been available, however, the sector's strong need to reconstitute liquidity would have necessitated appreciably greater recourse to domestic credit than in fact occurred.

## 3. *Italy*

The Italian experience provides an example of yet another way in which credit substitution can take place via the Euro-currency market.

In both Germany and the United Kingdom credit restraint led to a substitution of external for domestic funds, the balance-of-payments effects being on the whole undesirable for the former and desirable for the latter country.

What happened in Italy was associated not with monetary restraint but rather with the situation of relative ease that prevailed from 1966 up to about the middle of 1969. Following the external crisis of 1963-64, productive investment had remained at a relatively low level. To stimulate investment and to encourage the flow of funds to the capital market, the monetary authorities pursued a policy of stable bond prices from 1966 until the summer of 1969. This policy, together with certain other factors (political and fiscal uncertainties), contributed to an accelerating outflow of Italian capital from 1966 onwards.[14] The normal desire for portfolio

13 With the exception mainly of that part represented by foreign currencies borrowed for use abroad (£190 million in 1969 and £240 million in 1970).

14 As an obverse tendency, however, the outflow of private capital appears to have been partly responsible for the weakness of domestic investment and thus contributed indirectly to some "transfer" of real resources through a strengthening of the current-

diversification also played a rôle. The outflow reached its peak in 1969, the second half of which was marked by a wave of strikes and general labour unrest.

Interest rates were adjusted upwards in 1969 and the first half of 1970, when they reached approximately the levels prevailing internationally. Capital outflows dropped off considerably, but still remained large, motivated by the same complex of political and fiscal uncertainties as before.

Beginning in the second half of 1969, and continuing throughout 1970, the Italian authorities took steps to compensate the outflow of capital. Because the domestic capital market was becoming increasingly unreceptive, and because there was also concern about the official reserve position, public and semi-public enterprises were encouraged to borrow in foreign markets, particularly the Euro-currency and Euro-bond markets.[15] Following a new innovation, the loans generally carried flexible interest rates linked to the six-month rate in the Euro-dollar market.

Another feature was that the Italian enterprises and public bodies which contracted the loans did not always obtain, or need, the counterpart in lira funds, which was held instead in a kind of pre-financing account with the Italian Foreign Exchange Office.

To illustrate the situation, the table on the next page combines the public sector with that of public and private enterprises, since the borrowing abroad was carried out by Italian enterprises and public bodies appearing in each of these sectors. As the table shows, these combined sectors experienced a growing financial deficit, which reached a total of Lit. 6,790 milliard in 1970. Though it had increased relative to gross national product, gross investment was still low compared with the early 1960s and was regarded as inadequate. Gross saving, on the other hand, had been impaired by rising wage costs and larger public-sector expenditure.

As will be seen, the increased recourse to foreign capital brought about a sharp rise in the inflow in 1970; at Lit. 1,305 milliard, it

account balance of payments. See Paolo Baffi, "Les mouvements des salaires et de la balance des paiements dans les récentes expériences italienne et internationale", *Moneta e Credito* (Banca Nazionale del Lavoro), No. 86, June 1969, pp. 3-20.

15 Somewhat earlier, in March 1969, the banks were asked gradually to reduce their positive foreign position — then showing net assets of about $750 million — to one of balance by mid-year. The banks did this not by reducing their assets but rather by increasing their liabilities.



ITALY: GOVERNMENT AND ENTERPRISE FINANCING[1]

| | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 |
|---|---|---|---|---|---|---|
| | in milliards of lire | | | | | |
| Gross saving plus capital transfers | 1,835 | 3,330 | 4,975 | 5,730 | 6,175 | 4,135 |
| Gross investment (−) | −4,695 | −6,305 | −9,095 | −10,940 | −12,965 | −12,470 |
| Financial deficit (−) | −2,860 | −2,975 | −4,115 | − 5,210 | − 6,790 | − 8,335 |
| Financial assets | 2,645 | 2,645 | 3,070 | 3,115 | 2,935 | 5,450 |
| Domestic[2] | ( 1,800) | ( 1,620) | ( 1,725) | ( 705) | ( 1,480) | ( 3,975) |
| Foreign[3] | ( 845) | ( 1,020) | ( 1,345) | ( 2,410) | ( 1,460) | ( 1,475) |
| Financial liabilities (−) | −5,505 | −5,620 | −7,470 | − 8,335 | − 9,965 | −13,900 |
| Domestic[2] | (−5,460) | (−5,235) | (−7,180) | (− 8,190) | (− 8,655) | (−13,135) |
| Foreign[4] | (− 45) | (− 380) | (− 290) | (− 145) | (− 1,305) | (− 770) |

[1] Consolidated public sector plus public and private enterprises (including housing).
[2] Total minus foreign.
[3] Net Italian capital; balance-of-payments data.
[4] Net foreign capital; balance-of-payments data.

was nearly enough to offset the outflow of Italian capital of Lit. 1,460 milliard.

The principal substitution effects were twofold.

First, some of the borrowing by public and semi-public enterprises and public bodies (though only a part) acted as a direct substitute for credit that would otherwise have had to be provided by the domestic credit system. For while the combined sectors' financial deficit in 1970 was 30 per cent greater than in 1969, their borrowing from domestic sources was up by less than 6 per cent.

Secondly, part of the foreign borrowing served to offset the adverse effect on official reserves of the economy's propensity to export a larger proportion of its accumulation of financial assets. It was, in other words, a substitution more with respect to asset accumulation than with respect to credit expansion. And, of course, the circular flow involved in the matching of capital outflows by borrowing abroad contributed to the growth of the Euro-currency market.

In 1971 and early 1972, with the balance of payments showing considerable strength, public and semi-public enterprises were en-

couraged to repay foreign credits taken up earlier. However, the lira weakened again following the floating of the pound in June 1972, and borrowing abroad for compensatory purposes was resumed.

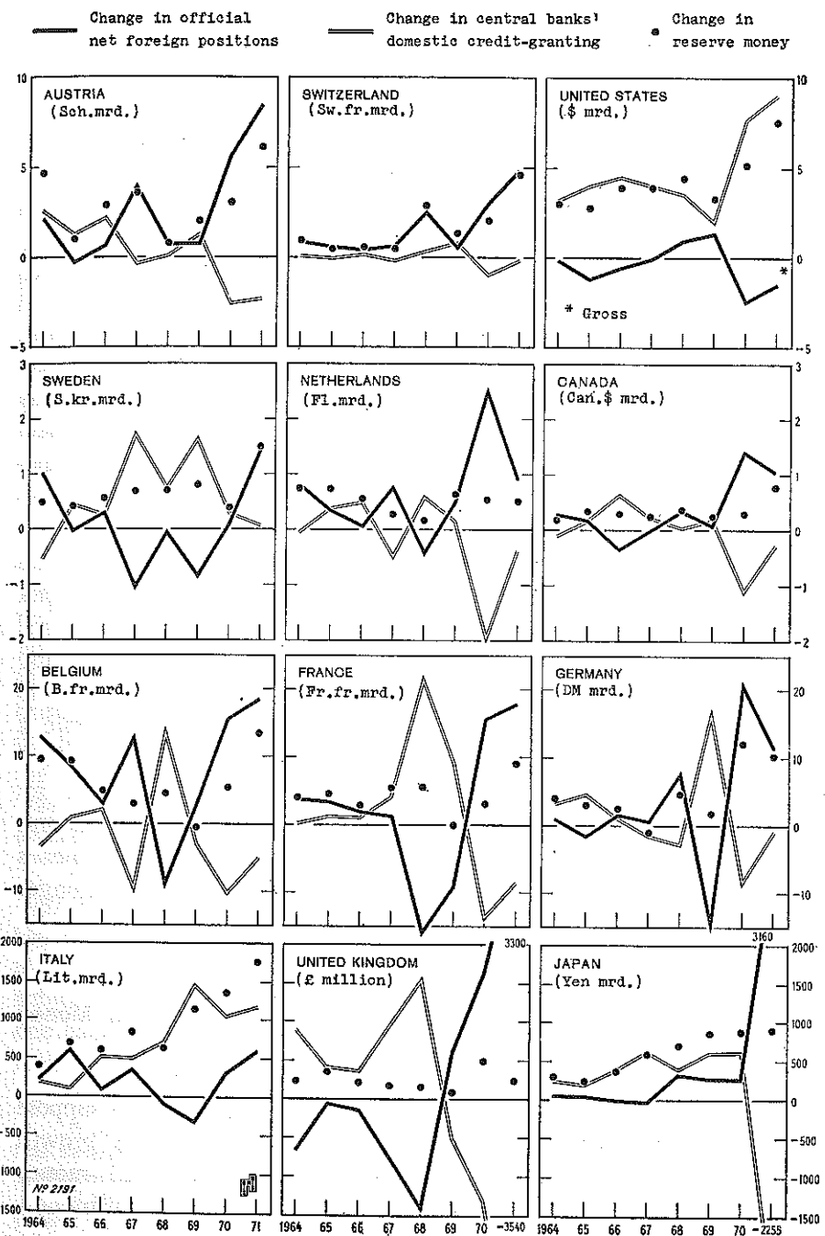
## IV. Monetary Base Creation: Foreign Assets as a Substitute for Central-bank-reserve Money

Monetary authorities are able to influence the " monetary aggregates " (e.g. $M_1$, $M_2$, bank credit) indirectly by means of the controls they exercise over the monetary base. The monetary base, though it differs somewhat from country to country, is broadly a composite of the currency circulation and the banks' deposits with the central bank (including compulsory reserves). The size of the monetary base is dependent upon the central bank's holdings of net foreign assets, net claims against the government and claims against the banks. In addition, its relation to the monetary aggregates is dependent upon the size of compulsory reserve ratios, if there are any.

Viewed from the angle of the Euro-currency market, the question is whether increases in the monetary base resulting from domestic banks' net borrowing abroad can be offset by (i.e. whether they act as a substitute for, or as a supplement to) the central bank's domestic transactions. For statistical reasons one must look at the relationship more broadly, examining it in terms of changes in the central bank's net foreign assets associated with the balance of payments as a whole. The accompanying graph shows, for the Group of Ten countries plus Switzerland and Austria, the relative behaviour of the foreign and domestic components of the monetary base.

The graph demonstrates fairly vividly the relative stability of the growth of the monetary base, as compared with the much larger variations, for the most part closely and inversely related, in the foreign and domestic components. The inverse movements are particularly closely related and offsetting in such countries as Sweden, the Netherlands, Canada, Belgium, France and Germany. In the United States, Italy and Japan domestic liquidity creation tends to dominate in the rising trend of monetary base formation, but variations around the trend are associated with opposite movements in the domestic and foreign components. On the other hand, Switzerland and, to a lesser extent, Austria are examples of a close relationship between changes in the central bank's net foreign assets and the monetary base itself.

THE MONETARY BASE: CHANGES IN FOREIGN AND DOMESTIC COMPONENTS




*Source*: IMF, International Financial Statistics.

The graph provides fairly convincing evidence that monetary authorities generally have the instruments needed for their efforts to control the monetary base. Indirectly, of course, such control implies the need for a policy mix which puts an appropriate degree of emphasis on fiscal and incomes policies. As far as monetary policy is concerned, most countries have the power to impose quantitative restrictions on central bank credit and/or on credit granted by banks and other financial institutions. Public-debt management, together with open-market operations, is a widely-used weapon. Variable reserve requirements are used in such countries as Germany, France, Japan and Italy, while in others, for example Belgium and the Netherlands, they could be applied if desired. Some countries also influence the need for reserve funds by directly regulating the volume of capital issues. Even in Switzerland, where the authorities have long sought legal authorisation for wider monetary control powers, the power vested in them through gentleman's agreements is quite considerable.

In general, the question is not merely whether the authorities have the means to conduct offsetting operations, but rather whether they — and the international community as a whole — are prepared to accept the broader implications of such operations. Offsetting implies, besides the onus of the actions themselves, a willingness to accumulate official reserves on a large scale and also to tolerate a substantial shift in banking business from domestic to foreign channels. A prior question, therefore, is whether countries should not have direct means at hand to limit these recourse of their banks and non-banks to the Euro-market. Most of them already have the means to do so, but there has been scope in some countries for a stronger stance.

## V. The Euro-currency Market as a Substitute for Foreign Money Markets

In the longer-term context, there are strong reasons to suppose that the Euro-currency market has received much of its growth impetus from the inability or unwillingness of national money markets to perform traditional, or develop new, international money-market functions.



### 1. *The New York money market*

For nearly twenty years after the second world war lending to non-residents by US commercial banks grew at a well-sustained pace. By 1964 the short and long-term claims against foreigners reported by US banks had reached a total of over $12 milliard.

In 1965 this trend changed abruptly. In March of that year the United States introduced its first balance-of-payments control programme on a voluntary basis. Among other things, a Voluntary Foreign Credit Restraint programme (VFCR) was introduced, which placed ceiling limitations on the total foreign assets of banks and other financial institutions. In the following years the ceilings were altered in certain respects but they were not significantly relaxed until late 1971, when the limitations on export credit were removed altogether. Total short and long-term claims reported by the banks remained at around $12.5 milliard from 1964 to 1969 but then rose to $16.9 milliard by the end of 1971.

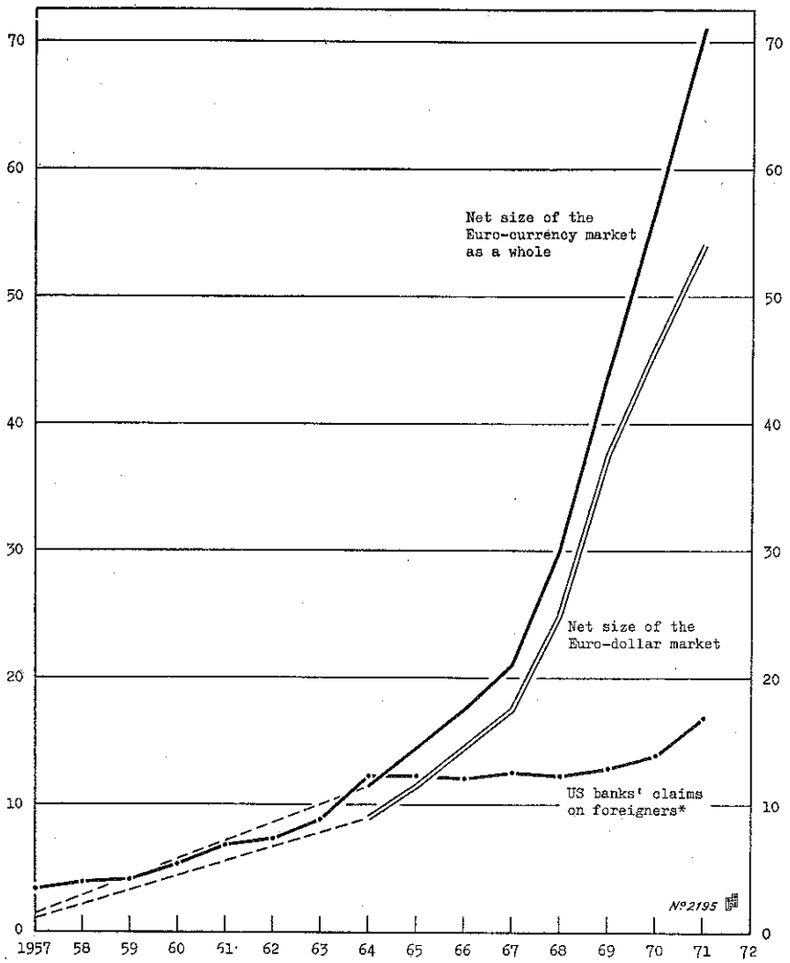
Some observers have remarked that the VFCR ceilings were not very restrictive, since the banks' foreign assets thereafter remained well within them. This view is not convincing, though for reasons which must be seen in a broader context. After the overall balance-of-payments programme was in place,[16] and given the already existing disincentives to doing foreign business out of New York,[17] the banks had every reason to shift such business abroad by establishing branches in foreign centres, particularly as this was the only way they could remain competitive in the field of international banking.

The Euro-currency market, which began to take form in about 1957 and reached an estimated net size of $11.5 milliard in 1964 ($9 milliard for dollars alone), grew considerably faster in absolute terms from 1965 onwards. To what extent this reflected a direct substitution of one market for the other is open to debate. On the one hand, it is difficult to argue very persuasively that the US banks' total foreign assets would, in the absence of the balance-of-payments

16 Including not only the VFCR programme but also the balance-of-payments guidelines for industry (subsequently made mandatory at the beginning of 1968) and the interest equalisation tax (dating back to July 1963).

17 Mainly the Regulation Q ceiling on time-deposit interest rates, the prohibition of interest payments on demand deposits, the incidence of reserve requirements and the practice requiring compensatory deposit balances.

THE GROWTH OF INTERNATIONAL CREDIT
(in milliards of US. dollars)




* At short and long term, including claims held in custody for domestic customers.
*Sources*: BIS Annual Report and US Treasury Bulletin.



programme, have continued their previous growth trend. This is a complicated question, the answer to which would depend partly on balance-sheet considerations and partly on the assumptions one might wish to make about the post-1964 behaviour of the US basic balance of payments.[18]

On the other hand, given the background of controls and regulations mentioned above, the attraction of past and prospective accruals of dollars in the hands of non-residents set the stage for an accelerated growth of Euro-currency activity. It is significant that the US balance of payments, though certainly not the only source of Euro-dollar growth, deteriorated fairly steadily from 1965 onwards. Moreover, further impetus to the growth of Euro-currency activity derived from the extended period of exchange uncertainties which set in around the time of the devaluation of sterling (November 1967) and the introduction of the two-tier gold market (March 1968). These uncertainties contributed to the increased use of Euro-dollar borrowing for hedging and speculative purposes.

At all events, the foreign branches of US banks played a major rôle in the development of the Euro-currency market. At the end of 1971 the gross dollar and other foreign currency liabilities of the banks of eight countries (not including Canada and Japan) reporting to the BIS slightly exceeded $100 milliard. On the same date the

18 If, for example, the United States had been able to achieve and maintain a strong basic balance of payments, New York might have continued to play an important rôle as a supplier of bank credit to foreigners. Borrowers would have had to take up US-owned dollars instead of foreign-owned dollars by way of the Euro-dollar market. Viewed in this light, what in fact seems to have happened is that the international monetary system evolved into a system of fragmented reserve centres based on the wide geographical distribution of foreign dollar holdings, but with the dollar continuing to play a dominant rôle as a key currency.

In certain respects developments may have given the system a greater basic stability than existed before the war. In the inter-war period, it will be recalled, the substantial outflows of short and long-term capital from the United States turned out to be highly volatile, and the reflux of these funds following the 1929 crisis contributed significantly to the breakdown of international trade and payments in Europe.

Dr. Paolo Baffi has set forth the argument in a somewhat analogous way. He states that "The international money market is... acquiring the character of a market in reserve money... [which] reduces the need for owned reserves. Moreover, the amount of funds coming to the market will be related to the size of the imbalances which arise in international trade, in a mutual adjustment between sources and uses". Assuming a return to US balance-of-payments equilibrium, "... the system will develop its dollar liquidity by American banks' lending short as much as they borrow short". See his "Western European Inflation and the Reserve Currencies", this *Review*, No. 84, March 1968, pp. 20-21.

gross liabilities of the foreign branches of US banks (not including those in the Bahamas), as reported to the Federal Reserve System, came to about $52 milliard. Roughly speaking, therefore, US foreign branch banks appear to have accounted for perhaps as much as one-half of the overall growth of Euro-currency activity.

In my opinion, the developments described above, when viewed as a whole, tended significantly to weaken any external constraints on US domestic monetary policy. This was mainly because of the scale on which the demand for funds was diverted from the United States to the Euro-currency market [19] but partly also because the flow of non-resident dollars to the market reduced central-bank calls on the US gold stock. If so, more attention should be focused on the US domestic monetary system as a possible source of "world credit" inflation in recent years and rather less on the Euro-currency market as such.

As a matter of fact, in the years following the return to convertibility in western Europe, the United States experienced a protracted period of relatively rapid credit growth. Whereas in the years 1953-57 the average annual rate of overall net credit expansion was equivalent to 7.9 per cent of the gross national product, the comparable figure for the years 1958-71 was 10.1 per cent (see Annex 1).[20]

This acceleration in credit growth was sustained by a changing complex of factors. In the period 1960-64, the years of so-called "fiscal drag", the authorities sought — with little success — to stimulate the economy through relatively easy monetary policy, featuring an "operation twist" to sustain short-term rates while keeping down long-term ones. Then, in the wake of peacetime tax reductions in 1964, the US Administration was faced with war-scale financing requirements from 1965 onwards. When it failed to deal promptly with this situation by fiscal means, further credit inflation became almost inevitable.

In addition, monetary policy appears to have been handicapped by doctrinal influences. In judging the effects of their actions, the monetary authorities focused throughout the sixties too narrowly

19 Or originated in the United States itself, as was the case from mid-1966 to August 1969, when US banks' liabilities to their branches abroad rose from about $2.0 to 14.7 milliard.

20 To some extent, it is true, excess liquidity dating from the war may have depressed the 1953-57 figure.



not only on interest rates but also on the concept of "net free (or borrowed) reserves", thus leaving themselves open to having to supply the reserves needed to support whatever amount of credit the system was ready to absorb. Furthermore, given the environment of those years and the purposes other than domestic investment for which credit could be used — e.g. investment abroad, liquid asset accumulation, competition by means of trade credit — the demand for funds remained generally very strong.

Then came the dollar crisis in 1971. What is striking about this episode is that the Euro-dollar market seems not to have played a major destabilising rôle. Even during the crisis months there was little evidence of a run on the dollar through withdrawals of deposits, as might have been feared. On the "uses" side, it is true, US banks repaid $6 milliard to their branches abroad, and these funds may have been onlent to borrowers wishing to take a position against the dollar. But, on the "sources" side, given that the Euro-dollar market grew by $8 milliard and that only $1.5 milliard came from US non-bank residents, net new borrowing in the market was nearly matched by new lending from sources outside the United States and therefore could not have accounted for the growth of dollars in central-bank hands.[21]

Rather, the movement out of dollars was facilitated largely by a sharp acceleration in credit expansion in the United States itself. Total net credit growth jumped up by an unprecedented 55 per cent — from $97.5 milliard in 1970 to $151 milliard in 1971 — and during the crisis period April-September, when the growth of the money supply came to a halt, reached an adjusted annual rate of $170 milliard.[22] The business sector, though its financial deficit was smaller than in 1970, increased its borrowing by close on $12 milliard, and there was a roughly corresponding growth of unidentified assets, which showed up as the main counterpart to the large errors-and-omissions item in the balance of payments. Another significant item was non-resident borrowing in the United States, which rose from $2.6 milliard in 1970 to $5.3 milliard in 1971. And, of course,

21 I would attribute this performance to the fact that the Euro-market is a free market, with interest rates adapting quickly so as to attract sufficient "investment" funds to counter-balance demand for hedging and speculative purposes. This characteristic may lend a degree of stability to the Euro-market which is not found in a national money market, where domestic policy considerations come into play. (See above, page 27, footnote).

22 The moral, perhaps, is that the "monetary aggregates" which guide policy (mainly $M_1$, $M_2$ and bank credit) are not always adequate indicators of total credit expansion.

easier credit conditions were one of the factors that led US banks to repay their borrowings from the Euro-dollar market.[23]

## 2. *The London money market*

In general, UK banks' sterling lending to non-residents has been closely circumscribed. As already indicated, the development of the Euro-dollar market received some of its early impetus from restrictions imposed on the financing of foreign trade in sterling. In particular, with effect from 1957, British banks were no longer permitted to finance foreign trade between other countries (so-called "third country" trade) on a sterling acceptance basis beyond normal shipping time limits. In October 1968 the authority under which UK banks provided sterling usance credits to finance trade between non-sterling-area countries was withdrawn altogether, thus putting such financing on a cash basis. This move effectively stopped the banks from financing such trade in sterling, but it left them entirely free to conduct such business in foreign currencies.

In addition, lending outside the sterling area by non-bank residents is also subject to restrictions.

As far as lending to non-residents is concerned, the development of the London money market is reflected in the figures below:

UNITED KINGDOM: TOTAL EXTERNAL CLAIMS IN STERLING

| Items | December 1962 | June 1969 | September 1971 |
|---|---|---|---|
| | in millions of pounds sterling | | |
| Advances and overdrafts | 318 | 398 | 374 |
| Bills | 342 | 1,135 | 1,941 |
| of which: | | | |
| Bills discounted * | (.) | (742) | (1,439) |
| Acceptances | 188 | 266 | 220 |
| Total | 848 | 1,798 | 2,535 |
| Total, excluding bills discounted | (.) | (1,056) | (1,096) |

* Consists mainly of lending under the "fixed-rate" scheme for financing UK exports.

23 Another significant factor, of course, was the partial suspension of Regulation Q ceilings in late June 1970.



As can be seen, the main growth element has been bills discounted on the basis of the subsidised "fixed-rate" scheme for the medium-term financing of exports and shipbuilding. When, in addition, allowance is made for the fact that "advances and overdrafts" consist to a large extent of interbank credits within the sterling area, it becomes clear that the rôle of London as a source of sterling credit, particularly for borrowers outside the sterling area, is quite limited. The other side of the coin is that London has, by way of substitution, developed enormously as a centre for conducting business in foreign currencies.

## 3. *Money markets on the Continent and in Canada and Japan*

For the nine countries shown in the table below, total domestic currency claims against foreigners stood at end-1971 at just under $11 milliard. This figure though small in relation to the estimated net size of the Euro-currency market ($71 milliard), had grown from a total of little more than $3 milliard at the end of 1965. As, however, the bulk of these funds were fed directly into the Euro-currency market, they tended to increase, rather than replace, Euro-currency credit flows.

It will be noticed, of course, that the only markets of any significance in providing domestic currency credits to foreigners, whether directly or through the Euro-currency market, are Switzerland, Germany and the Netherlands. Also pertinent is the fact that two of these countries — Switzerland and Germany — have had fully convertible currencies with no serious impediments to lending abroad. Most of the claims are against banks in other European countries, but there is an appreciable amount of lending also to foreign non-banks.

In most of the other countries domestic currency lending to foreigners is generally limited by exchange controls. The only exceptions are Canada, for which financing in US dollars tends to dominate, and Belgium, which has relied on a two-tier exchange market to balance outflows and inflows.

In Switzerland and Germany domestic currency lending was not only relatively more important than in the other countries, but it also kept pace fairly well with the growth of the banks' foreign currency business.

BANKS' FOREIGN ASSETS IN DOMESTIC CURRENCY AS A PERCENTAGE OF TOTAL FOREIGN ASSETS

| Countries | End of year | Foreign assets | | | Memo: Net foreign position [1] | (1):(3) |
|---|---|---|---|---|---|---|
| | | Domestic currency (1) | Foreign currency (2) | Total (3) | (4) | (5) |
| | | in milliards of dollars | | | | in % |
| Belgium-Luxemburg | 1965 | 0.12 | 0.85 | 0.97 | −0.54 | 12.4 |
| | 1970 | 0.39 | 6.30 | 6.69 | −0.74 | 5.8 |
| | 1971 | 0.48 | 10.11 | 10.59 | −0.80 | 4.5 |
| France | 1965 | 0.08 | 1.86 | 1.94 | −0.23 | 4.1 |
| | 1970 | 0.34 | 8.26 | 8.60 | −1.84 | 4.0 |
| | 1971 | 0.57 | 11.95 | 12.52 | −3.20 | 4.6 |
| Germany | 1965 | 0.70 | 0.61 | 1.31 | −0.68 | 53.4 |
| | 1970 | 1.84 | 2.32 | 4.16 | −3.67 | 44.2 |
| | 1971 | 2.16 | 2.79 | 4.95 | −4.21 | 43.6 |
| Italy | 1965 | 0.14 | 2.04 | 2.18 | −0.34 | 6.4 |
| | 1970 | 0.35 | 9.34 | 9.69 | −0.27 | 3.6 |
| | 1971 | 0.23 | 12.55 | 12.78 | −0.52 | 1.8 |
| Netherlands | 1965 | 0.32 | 0.82 | 1.14 | −0.02 | 28.1 |
| | 1970 | 0.62 | 4.27 | 4.89 | −0.24 | 12.7 |
| | 1971 | 0.67 | 5.61 | 6.28 | 0.06 | 10.7 |
| Sweden | 1965 | 0.06 | 0.44 | 0.50 | 0.09 | 12.0 |
| | 1970 | 0.16 | 0.74 | 0.90 | 0.15 | 17.8 |
| | 1971 | 0.12 | 0.95 | 1.07 | 0.15 | 11.2 |
| Switzerland | 1965 [2] | 1.60 | 3.07 | 4.67 | 1.09 | 34.3 |
| | 1970 | 5.12 | 11.73 | 16.85 | 5.24 | 30.4 |
| | 1971 | 6.29 | 12.82 | 19.11 | 5.80 | 32.9 |
| Canada | 1965 | 0.05 | 2.75 | 2.80 | −0.08 | 1.8 |
| | 1970 | 0.19 | 7.60 | 7.79 | 1.54 | 2.4 |
| | 1971 | 0.23 | 6.99 | 7.22 | 0.11 | 3.2 |
| Japan | 1965 | — | 3.01 | 3.01 | −0.41 | — |
| | 1970 | 0.01 | 7.32 | 7.33 | 1.79 | 0.1 |
| | 1971 | 0.06 | 6.81 | 6.87 | −0.62 | 0.9 |

[1] Total foreign assets minus total foreign liabilities.
[2] March 1966.



On the other hand, in Belgium, France, Italy and the Netherlands foreign currency business expanded even faster than in Germany and Switzerland, while domestic currency lending remained, or became, relatively unimportant.

## VI. The Euro-currency Market as a Substitute for a Forward Exchange Market

In principle, as already explained in Section I, the Euro-currency market can serve as a hedging facility if accommodation cannot readily be found in the forward exchange markets. The question, then, is to what extent borrowing in the market has actually been governed by hedging considerations.

In the case of Germany, this question has in fact been examined by the Bundesbank, which has viewed it in the light of a statistical survey of the external position of German-domiciled enterprises. The position a year ago is shown in the following table:

GERMANY: EXTERNAL LIABILITIES AND CLAIMS OF ENTERPRISES AT AUGUST 1971 *

| Items | Liabilities | | Assets | | Net liabilities | |
|---|---|---|---|---|---|---|
| | Foreign currency | Deutsche Mark | Foreign currency | Deutsche Mark | Foreign currency | Deutsche Mark |
| | in milliards of Deutsche Mark | | | | | |
| Short-term | 6,170 | 13,000 | 1,430 | 2,020 | 4,740 | 10,980 |
| Long-term | 6,650 | 7,700 | 2,700 | 470 | 3,950 | 7,230 |
| Total | 12,820 | 20,700 | 4,130 | 2,490 | 8,690 | 18,210 |

* Financial loans only. Excludes claims and liabilities in respect of merchandise and service transactions.

The Bundesbank's conclusions with respect to short-term financing are as follows:

"A glance at the composition of short-term foreign debt by currencies shows that so far financial loans denominated in Deutsche Mark have clearly predominated. At the end of August 1971 short-term Deutsche Mark liabilities came to DM 13 milliard, or very

nearly 70 per cent of the total of short-term foreign debt. The share of foreign currency loans, at DM 6.2 milliard, was little more than 30 per cent in the same period, thus being approximately as large as at the end of April 1971 and somewhat smaller than at the end of 1970 (34 per cent). The slight decrease in the share of foreign currency liabilities shows that the additional borrowing abroad was not primarily motivated by the need to hedge, at least in the short-term sector; here, the forward cover facilities offered by the banking system in the shape of forward exchange transactions appear to have been sufficient... ".[24]

None the less, hedging considerations were regarded as being often of secondary importance in inducing firms to take up foreign currency loans. Moreover, with regard to long-term financial loans,

> " The larger share of foreign currency liabilities, as compared with the short-term position, is an indication that the long-term foreign debt might be more closely connected with forward cover considerations... [since] forward transactions beyond certain periods — say periods for payment of more than one year — can only be concluded with difficulty, and then only at a relatively high cost ".[24]

In brief, it would appear that in the instance of Germany domestic credit restraint was primarily responsible for the shift of enterprise borrowing abroad, but that hedging probably played a significant secondary rôle, particularly in relation to borrowing at longer term.

It is not possible to hazard a guess as to the extent to which in other countries hedging considerations might have motivated residents to take up foreign currency credits. In most cases the scope for such borrowing is limited by exchange control regulations. At the same time, forward exchange markets are probably much narrower than in Germany, and in certain countries there are restrictions on the type or purpose of forward contracts.

At all events, it is not unreasonable to think that exchange market uncertainties in recent years gave a sizable boost to the demand for Euro-currency funds, particularly dollars.[25] One Japanese

24 Monthly Report of the Deutsche Bundesbank, "German enterprises' foreign debt", Vol. 23, No. 11 (November 1971), pp. 26-27. It should be added, however, that the German monetary authorities themselves purchased $2.7 milliard of exchange forward in March and April 1971.

25 Especially if allowance is made for Euro-currency borrowing by banks in order to cover forward exchange purchases from their customers.



expert has told me that, had Japanese firms been free to borrow Euro-dollars in the months prior to the revaluation of the yen, as much as four-fifths of total borrowing would have been dictated by hedging rather than liquidity considerations.

## VII. The Case for Control: Concluding Remarks

The principal conclusion of this paper is that it would be a mistake to see too close an association between the growth of the Euro-currency market and the intensification of inflation internationally. In particular, to look at the size of the Euro-currency market would seem to be a spurious way of measuring the market's influence on " world " credit expansion. The reason is that Euro-currency credit serves, to a significant extent, as a substitute for rather than a supplement to credit from other sources.

Viewed in the longer-term context, substitution effects of a broadly structural nature seem to have been quite important. For some years now neither New York nor London has shown any dynamic growth as an international money-market centre in so far as the provision of domestic currency credits to foreigners (particularly for financing " third country " trade) is concerned. As to other countries, only in Switzerland and Germany has lending in domestic currencies to non-residents developed on a fairly sizable scale, and even in these cases it is channelled mainly to the Euro-currency market.

The upshot has been that the Euro-currency market has come almost to be thought of as " the " international money market. It is pertinent to recall, moreover, that the value of world exports, which among other things the market has helped to finance, has risen phenomenally — from about $130 milliard in 1960 to $340 milliard in 1971. Even if one adds together all bank credit available internationally from the Euro-currency market, New York, London and the continental countries, its total (about $95 milliard) comes to about 28 per cent of the value of world exports (i.e. the equivalent of little more than three months' financing).

In a conjunctural setting, it is true, the Euro-currency market can sometimes be a serious handicap for a country trying to pursue an autonomous policy of monetary restraint. It is also true, however, that such a policy, if it leads to excessive inflows of funds, contravenes the logic of convertibility, which calls instead for domestic interest

rates to be harmonised with balance-of-payments requirements. The corollary, with respect to domestic aims, is that the authorities should rely more on fiscal and incomes policies and, if that is not enough, on exchange rate adjustment or acceptance of higher domestic costs and prices.

If, however, the authorities feel impelled to use stringent monetary restraint for domestic purposes, it is inevitable that firms should turn abroad for credit if it is possible to do so. This gives rise to a type of credit substitution similar to that involved when "dis-intermediation" occurs with respect to the domestic financial system. In neither case, however, should one conclude, on this basis alone, that the substitute markets are somehow too "big" *per se*. What is involved here is a basic dilemma: efficiency of financial markets versus efficiency of monetary control. Internationally, as well as domestically efficient markets tend to dampen the impact on total net credit of any given degree of monetary restraint.[26] But this does not mean that the longer-term development of markets should be limited in the interest of more effective monetary policy.[27]

On the other hand, it can be argued that, for conjunctural purposes, monetary authorities might occasionally wish to impose quantitative limitations on borrowers' access to certain markets. With respect to domestic activities, such action has in some countries involved not only ceilings on the lending of banks and non-bank financial institutions but also limitations on the permissible volume of capital issues. By common consensus, however, such controls lose their effectiveness if maintained over too long a period. As regards international activities, analogous action implies the use of such techniques as guidance with respect to banks' net foreign positions, exchange controls and other selective measures. Moreover, because the Euro-currency market is not "harmful" to all countries at all times, the application of such controls should normally be a matter of action taken by individual countries.

Most countries do, in fact, exercise effective controls over the participation of their own residents in the Euro-currency market.

26 To be sure, the Euro-currency market is large in relation to most domestic markets which provide substitute forms of credit.

27 If anything, the trend has been in the other direction. For years now the OECD Committee on Invisible Transactions has sponsored studies on ways to improve the efficiency of financial markets. The emphasis, it is true, has been on capital markets rather than money markets.



For this reason the popular notion that the market is "uncontrolled" is largely unjustified. At its periphery, where its impact is seen in different countries in the banks' *net* foreign positions, the market is hedged about with selective controls of impressive variety.

It is quite a different matter, of course, when the impact of the market is viewed from the angle of the banks' *gross* foreign positions. This seems to be the real heel of Achilles as far as control of the Euro-currency market is concerned. In practically every country there are virtually no restrictions, burdens or regulations on banks' gross positions. Why this is so seems to be a matter of international banking competition. The authorities of different countries wanted to put their banks on an equal footing with other banks as far as strictly "off-shore" business is concerned.

Any reasonable case for multilateral control of the Euro-currency market would, it seems to me, have to start with the fact that banks' foreign currency liabilities, and more generally their gross foreign positions, are accorded more favourable treatment than domestic currency liabilities, thus contributing to a gradual structural shift from domestic to foreign currency transactions.[28]

Even if such discriminatory treatment were recognised to be undesirable, however, it would probably be unrealistic to suppose that national authorities would find it possible to agree on ways in which a harmonisation of treatment could be brought about. The "parameters" involved — reserve requirements, interest rate controls and conventions, taxation, etc. — are so different from country to country that a basis for agreements seems very unlikely to be found.

Countries might, on the other hand, be more willing to accept a control or controls that apply in a marginal way, for instance, a common permissible growth rate in respect of foreign currency liabilities (or assets) or a common reserve requirement with respect to the further growth of foreign currency liabilities. [29] (An important consideration is whether such controls should apply differentially to credits to banks and non-banks). Such an approach would imply that the Euro-currency market is taken for granted as it stands, but that countries now line up at a new starting-post. Another line of

28 An exception is Germany, which, though it makes distinctions between residents and non-residents, generally treats domestic and foreign currency liabilities alike for monetary policy purposes.

29 How then to prevent Euro-currency business from shifting to centres not subject to such controls would be a major problem.

approach concerns the possibility of open-market operations in the Euro-currency market. Finally, one has to consider whether national authorities should exercise closer surveillance over the quality and maturity distribution of their banks' foreign loan business.

To conclude, I should not wish to deny that there have been certain links between the development of the Euro-currency market and the acceleration of world inflation. But, in view of substitution effects of the kind discussed in this paper, I feel that the *direct* inflationary impact of the market has been more limited than is widely believed. In the cyclical context, moreover, this impact could have been mitigated if certain countries, among them the United States, had recognised greater individual responsibility in regulating net flows of funds to and from their markets.

On the other hand, the general balance-of-payments restrictions on capital outflows applied by the United States and the United Kingdom have had a twofold effect. They have contributed to the growth of the Euro-currency market while at the same time making it easier over rather long periods to avoid doing more to curb domestic inflation. These situations, largely through their current-account effects, have had inflationary consequences for the rest of the world. But much the same thing can be said, with respect to certain periods, of the restrictions on lending abroad maintained by a number of other countries. Domestic inflation can be accommodated just as well by bottling up outflows as by acceding to excessive inflows.

The Euro-currency market, it would seem, is in danger of falling victim to a "scape-goat" tendency — which causes national authorities to look abroad for the sources of their difficulties. Over most of the industrialised world, we must recall, monetary policies since 1969 have succeeded in eliminating demand inflation, though at the cost of stagnation and unemployment. But, as far as the virus of cost inflation is concerned, a strong new strain, with international mobility, has continued to assail us. This fact alone goes far to explain recent world inflation.

WARREN D. MCCLAM

*Washington*



ANNEX 1

UNITED STATES
TOTAL NET CREDIT GROWTH: CHANNELS OF SUPPLY

| Year | Credit supplied directly by | | | | | | Grand total |
|---|---|---|---|---|---|---|---|
| | Banking system | Non-bank financial intermediaries | | | Domestic markets | Foreign sector | |
| | | Private | Government | Total | | | |
| | in milliards of US dollars | | | | | | |
| 1953 | 5.4 | 15.5 | 0.7 | 16.2 | 7.6 | 0.6 | 29.8 |
| 1954 | 9.1 | 16.1 | 0.1 | 16.2 | 1.5 | 0.5 | 27.3 |
| 1955 | 4.9 | 16.9 | 0.8 | 17.7 | 14.6 | 1.0 | 38.2 |
| 1956 | 5.0 | 17.3 | 1.0 | 18.3 | 5.2 | 1.3 | 29.8 |
| 1957 | 4.3 | 17.3 | 0.8 | 18.1 | 7.6 | 0.6 | 30.6 |
| 1958 | 17.2 | 19.1 | 1.8 | 20.9 | 3.3 | — | 41.4 |
| 1959 | 5.0 | 21.4 | 1.7 | 23.1 | 20.0 | 3.2 | 51.3 |
| 1960 | 9.6 | 22.0 | 1.5 | 23.5 | 2.5 | 1.3 | 36.9 |
| 1961 | 17.2 | 23.6 | 2.0 | 25.6 | 3.3 | 0.8 | 46.9 |
| 1962 | 21.5 | 26.6 | 2.1 | 28.7 | 2.4 | 1.5 | 54.1 |
| 1963 | 22.0 | 29.9 | 1.6 | 31.5 | 3.3 | 0.9 | 57.7 |
| 1964 | 25.2 | 31.0 | 3.2 | 34.2 | 6.9 | 0.6 | 66.9 |
| 1965 | 32.1 | 30.1 | 2.8 | 32.9 | 5.7 | — 0.3 | 70.4 |
| 1966 | 20.2 | 25.9 | 5.2 | 31.1 | 19.0 | — 1.8 | 68.5 |
| 1967 | 41.4 | 34.4 | 5.1 | 39.5 | — 0.2 | 2.8 | 83.5 |
| 1968 | 43.2 | 34.2 | 4.7 | 38.9 | 12.3 | 2.5 | 96.9 |
| 1969 | 16.4 | 30.1 | 2.7 | 32.8 | 39.9 | 1.3 | 90.4 |
| 1970 | 36.3 | 38.9 | 4.4 | 43.3 | 7.1 | 10.9 | 97.5 |
| 1971 | 56.4 | 68.7 | 2.1 | 70.8 | — 4.5 | 28.4 | 151.1 |
| | in percentages of GNP | | | | | | |
| 1953 | 1.5 | 4.2 | 0.2 | 4.4 | 2.1 | 0.2 | 8.2 |
| 1954 | 2.5 | 4.4 | 0.0 | 4.4 | 0.4 | 0.2 | 7.5 |
| 1955 | 1.2 | 4.3 | 0.2 | 4.5 | 3.7 | 0.2 | 9.6 |
| 1956 | 1.2 | 4.1 | 0.3 | 4.4 | 1.2 | 0.3 | 7.1 |
| 1957 | 1.0 | 3.9 | 0.2 | 4.1 | 1.7 | 0.1 | 6.9 |
| 1958 | 3.8 | 4.3 | 0.4 | 4.7 | 0.8 | 0.0 | 9.3 |
| 1959 | 1.0 | 4.4 | 0.4 | 4.8 | 4.1 | 0.7 | 10.6 |
| 1960 | 1.9 | 4.4 | 0.3 | 4.7 | 0.5 | 0.2 | 7.3 |
| 1961 | 3.3 | 4.5 | 0.4 | 4.9 | 0.6 | 0.2 | 9.0 |
| 1962 | 3.9 | 4.7 | 0.4 | 5.1 | 0.4 | 0.3 | 9.7 |
| 1963 | 3.7 | 5.0 | 0.3 | 5.3 | 0.6 | 0.2 | 9.8 |
| 1964 | 4.0 | 4.9 | 0.5 | 5.4 | 1.1 | 0.1 | 10.6 |
| 1965 | 4.7 | 4.4 | 0.4 | 4.8 | 0.8 | — 0.0 | 10.3 |
| 1966 | 2.7 | 3.5 | 0.7 | 4.2 | 2.5 | — 0.2 | 9.2 |
| 1967 | 5.2 | 4.3 | 0.7 | 5.0 | — 0.0 | 0.3 | 10.5 |
| 1968 | 5.0 | 4.0 | 0.5 | 4.5 | 1.4 | 0.3 | 11.2 |
| 1969 | 1.8 | 3.2 | 0.3 | 3.5 | 4.3 | 0.2 | 9.8 |
| 1970 | 3.7 | 4.0 | 0.5 | 4.5 | 0.7 | 1.1 | 10.0 |
| 1971 | 5.4 | 6.5 | 0.2 | 6.7 | — 0.4 | 2.7 | 14.4 |

ANNEX 2

JAPAN
TOTAL NET CREDIT GROWTH: CHANNELS OF SUPPLY

| Year | Credit supplied directly by | | | | | | Grand total |
|---|---|---|---|---|---|---|---|
| | Banking system | Non-bank financial intermediaries | | | Securities markets | Foreign sector | |
| | | Private | Government | Total | | | |
| | in milliards of yen | | | | | | |
| 1954 | 388 | 218 | 227 | 445 | 139 | 26 | 998 |
| 1955 | 470 | 264 | 210 | 474 | 95 | 48 | 1,087 |
| 1956 | 1,014 | 343 | 281 | 624 | 198 | 120 | 1,956 |
| 1957 | 837 | 463 | 317 | 786 | 264 | 39 | 1,920 |
| 1958 | 1,031 | 450 | 363 | 813 | 298 | 61 | 2,203 |
| 1959 | 1,270 | 674 | 360 | 1,034 | 336 | 212 | 2,852 |
| 1960 | 1,515 | 917 | 453 | 1,370 | 676 | 159 | 3,720 |
| 1961 | 1,607 | 1,324 | 512 | 1,836 | 1,336 | 313 | 5,092 |
| 1962 | 2,093 | 1,587 | 632 | 2,219 | 799 | 167 | 5,278 |
| 1963 | 3,422 | 1,869 | 843 | 2,712 | 630 | 533 | 7,297 |
| 1964 | 3,077 | 1,857 | 743 | 2,600 | 903 | 350 | 6,930 |
| 1965 | 2,889 | 2,781 | 1,082 | 3,863 | 332 | 32 | 7,116 |
| 1966 | 3,607 | 2,910 | 1,506 | 4,416 | 279 | — 147 | 8,155 |
| 1967 | 4,621 | 3,367 | 1,626 | 4,993 | 290 | 350 | 10,254 |
| 1968 | 4,283 | 3,849 | 2,041 | 5,890 | 596 | 404 | 11,173 |
| 1969 | 5,569 | 5,160 | 2,413 | 7,573 | 901 | 500 | 14,545 |
| 1970 | 6,395 | 5,991 | 2,919 | 8,911 | 1,368 | 664 | 17,338 |
| 1971 | 9,692 | 7,285 | 3,916 | 11,201 | 1,764 | 1,610 | 24,268 |
| | in percentages of GNP | | | | | | |
| 1954 | 4.9 | 2.8 | 2.9 | 5.7 | 1.8 | 0.3 | 12.7 |
| 1955 | 5.4 | 3.1 | 2.4 | 5.5 | 1.1 | 0.6 | 12.6 |
| 1956 | 10.4 | 3.5 | 2.9 | 6.4 | 2.0 | 1.3 | 20.1 |
| 1957 | 7.5 | 4.2 | 2.8 | 7.0 | 2.4 | 0.4 | 17.3 |
| 1958 | 8.9 | 3.9 | 3.2 | 7.1 | 2.6 | 0.5 | 19.1 |
| 1959 | 9.8 | 5.2 | 2.8 | 8.0 | 2.6 | 1.7 | 22.1 |
| 1960 | 9.8 | 5.9 | 2.9 | 8.8 | 4.4 | 1.0 | 24.0 |
| 1961 | 8.4 | 6.9 | 2.7 | 9.6 | 7.0 | 1.6 | 26.6 |
| 1962 | 9.9 | 7.4 | 3.0 | 10.4 | 3.8 | 0.8 | 24.9 |
| 1963 | 14.0 | 7.7 | 3.4 | 11.1 | 2.5 | 2.2 | 29.8 |
| 1964 | 10.7 | 6.4 | 2.6 | 9.0 | 3.1 | 1.2 | 24.0 |
| 1965 | 9.0 | 8.7 | 3.4 | 12.1 | 1.1 | 0.1 | 22.3 |
| 1966 | 9.8 | 7.9 | 4.1 | 12.0 | 0.8 | —0.4 | 22.2 |
| 1967 | 10.6 | 7.7 | 3.7 | 11.4 | 0.7 | 0.8 | 23.5 |
| 1968 | 8.3 | 7.5 | 3.9 | 11.4 | 1.1 | 0.8 | 21.6 |
| 1969 | 9.2 | 8.6 | 4.0 | 12.6 | 1.5 | 0.8 | 24.1 |
| 1970 | 9.0 | 8.5 | 4.1 | 12.6 | 1.9 | 0.9 | 24.4 |
| 1971 | 12.3 | 9.3 | 5.0 | 14.3 | 2.2 | 2.1 | 30.9 |



ANNEX 3

GERMANY
TOTAL NET CREDIT GROWTH: CHANNELS OF SUPPLY

| Year | Credit supplied directly by | | | | Total |
|---|---|---|---|---|---|
| | Banking system | Other financial institutions | Domestic markets | Foreign sector | |
| | in milliards of Deutsche Mark | | | | |
| 1960 | 27.9 | 5.4 | 5.7 | 4.2 | 43.2 |
| 1961 | 32.7 | 6.1 | 7.4 | — 0.4 | 46.6 |
| 1962 | 25.0 | 6.3 | 3.4 | 3.0 | 37.7 |
| 1963 | 34.3 | 6.8 | 7.2 | 2.7 | 51.0 |
| 1964 | 33.6 | 7.4 | 10.8 | 5.0 | 56.8 |
| 1965 | 36.8 | 9.6 | 9.2 | 7.8 | 63.4 |
| 1966 | 32.4 | 11.2 | 6.1 | 5.5 | 55.2 |
| 1967 | 49.3 | 9.6 | 9.0 | 0.5 | 68.4 |
| 1968 | 65.6 | 10.6 | 7.7 | 6.5 | 90.4 |
| 1969 | 67.0 | 12.9 | 9.4 | 4.7 | 94.0 |
| 1970 | 82.6 | 15.0 | 10.8 | 20.0 | 128.4 |
| 1971 | 90.4 | 17.8 | 11.7 | 14.7 | 134.6 |
| | in percentages of GNP | | | | |
| 1960 | 9.2 | 1.8 | 1.9 | 1.4 | 14.3 |
| 1961 | 9.8 | 1.9 | 2.2 | — 0.1 | 14.0 |
| 1962 | 6.9 | 1.8 | 1.0 | 0.8 | 10.5 |
| 1963 | 8.9 | 1.8 | 1.9 | 0.7 | 13.3 |
| 1964 | 8.0 | 1.8 | 2.5 | 1.2 | 13.5 |
| 1965 | 8.0 | 2.1 | 2.0 | 1.7 | 13.8 |
| 1966 | 6.6 | 2.3 | 1.2 | 1.1 | 11.2 |
| 1967 | 10.0 | 1.9 | 1.8 | 0.1 | 13.8 |
| 1968 | 12.1 | 2.0 | 1.4 | 1.2 | 16.7 |
| 1969 | 11.1 | 2.1 | 1.6 | 0.8 | 15.6 |
| 1970 | 12.1 | 2.2 | 1.6 | 2.9 | 18.8 |
| 1971 | 12.0 | 2.4 | 1.5 | 1.9 | 17.8 |

W. D. M.