

The Potential Volume of Forward Exchange Facilities

The extensive and rapidly growing literature on forward exchange deals with its technique and with its theory almost exclusively from the point of view of the causes and effects of changes in forward rates. Very little has been published about the potential volume of forward exchange facilities. I must admit that my own contributions to the study of forward exchange have done considerably less than justice to the importance of this aspect of the subject and have failed to go adequately into its complexities which call for a more detailed analysis (1). The present article is an attempt to repair my omission, at the same time correcting certain errors contained in my earlier writings on the subject.

It is taken widely for granted that, in the absence of exchange controls affecting the freedom of dealing in forward exchanges, the volume of forward exchange operations — unlike that of spot exchange operations — has no limits either in theory or in practice. Since spot exchange transactions involve immediate delivery of the exchanges sold and immediate payment for them by the buyer — to be exact, delivery and payment after two clear business days — sales of spot exchanges are necessarily limited by the amount of the foreign currency that is available to the seller, plus the amount he is able to borrow, and purchases of spot exchanges are limited by the amount of the local currency that is available to the buyer, plus the amount he is able to borrow. No delivery or payment is involved, however, in a forward exchange transaction until the contract matures, and even then either of the two sides is in a position to avoid the delivery or the payment by simply settling the exchange

(1) PAUL EINZIG, *A Dynamic Theory of Forward Exchange* (2nd ed.), London, 1967, pp. 12-13, 19-20, 26, 79, 103, 177, 305-6, 472. *A Textbook on Foreign Exchange* (2nd ed.) London, 1969, pp. 40, 58-59, 176-178, 202-203, 240. *Foreign Exchange Crises*, London, 1968, pp. 55-56, 59, 63, 76. *Leads and Lags*, London, 1968, p. 99. See also H. E. EVITT, *A Manual of Foreign Exchange* (6th ed. by W. W. Syrett), p. 83.

difference or by "rolling" the commitment forward. This is the reason why the limitations that apply to spot exchange transactions — lack of local currency or of foreign currency — do not apply to forward exchange transactions.

Recent experience appeared to have confirmed the mistaken impression that "the sky is the limit" to forward exchange transactions. Unlimited support of forward sterling by the Bank of England during 1964-67 resulted in purchases and sales of non-existent dollars running into thousands of millions. Most of those who had bought dollars in anticipation of a devaluation of sterling had not possessed the sterling to pay for the dollars, and the Bank of England had not possessed the dollars it had sold for forward delivery. When during the days following on the devaluation in November 1967 the buyers were called upon to pay for the dollars which they had bought, they found themselves in a rather embarrassing situation and had to pay fantastic interest rates when borrowing sterling for a few days in order to be able to carry out their part of the contracts. Since, however, the cost of such borrowing represented a negligible fraction of the profits made by speculators, this experience did not deter them, or others similarly placed, from resuming their forward exchange operations a few months later, as soon as sterling came once more under a cloud — even though they were no longer encouraged to do so by the artificially low discount on forward sterling brought about by official intervention before the devaluation.

Even in the absence of any ill-advised encouragement of forward exchange operations by providing abnormally cheap facilities, there appears to be in theory no limit to their volume. Spot transactions can be reduced or kept down by the application of general or selective credit restrictions. But, as pointed out above, the conclusion of forward exchange contracts does not require cash at the time of their conclusion, or even at the time when they fall due. For this reason the conventional device of monetary policy, credit squeeze, is incapable of limiting the volume of forward exchange transactions to the extent to which it can limit operations in spot exchanges by preventing the purchase or sale of borrowed currency.

Another conventional device, dear money, does tend to discourage forward selling by making it more costly if it is allowed to produce its normal effects on swap margins. But apart from that, it does not place any actual limits to the volume of forward

selling. Indeed whenever a devaluation is considered imminent, high interest rates fail to prevent a spectacular increase of forward selling for very short maturities, because even fantastically high forward rates paid on such occasions for a few days as a result of high interest rates usually represent a negligible fraction of the potential profits.

The volume of forward exchange transactions is, however, subject to limitations for reasons outside the confines of conventional monetary policy. Such limitations come under the following headings:

- 1) Exchange control measures of various kinds.
- 2) Instructions to foreign exchange departments by the head offices of their banks to keep the total of their forward commitments, or their forward commitments in particular currencies, or their dealings with particular countries, within certain limits.
- 3) Limits applied by most banks to their forward exchange commitments in relation to most other banks.
- 4) Limits applied by most banks to forward exchange commitments maturing on any particular day.

Governments and Parliaments have the power to ban forward exchange transactions altogether. They have the power to suppress the free market in forward exchanges — as they did in Britain during and for some time after the Second World War. Or they can limit forward exchange transactions by banning contracts beyond certain time limits, or in certain currencies, or for certain purposes. They can confine forward exchange operations to transactions by "authorised dealers" and determine the maximum limit to the covered and uncovered commitments of each authorised dealer. This is the system that is in operation in Britain and in many other countries at the time of writing. Banks in the U.K. are not supposed to have foreign currency commitments, whether open or covered by forward exchange transactions, beyond a certain authorised limit.

The limits are fixed fairly liberally — even though they were reduced for many banks in 1966 — but their existence does restrict in theory the volume of forward exchange facilities. In practice there are several loopholes.

- 1) The limits are overall limits to *net* commitments, which means that a long position in, say, D.marks can be offset by a short position in, say, French francs.

2) Although returns declaring the positions and commitments are submitted to the Bank of England every week, and more detailed returns every month, there is nothing to prevent banks from exceeding their limits temporarily between the dates for which they have to make their returns.

3) Even if the returns show excesses over the authorised limits, the Bank of England is usually willing to accept reasonable explanations. But repetition of such irregularities is liable to entail suspension of the authorisation to deal in exchanges, and even though there have been no such suspensions in practice, the possibility of such penalty discourages banks from exceeding their limits.

4) In several important countries, such as the U.S., West Germany and Switzerland, there are no official limitations to forward exchange transactions.

I have not come across any recent instance in which banks refused forward exchange facilities to commercial clients on the ground that their commitments had reached the officially fixed limits. I am sure that, should such situations arise, banks would be reasonably safe in exceeding temporarily their limits, relying on the assumption that the authorities would accept their explanation. The limits are fixed not in order to handicap business with commercial clients but in order to keep down the volume of speculation and arbitrage.

On the other hand, banks are liable to find themselves in a position in which they are unable to meet their customers' genuine commercial requirements for forward exchange facilities, not because of any official restrictions but because their commitments in the market have reached the limit beyond which banks are not prepared to accept each others' names in inter-bank transactions. Such situations did arise for brief periods during the currency chaos of the early thirties. They threatened to arise again during the middle sixties when large-scale operations, encouraged by the artificially low discount on forward sterling, exhausted the limits applied to the names of some banks. As a result, in 1965-66 one of the leading London banks had to instruct its foreign exchange department to keep down its forward exchange operations to an unavoidable minimum during the next three months, so as to allow the amount of its outstanding forward exchange commitments to decline as and when the contracts matured. This was deemed necessary because

the bank in question had exhausted or nearly exhausted, its limits with most banks. Again in November 1967 a number of banks are known to have reached their limits.

The possibility that such a situation might recur and might assume such an extent that importers and exporters would find it impossible to obtain from their banks the forward exchange facilities they need, looms large on the horizon as a result of the growing pressure in favour of adopting a system of flexible parities or of floating exchange rates. It is my contention that a removal or relaxation of limits fixed under the Bretton Woods system for the fluctuation of exchange rates would greatly increase commercial and other demand for forward exchange facilities and that, at the same time, it would reduce considerably the maximum of such facilities which banks would be in a position to make available for their customers. My reason for this assumption lies partly in the view I take of the way in which flexible parities or freely fluctuating exchange rates would be liable to affect the attitude of industrialists, merchants, investors, speculators, etc., and partly in the view I take of the way in which banks would seek to safeguard themselves in their market operations against the risk arising from wide and unpredictable changes of parities or fluctuations of exchanges.

The above view relates to the highly controversial broad question of pegged parities *v.* frequently changing parities or floating exchange rates, a detailed discussion of which is outside the scope of this article. I deem it necessary, however, to explain briefly why I am convinced that a de-stabilisation of exchanges would increase the necessity and inclination for industrialists and others engaged in foreign trade or finance to resort to forward exchange transactions for covering or hedging against exchange risk, and also the temptation of deliberately incurring such risks for the sake of the possibility of speculative profits.

Under the system of fixed parities and support points such transactions are undertaken mostly by people who have doubts about the determination or ability of the Governments concerned to resist pressure in favour of a change in the existing parities. After each change, following upon repeated official declarations that the existing parity would be defended at all costs, confidence in the sanctity of such pledges tends to weaken. Nevertheless, except on occasions when a currency scare becomes acute and a change of parities comes to be considered imminent, the opinion of bankers and businessmen

concerned with foreign exchange transaction is sharply divided on the question whether the Government is able and willing to defend the existing parities. A high proportion of those concerned usually believe that the Government, when disclaiming any intention to devalue, means what it says. Otherwise each currency scare would develop into a landslide such as actually occurred in November 1967 from the moment the British Government came to abstain from reaffirming its pledge not to devalue sterling.

Should the system of flexible parities or of floating exchange rates be adopted, it would become the Government's declared policy to abstain from resisting any selling pressure on its exchange. The whole idea of the system of flexible floating or floating exchanges is to allow the exchange rates to find their own level without trying to defend them. The depreciation or the repetition of devaluations would then continue until the trend is automatically halted or reversed through the unimpeded and unaided forces operating in a market free of official intervention. Until that stage is reached, whenever there is some obvious adverse factor in operation, the near-certainty that the resulting selling pressure would not be resisted would induce most people who have interests to protect to cover or hedge against the exchange movements they expect. It would induce another set of operators to exploit the high degree of possibility for making speculative profits on such unhindered exchange trends. There would be, therefore, a considerable increase in the demand for forward exchange facilities both for speculative and non-speculative purposes. The knowledge that the authorities would be "neutral" in face of the adverse trend would greatly stimulate such demand.

The banks' ability to meet such an increased demand would be far from unlimited. It is true, during the various periods of the currency chaos between the Wars there were most of the time no difficulties to obtain forward exchange facilities provided that the customers were creditworthy. Even if their creditworthiness was doubted, the banks were able to secure themselves against the risk of default by insisting on receiving from their customers a deposit that they deemed sufficient to cover any likely losses arising from exchange movements.

Since pre-War days the situation has changed, however, partly as a result of the spectacular increase in the volume and value of foreign trade, and partly because importers and exporters have become much more foreign-exchange conscious. The practice of

inventory hedging — the covering of the risk of a fall in the price of imported goods as a result of a devaluation of the exporting country's currency — has become incomparably more prevalent in a number of countries (not in Britain) and is applied to an increasing extent. There has been a spectacular increase in international investment and the volume of investment-hedging — the covering of the risk of a depreciation of the foreign investment in terms of the investor's currency as a result of a devaluation of the currency of the country in which he holds a portfolio investment or a direct investment. In addition, the development of the Euro-currency market and of the Euro-bond market has created a considerable demand for forward exchange facilities.

Admittedly, pure speculation has declined, but in times of acute crises — such as we witnessed during the flight from the pound in November 1967 — it is apt to exceed its pre-War extent. So the fact that the banks were able to meet their customers' requirements of forward exchange facilities most of the time in the inter-War period when exchange rates were floating should not lead us into a false feeling of security about their ability to meet the requirements if the world should relapse into currency chaos as a result of frequently changing parities or of an adoption of floating exchanges.

What would make the banks' task to satisfy their customers' requirements even more difficult is that, simultaneously with the increase in the demand for forward exchange facilities, there would be a sharp decline in the maximum of such facilities that the banks would be able to offer to their customers. This decline would be due to the desire of bank managements to play for safety by reducing the limits for their total open positions, for their open positions in particular currencies or countries, and for the names of individual banks. Increased risks of heavy losses through unforeseen exchange movements might tend to induce managements to err on the conservative side and impose unreasonably low limits on their foreign exchange departments. At present most foreign exchange departments are treated fairly liberally by their head offices so long as they are able to show favourable results, but their chiefs become inclined to interfere with their freedom if they have a run of bad luck. The removal of the I.M.F. limits to the fluctuations of spot rates, under which profit possibilities as well as risks are limited in existing circumstances — barring changes in parities — would

increase the incalculable risk of substantial losses. The natural reaction of managements would be to reduce the existing limits.

The practice of insisting on deposits by customers on their forward exchange transactions, which has declined considerably, would be resumed. What is infinitely worse for customers, the extent to which their banks would be able to satisfy their requirements might become reduced, because the banks might have to "ration" their reduced volume of forward exchange facilities, owing to the contraction in the volume of total forward exchange facilities at their disposal in the market. If their forward commitments even approach the limits to which other banks are prepared to take their names for such commitments, they might find it difficult to undo in the market their new forward commitments in relation to their customers.

This brings us to the examination of the most difficult and least explored aspect of our subject — the practice of most banks to limit their forward exchange commitments in relation to most other banks, and the broader implications of this practice. The main difficulty of discussing this subject arises from the secrecy which surrounds the practice, and from the almost infinite variety of its application by various banks.

There are other limits for names of banks in inter-bank dealings, besides the limits on forward exchange commitments. Indeed the practice of applying maximum limits to transactions in Euro-currencies or inter-bank sterling loans is a great deal stricter than the limits to forward exchange commitments, because the degree of risk is higher. If a bank defaults on a forward exchange contract — whether through insolvency or in consequence of exchange restrictions — the resulting loss does not exceed the exchange rate difference, which need not necessarily be adverse. But Euro-currency or inter-bank sterling transactions are unsecured loans and default might mean total loss of the entire amounts involved. Hence the practice under which foreign exchange brokers are willing to disclose the name of the would-be borrower to the would-be lender before the deal is concluded. The limits for names are much lower for such transactions than for forward exchange commitments.

Many banks have also another kind of limit for names — the total limit of spot and forward commitments maturing on the same day. They seek to safeguard themselves against the "delivery risk" arising from the impossibility of synchronising absolutely the delivery

of foreign currencies and the payment for them in national currency. Although they must take place on the same day, there is apt to be a discrepancy of several hours, and there is a remote possibility that a bank, having made the payment in accordance with the contract, does not receive the foreign currencies it had bought for spot delivery in two days or for forward delivery. Hence the desire of many banks to limit the total amount receivable from the same bank on the same day (2). This practice need not necessarily limit the total of forward exchange facilities, because it does not affect commitments maturing on different dates. For our present purposes the practice of banks to apply limits for the *total* forward exchange commitments of every other bank is what really matters.

As I pointed out above, the way in which banks apply this practice varies widely. Very broadly speaking, there is a marked difference between what we can conveniently call the American practice and the British practice. Banks in the United States apply their limits to the *gross* outstanding commitments in their relation with other banks, while British banks in general apply it to the *net* difference between their long and short positions in their relations with other banks. The reason why American banks follow a much more stringent rule lies in American bankruptcy law under which default by a bank does not exempt the bank which is the victim of that default from honouring its own obligation in relation to the defaulter. That being so, American banks are not satisfied with merely limiting the net difference between their purchases of foreign exchanges from, and sales of foreign exchange to, any one bank. They feel impelled to limit even the gross total of their commitments in relation to any one bank. This practice is so firmly established that it is pursued even by American bank branches abroad, although they operate under the laws of the country of their residence.

In Britain itself the practice of fixing limits for names varies widely among banks. Some banks are much more liberal than others, they have virtually no limits for banks of their own class, whether in London or abroad. They have very vague and elastic limits for smaller banks of good standing, and the decision is left to the head of their foreign exchange department. Other banks observe very strict limits for all names. Their attitude gave rise to

(2) For a detailed discussion of this practice the reader is referred to my *Textbook on Foreign Exchange*, pp. 177-179.

some difficulties between 1964 and 1967, whenever they were supporting forward sterling on behalf the Bank of England on a large scale. Owing to the large amounts involved, their limits for banks to which they were selling forward dollars was actually reached in a number of instances. The banks for whose names the limit was reached, being unable to buy forward dollars at the official rates from other banks in the market because all banks other than those operating for the Bank of England were buyers, had to buy through some other bank whose commitments in relation to the bank in charge of "control" operations had not reached its limit. Such use of the names of the other bank cost them something like $\frac{1}{8}$ c. to $\frac{1}{4}$ c. in the rate.

What matters from the point of view with which we are here concerned is that there had been a distinct possibility that all or most banks might reach their limits in relation to each other. Such a situation might well have arisen if, instead of devaluing on November 17, 1967, the Government had sought to hold sterling at \$2.78 a little longer. Banks might have ceased to be in a position to undo in the market their commitments undertaken in relation to their customers and might have had to refuse additional forward exchange facilities to them.

The practice of limits for names is a nightmare for foreign exchange brokers. While they are generally aware of the unwillingness of certain banks to take certain names for forward exchange transactions, they have no means of knowing if and when the limits for forward exchange transactions with banks whose names are usually taken have been reached. Even if a name has been refused on the ground that the limit has been reached, transactions through other channels might reduce the net amount of the commitments between the two banks, so that a few minutes after a refusal the bank concerned might become once more willing to take the name in question.

One of the absolute rules that govern banker-broker relationship is that in foreign exchange transactions — as distinct from Euro-currency transactions — the two parties must not be informed about the name of the bank which provides the counterpart until the deal is definitely concluded. If a bank, on learning the name of the other bank, tells the broker that it cannot accept that bank's name because its limit for that name has been exhausted, the broker is placed in a very awkward position. In no circumstances must he

inform the bank in question that its name has been refused on the ground that its limit had been reached. One of the main justifications for dealing through brokers is precisely that a bank need not disclose to another bank — which might well be of first-class standing — its unwillingness to take the latter name. Such refusals are among the most closely-guarded secrets of the brokers.

If a name is unexpectedly refused after the finalisation of the deal, there are various formulas with the aid of which the broker may try to cancel the transaction, mostly through pleading misunderstanding. Frequent recurrence of such cancellations are detrimental to the broker's goodwill with the bank concerned, even though he is in no way to blame. So in many instances he looks round frantically in the market to provide an alternative counterpart, on identical terms. It might even settle the exchange difference if the counterpart can only be secured on less favourable terms, under arrangement made through the intermediary of the Foreign Exchange Brokers Association.

Having dealt with the technical aspects of the practice of fixing limits for names, our next step is to examine its broader aspects. To be able to do so effectively it would be of the utmost importance to be in a position to ascertain the grand total of the amounts to which banks are prepared to take each other's names for forward exchange transactions, as it would give us an idea of the potential maximum of forward exchange facilities and of changes in the amount of the potential maximum. Unfortunately, owing to the secrecy which surrounds the practice, and even more owing to its different application by various banks and to the flexibility of its rules of application even by the same bank, this is quite impossible. We have to be content with registering the fact that in given circumstances the practice is liable to limit the grand total of forward exchange transactions in the market, and therefore also the forward exchange facilities which banks are in a position to offer their customers. Even though some banks profess to have virtually no limits for good names, if the limits applied by the majority of banks should divert too many transactions to them a stage is bound to be reached at which they too would apply limits and would themselves become subject to limits.

I must plead guilty of gross oversimplification in my previous writings on the subject of limits for names. For instance, in my *Leads and Lags* I stated that "the sum total of these limits constitutes

in theory the maximum limit of forward exchange facilities which the banks are able to offer to their commercial clients" (3). This principle, to the extent to which it is correct, is of considerable importance from the point of view of both foreign exchange theory and foreign exchange policy. It gave me much satisfaction, when I enunciated it, to feel that I was the first to enunciate it. For this reason, among others, it is with the utmost regret and reluctance that I now feel impelled to admit that, after careful re-consideration, I have come to realise the gross inadequacy of the formula. Even though the basic principle that the volume of forward exchange facilities available to trade is liable to be affected by limits to names is incontestable, the form in which I had stated it is inaccurate and misleading.

For one thing, the formula according to which the aggregate of limits to names represents the maximum of forward exchange facilities is grossly oversimplified. I have always distrusted any economic theory which, in accordance with the all-too-prevailing fashion, seeks to fit economic theories, situations or changes into the straight-jacket of some arithmetical formula. To my mind some econometricians are inclined at times to indulge in wishful thinking by adjusting their theories, and even the factual material on which their theories are based, in such a way as to make them conform to figures which they put forward with a higher degree of assurance than could possibly be justified on the basis of a more penetrating analysis of the highly involved subjects concerned.

My fundamental distrust of fallacious econometric arguments in economics expressed in terms of simple arithmetic makes it all the more difficult for me to find an acceptable excuse for having committed the very same offence which I often criticized when committed by others. There is nothing for it but to admit candidly that my formula is mistaken in more than one respect. In some respect it overrates the maximum volume of forward exchange facilities that is determined by the total of limits, while in another respect it underrates that maximum. The practical effects of its distortions tend therefore to offset each other to a high degree. But I have

(3) PAUL EINZIG, *Leads and Lags*, London, 1968, p. 99. Although in the Preface of that book I offered a small prize to any reviewer or reader who is the first to discover any factual error, up to the time of writing nobody has spotted the factual inaccuracy of the formula stated in the sentence quoted above.

no means of estimating, let alone ascertaining, the extent to which my revised and amplified theory calls for a modification — if any — of the conclusion based on my original oversimplified theory, or even to form a very definite opinion about the direction in which it has to be modified on balance.

The present article is in the way of being a confession of my errors, a confession of the kind that is fashionable in Soviet Russia. But, unlike Communists, I derive no quasi-masochistic satisfaction whatsoever from confessing my mistake and from denouncing myself for having deviated from my attitude of fundamental distrust of oversimplifications made for the sake of conforming to some arithmetical formula. Quite on the contrary, I had to make some effort to overcome the temptation to leave things well alone in the hope that, owing to the lack of interest in my subject and to its obscure technical character, my mistake might pass undiscovered. This brings me to the other way in which my confession differs from Communist-style self-denunciations. I have not been driven to the admission of my errors by any external pressure, only by my own feeling that I must not mislead my readers by allowing my original theory to stand uncorrected, now that I have discovered its errors.

I therefore make herewith the following confessions:

1) The formula that the maximum of forward exchange facilities available to banks' customers is equal to the total of the limits to which banks are prepared to take each others' names for forward exchange transactions is incorrect even from a point of view of its simple arithmetic.

2) In any case, it assumes a uniform practice and disregards the effect of divergencies between the practical application of limits for names.

3) It also overlooks the extent to which banks are in a position to "marry" their buying and selling transactions with their customers.

4) It overlooks the extent to which forward exchange transactions of banks with their customers are, or can be, covered by spot transactions leading to changes in the banks' assets or liabilities in terms of foreign currencies.

5) It overlooks the obvious fact that banks cannot reserve for their commercial customers all forward exchange facilities that are at their disposal.

6) On the other hand, it also overlooks the extent to which a reduction in the amount of forward exchange commitments of a non-commercial origin can increase the amount of facilities available for commercial customers.

My original formula is guilty of an elementary arithmetical mistake for which I can find no excuse or even extenuating circumstances. It overlooks the obvious fact that the same transaction in the foreign exchange market is apt to increase or reduce the commitments of *both* parties in relation to each other, so that it is apt to change the grand total of unavailed limits by *twice* the amount involved.

Let us assume that Bank A's limit for Bank B is \$200 million while Bank B's limit for Bank A is also \$200 million, and that up to a given date Bank A had sold to Bank B \$50 million for forward delivery while it had bought from Bank B \$40 million for forward delivery. Under the American system the unused limit of both banks in relation to each other is reduced by \$90 million, making a total reduction of \$180 million. Under the British system the limit is only reduced by twice the difference of \$10 million between forward purchases and sales, that is, by a total of \$20 million. What matters from the point of view with which we are here concerned is that under both systems the total of the unused limits is reduced not merely by the gross or net amount of the outstanding commitments but by *twice* their amount, since each bank deducts the amount in question from the unused amount of its limit. The maximum of forward exchange facilities which *each* bank is able to offer its customers is reduced by the amount of the transactions with the other bank.

Conversely, if as a result of a forward exchange transaction the *net* forward commitments of the banks in question are reduced, the total of their unavailed limits is increased by twice the amount of the transaction under the British system. Buying and selling transactions are liable to offset each other to a large extent, so that the net outstanding balance tends to be relatively small. Under the American system, on the other hand, the gross outstanding commitments tend to increase with such transaction and the limits are liable to be reached much earlier. The unavailed amounts are not reduced by a transaction in the opposite sense but are increased further. Owing to the growing importance of American banks in the foreign exchange market, the exhaustion of their limits for other

banks is liable to make forward dealing in dollars increasingly difficult during a prolonged period of pressure.

If American banks exhaust their limits for each other and for non-American banks before the latter exhaust their limits for each other or for American banks, difficulties are liable to arise in undoing forward dollar commitments. This would not necessarily mean that dealings in forward dollars would come to a halt in European markets, but if American banks are unable to provide counterparts for them the latter might exhaust each others' limits even though they are only concerned with net commitments. The fact that each transaction is apt to reduce the total limits available for *all* banks not by its amount but by twice its amount must be borne in mind.

To the extent to which banks are in a position to "marry" their buying and selling orders from their customers without having to undo their commitments in the market, their capacity to provide their customers with forward exchange facilities exceeds the limits to which other banks take their names. Even if it is not always easy to match a buying order with a selling order for the same date, discrepancies between maturity dates can be usually offset by time arbitrage operations in the market, which would not affect the total of available limits under the British system, though it would affect that total under the American system. But it must be borne in mind that during periods of one-sided pressure on a currency most commercial operations, as indeed most other operations, tend to be in the same sense. When, rightly or wrongly, a devaluation of the national currency is expected, most of the banks' customers are buyers of foreign currencies, so that the extent to which it is possible to "marry" customers' buying and selling orders declines to vanishing point just at a time when market facilities for covering are liable to become exhausted through the operation of the limits applied to names.

Banks whose name has reached its limit for forward exchange operations can still operate in spot exchanges. The possibilities of covering a forward exchange transaction with a customer by a spot transaction in the market are, therefore, liable to increase the maximum limit of forward exchange facilities available for customers. It is of course a well-established practice of banks to cover forward outright transactions — whether with customers or with other banks — by spot transactions in the first instance and to undo the

resulting covered commitment by means of a swap transaction in the market, which restores the *status quo* that existed prior to the forward outright transaction. But for various reasons banks might prefer, instead of restoring the *status quo*, to accept the changed situation by allowing the covering spot transaction to reduce or increase their foreign currency holdings or to reduce or increase their foreign currency liabilities (4). They might want to link up the covering of their open positions with passive interest arbitrage.

My original formula failed to allow for non-commercial forward exchange requirements which banks have also to meet, in addition to meeting the requirements of their commercial customers. Even if banks discriminate against obviously speculative requirements, such discrimination is only practicable in respect of their transactions with their customers outside the market. In inter-bank transactions — whether within the same markets or with banks abroad — banks have no means of knowing whether the forward exchange transactions serve commercial or speculative purposes. In order to be “in the market”, banks have to deal frequently with other banks. In addition, they have to provide facilities for genuine investment-hedging by their customers, for covering exchange risk on future interest or dividend receipts or payments and on future capital repayments, etc. They may want to operate also on their own account, to increase or reduce their open positions. All these requirements tend to reduce the forward exchange facilities available for the commercial requirements of their customers, unless the latter are given absolute priority.

Finally, my formula does not allow for the possibility of a drastic reduction of a bank's forward exchange commitments of a non-commercial origin, whether under official pressure or under pressure by commercial customers, or by policy decision at the head office. It is estimated that in normal conditions the turnover in the market is several times larger than the banks' turnover with their commercial customers. There is ample scope for a reduction of the former for the benefit of the latter if the limits to which the bank's name is taken are reached or approached. Earlier in this article we quoted an actual instance in which this was done.

(4) Amidst conditions prevailing in recent years the pre-War practice of foreign exchange departments to operate largely through the balances of overdrafts on their *nostro* accounts has declined in importance.

To sum up, reservations under 1) and 5) qualifying the theory that the volume of forward exchange facilities available for trade purposes depends on the grand total of limits for names in inter-bank dealings tend to reduce the theoretical maximum of forward exchange facilities below the amount suggested by my original formula. On the other hand, the reservations under 3), 4) and 6) tend to increase that maximum. Reservation under 2) simply increases the degree of uncertainty about the whereabouts of the maximum. It is impossible to form a dependable opinion about the net effect of all these conflicting reservations.

What matters is that, even allowing for all reservations, a maximum limit set by the grand total of limits for names in the market does exist somewhere, although its whereabouts are impossible to ascertain even in theory, let alone in practice. Its existence is far from being generally realized. It must be taken into consideration by the authorities before deciding to embark on policies which are liable to increase commercial or other requirements of forward exchange facilities, or which are liable to cause a reduction of limits for names.

The above consideration constitutes a powerful argument against the adoption of flexible exchanges with frequent changes of parities, or of floating exchanges with no parities at all. Under either system the limits would be reduced. In the absence of official intervention to maintain forward margins at an artificial level, the change in supply-demand relationship of forward exchange facilities might raise the cost of covering or hedging to a prohibitive level, or it might even deprive legitimate interests altogether of the facilities they require. In such circumstances, many importers and exporters might prefer to forgo the transaction rather than risk losses through uncovered exchange movements, and many foreign investors might prefer to repatriate their capital. I need not dwell on the possible consequences of such decisions by a large number of firms or investors.

Of course the authorities are always in a position to provide additional forward exchange facilities for approved purposes. As far as exporters are concerned, in Britain and in some other countries there is actually a system of official insurance of exchange risk in operation. During the War and for some time after, the Bank of England provided forward exchange facilities for importers as well as for exporters. But under such arrangements the Government

assumes the full exchange risk instead of leaving this function to the banks and to the foreign exchange market. It would deprive the Government of one of the main advantages of flexible or floating rates as compared with having to support the national currency at a fixed rate. As past experience has shown, official forward facilities are apt to be used unilaterally, in accordance with the prevailing trend. Moreover, such facilities are usually available only to residents of the country concerned. Foreign firms would not be able to benefit by it and would therefore insist on invoicing in their own currencies or in some third currency. Unless forward covering and hedging facilities are available at reasonable cost for all genuine commercial purposes, a decline in the volume of foreign trade might result in a world-wide slump, with incalculable financial, economic, social and political consequences.

The above considerations indicate how an apparently insignificant and widely overlooked technical point is liable to assume first-rate importance.

PAUL EINZIG

London