

Bank Rate or Forward Exchange Policy

1. The Dilemma of Bank Rate

The use of the interest rate weapon in defending the official exchange rate of a currency — the most striking instance of which was the putting up of British Bank rate from 5 to 7 per cent in September 1957 — is beset by a peculiar dilemma.

Pressure on an exchange rate may be of two main kinds. The first kind is exerted, as it were, on *current account*. A country's current visible and invisible payments may be out of equilibrium; as a result, the level of its foreign currency reserves may be changing rapidly, and if nothing else (e.g. the internal price level, or the level or direction of domestic demand) is adjusted, sooner or later the exchange rate must "give". Speculative anticipations of the exchange rate change may extend the trouble to the capital account, further accelerate the change in foreign currency reserves, and make remedial action all the more urgent. Two contemporary examples of such pressure, originating in the current account, are France, where the franc appeared, and to some observers still appears, to be overvalued relative to the level of domestic prices and demand, and Germany, where the opposite seems to be the case. Bank rate, though perhaps not foolproof, is an obvious weapon of defence against this kind of pressure, if only because, unlike fiscal policy, it can be applied without fuss and legislative delay.

The other kind of pressure originates in the *capital account*, and may involve transfers of long-term and of short-term funds. Long-term movements are largely bound up with developments overseas, and are hardly subject to domestic policy measures. International movements of short-term funds, on the other hand, may be more amenable to available means of control; they are the main subject of this paper. These movements, of course, are reflected in the level of the foreign currency reserves of the country

under pressure, and if the reserves are low and dwindling, this may itself reinforce the flight of funds. If the currency is widely held internationally, and if holders enjoy certain (formal or informal) rights of convertibility into other currencies (or if they can evade exchange control, for instance by commodity "shunting"), the foreign currency reserves may not prove adequate to satisfy their demands, and devaluation may be forced upon the country in question. Some observers felt that Britain's plight in July-September 1957 was an example of this second kind of pressure. The current account showed a surplus running at an annual rate of over £200 millions, but the flight from the pound sterling more than offset the current account surplus, causing the central gold and dollar reserves to fall at an alarming rate. The British authorities responded to the pressure by pushing Bank rate up to the almost unprecedented height of 7 per cent.

Bank rate, of course, reacts both on the level of domestic demand or prices (and hence on the balance of payments on current account), and on the international movements of mobile funds (and hence on the balance of payments on capital account). There may well be a connection between the international and the home front; the speculative pressure on capital account may be due to a belief that the apparent health of the current account will not last, the balance will soon swing into serious deficit and devaluation will follow. To dispel this belief, the authorities may wish to use Bank rate on the home front for additional strengthening of the current account, by slowing down Britain's rate of inflation. However, it has sometimes been argued that, as in February 1956, the purpose in September 1957 was merely to deal directly with the international front and arrest the outflow of funds on capital account by high short rates of interest in London.

Be that as it may, it is clear that cases may occur (and whether the most recent British case was one of them may be left an open question) where the authorities see no valid reason for cutting down home demand, feel no anxiety about the present and future balance of current payments, and regard speculative fears of devaluation as unfounded; and yet the strength of those fears, reflected in a flight into foreign currencies, forces them to take defensive action. This is when the Bank rate dilemma becomes painfully acute; for

Bank rate acts indiscriminately on both fronts, hitting the domestic economy even if it was not intended to do so (1).

If the officially pegged exchange rate of an at least partially convertible currency (such as the pound sterling) must be defended without the judicious pegging of the forward exchange rate, the dilemma seems to have no solution. If, however, the authorities are not obliged to confine their supporting operations to the spot market, but will operate on the forward market as well, a technique is available which should in many situations help to overcome the dilemma.

In dealing with the task and scope of forward exchange policy, it will be convenient to discuss the problem in specific British terms, if only because sterling offers the most obvious example; but the conclusions should *mutatis mutandis* be applicable to other currencies as well.

2. Simplifying Assumptions

For the sake of simpler exposition, only two currencies will be taken to exist, sterling and the dollar, the one under a cloud of speculative doubt, the other believed to be safe and stable in terms of all other stores of value. Accordingly, only two centres will be used in the analysis, "London" and "New York", the latter being a shorthand symbol for the rest of the world. The difference between the Treasury bill rates in the two centres (e.g. $6\frac{1}{2} - 3 = 3\frac{1}{2}$ per cent) will be referred to as the "interest parity of the forward discount" on sterling (2). "The official spot rate" will simply mean its own parity, (i.e. \$2.80), as we shall abstract from permitted fluctuations between the two "gold points". I shall use only one forward rate, talking of it in the form of an annual rate of discount compared to the spot rate, and assuming that there is only one type of forward contract (i.e., for three months' delivery). The cost of transferring funds from one centre

(1) This dilemma has been noticed by "The Economist" at the time of the 1857 crisis: "The advance in the Bank rate of discount to 8% must *not be regarded* as an indication of any further pressure upon the money market for *domestic purposes*, but as a protection against a drain on our bullion". (My italics). *The Economist*, October, 24, 1857. Domestic traders faced with scarcer and dearer money were unlikely to derive much comfort from the assurance that they "must not regard" the Bank rate move as having a domestic purpose!

(2) Though imprecise, this formula is adequate for the purposes of our argument.

to the other, and the brokerage cost of arranging forward cover (the spread between forward buying and selling rates) will not be taken into account.

3. "Positions"

Various sterling "positions" can be taken up by persons and firms with access to the spot and forward exchange market. Some of these are *speculative* in the sense that a change in the official spot rate (e.g. devaluation) would change the capital value of the position in terms of sterling; others represent *arbitrage* in the sense that they are hedged against changes in the spot rate. I shall classify these positions under: 1) Pure Speculation, 2) Leads and Lags, 3) Conversion of sterling balances, and 4) Arbitrage. The size of the speculative positions depends on the intensity of doubt felt by potential speculators about the future spot rate; as the case we are discussing rules out beliefs in the appreciation of sterling, stronger doubt will be taken as tantamount to a stronger expectation of devaluation.

I shall measure degrees of "doubt" by the forward exchange rate and the volume of speculative forward sterling positions at that rate; the wider the critical value of the forward discount needed to equate the speculative supply and demand of forward sterling (i.e. to reduce the speculative excess supply of forward sterling to nil), the higher is the degree of doubt. If the critical value of the forward rate is equal to the spot rate, there is complete confidence in sterling (doubt being of degree zero); while if the forward rate is at a premium, speculators must expect upvaluation relative to the dollar. There will be excess demand or supply of forward sterling according to whether the forward discount is wider or narrower than the critical value measuring doubt; and hence the market will fix the forward discount at its critical value *unless* there is arbitrage demand for forward sterling to match the speculative excess supply, or *vice versa*.

1) *Pure Speculation*. This class is meant to embrace all (short or long) positions in forward sterling not offset by a position of opposite sign in spot sterling. For instance, it includes the (short) sale of forward sterling with a view to the purchase of spot sterling

in 3 months' time (after the expected devaluation has taken place). This is popularly known as a "bear position". But it is not different in its function from what are popularly called "commercial" forward positions, such as the forward sale of sterling by a foreign exporter to Britain in anticipation of future receipts of sterling. In both the "bear" and the "commercial" case, the sellers of forward sterling would gain in terms of sterling in the event of devaluation.

If sterling is not devalued before the forward contract matures, the sellers lose the discount at which they sold forward; and the converse is true of the buyers of forward sterling. Thus the forward discount is the deterrent to short sales; and at any given degree of doubt, the size of the net speculative position in forward sterling should respond to the width of the forward discount. But since devaluations, when they do happen, usually involve big jumps in the official spot rate and hence big gains to short sellers, a change in the forward discount of, say, 1 per cent per annum is unlikely greatly to deter those who expect devaluation. Once doubt reaches a significant degree, big changes in the forward discount may be required to produce even relatively small changes in speculative forward positions; in other words, the responsiveness of Pure Speculation to the forward rate may be fairly low.

This kind of speculation is often blamed for the troubles of sterling, though of course it has no *direct* effect on the level of the gold and dollar reserves. However, it determines, through its effect on the forward discount, the profitability of interest Arbitrage, and hence it *indirectly* affects the reserves. I shall have to say more about this in later sections.

2) *Leads and Lags*. These amount to a delaying of commercial payments to, and their speeding up from, the country whose currency is under doubt. But here again, the role of commercial payments is merely to furnish the occasion for speculation. Basically, the "lag" in payments represents the borrowing of funds in sterling and their lending in dollars. Such a "swap" is or is not attractive regardless of whether it is coupled with a commercial transaction. The reason why it must normally be so coupled lies in exchange control. Funds raised in London cannot easily be converted into dollars and moved to New York for purposes not approved by the authorities. But British goods can be exported

unhampered by the fence of exchange control. The sterling debt created by their movement is then left unsettled (or settled with the proceeds of borrowing in London), while their dollar proceeds are lent or otherwise used abroad. Without exchange control, the same phenomenon could appear in the guise of a straightforward capital movement, independently of lags between foreign trade shipments and their settlements. Its effect on the reserves would be the same in either case, as both cases imply a transfer of dollars from the "weak" centre (London) to the "strong" one (New York).

Devaluation would reduce the dollar value of the unsettled debt in London or, which is the same thing, increase the sterling value of the credit built up in New York; and this, of course, is the expected profit from Lagging. On the other hand, to pay interest in London and receive interest in New York involves a current running loss if the London rate of interest is higher; and this interest differential is the cost of Lagging. Presumably, the wider the interest differential, the smaller will be the total Lag at any given degree of doubt. However, the responsiveness of the volume of Lagging to changes in the interest differential is likely to be fairly low for the same reason as the responsiveness of Pure Speculation to changes in the forward discount may be low.

If the London-New York interest differential is greater than the forward discount on sterling, it is more costly to engage in Lagging than in Pure Speculation. Since Pure Speculation does not involve a direct loss of dollar reserves, while Lagging does, there seems to be a case for keeping the forward discount above its own interest parity, in order to guide speculators away from Lagging and into Pure Speculation.

However, this case is not a very strong one, for Lagging and Pure Speculation are not mutually exclusive alternatives; more of the one need not mean less of the other. If, upon a narrowing of the forward discount above interest parity, it becomes cheaper to sell forward sterling short, "laggards" may do so *without* reducing their Lagging. Thus it would be rash to base policy on this effect alone; let us merely bear in mind that by virtue of Pure Speculation as an available alternative, Lagging may be responsive to the forward discount *as well* as to the interest differential, though neither responsiveness is likely to be very high.

3) *Conversion of Sterling Balances.* Two types of Conversion are of major importance for sterling. The first is into goods and services. For instance, India may finance her balance-of-payments deficit by running down her sterling balances. She is doing so primarily because of her own desires for industrial development, necessitating higher domestic investment than would be consistent with domestic savings. In other words, she is not doing so *because* of her fears of sterling devaluation; the movement is not speculative, and there is not much that British economic policy can do about it either by Bank rate or by other means. It is, as it were, a long-term loss which must in any case be borne by the gold and dollar reserves.

The other main type of Conversion is that of sterling into other currency balances — in our simplified system, into dollars. In this case, the holder of sterling still wishes to have a given liquid balance, but decides not to keep it in sterling. The incentive to switch into dollars is primarily speculative; upon devaluation, a given balance kept in dollars will increase in terms of sterling. Since “resident” sterling enjoys no formal or informal convertibility rights on capital account, the problem is mainly confined to transferable sterling. An amount in the region of £500 millions is held by banks, firms and persons in Transferable Account countries, chiefly as working balances, and this sterling enjoys informal rights of convertibility. It can be converted into dollars either *via* commodity “shunting”, or with the direct assistance of the British authorities who support the transferable spot rate in order to forestall commodity “shunting”.

But the conversion of these balances is not a *permanent* loss to the reserves. It should last only so long as doubt lasts. The holders are switching out of sterling because of their doubts about the official spot rate. Normally, they hold sterling so as to save the dealing “turns” (the differences between selling and buying rates of exchange) which they would have to pay when making sterling transactions out of a working balance kept in dollars. These dealing turns are the cost of staying out of sterling. If their doubt about sterling is dispelled, (e.g. by devaluation, or by a recovery of Britain’s dollar reserves), they would presumably switch back into sterling.

Some former holders of sterling, foreseeing the need to do so, may in fact be buying forward sterling (thereby strengthening

the demand side of Pure Speculation) if the forward discount is wide enough to attract them, rather than wait in the uncertain belief that spot sterling may be made even more attractive by devaluation. For those keeping themselves short of spot sterling, a low forward rate represents an inducement to stay short (and go long of forward sterling instead), even if their expectation of devaluation is growing weaker. At the same time, if the London bill rate is higher than the New York one, Conversion represents a loss at least on those balances which are kept in bills or call money (though not on those which need be kept in cash). Thus, at any given degree of doubt, speculative Conversion of sterling balances will vary inversely with the London-New York interest differential, and directly with the forward discount on sterling (3). However, its responsiveness to either will probably be low.

4) *Arbitrage.* In contrast to the various speculative positions discussed above, Arbitrage is an existing position in spot sterling hedged by a position of opposite sign in forward sterling, so that no capital gain or loss can arise upon any change in the official spot rate. Arbitrage, of course, is undertaken in response to a divergence between the forward discount and its own interest parity. If the forward discount is wider than the London-New York interest differential, it pays to move funds from London to New York because the loss on interest is more than offset by the gain on buying cheap sterling forward — and *vice versa*, it pays to move funds from New York to London if the forward discount is narrower than interest parity. Looking at it from the London point of view, the former can be called “outward” and the latter “inward” Arbitrage.

However, simple “outward” Arbitrage is virtually prevented by exchange control. Nevertheless, as in the case of Lagging, it may escape through exchange control if it is coupled with an approved commercial transaction. The creation of a London debt and a New York credit (by Lagging), combined with the purchase of forward sterling at a discount greater than the interest differential

(3) It will also vary with the present spot transferable sterling rate relative to its range of permitted fluctuation (*i.e.* between the anti-shunting “floor” and the official “ceiling”), a low transferable rate being a deterrent to Conversion because of the chance that it may rise.

lost in the "swap", might suggestively be termed Hedged Lagging. It fulfils the same function as would be performed by undisguised "outward" Arbitrage, and it is just as harmful for the reserves as speculative Lagging would be. In conjunction with the Bank rate rise in September 1957, the authorities attempted to control both by restricting the use of short-term London borrowing facilities by non-residents. Such control increases "friction", but it can never be quite effective so long as the forward discount offers a riskless profit to outward Arbitrage.

"Inward" Arbitrage, the shifting of New York funds to London combined with a sale of forward sterling, is the modern equivalent of the classical gold standard mechanism. When, as in the late XIXth century, no doubt was ever felt about the sanctity of the gold parity of sterling, a small rise in Bank rate sufficed to draw large funds to London. Reputedly, Goschen thought that an extra 2 per cent would draw gold from the Moon! Today, however, really large international funds will not move merely in response to interest differentials, as their administrators do not wish to be responsible for exchange risk (4). The yield which does induce their movement is the net extra interest after reduction of the cost of insurance — the cost of insurance being the discount on forward sterling. (A positive-gross-interest differential combined with a forward discount narrower than interest parity is, of course, fully equivalent for arbitrage purposes to a negative-gross-interest differential combined with a forward premium greater than interest parity).

As Arbitrage is riskless, its responsiveness to the extra net yield is, at first, likely to be extremely high. A small rise in the forward sterling rate, lifting it from just below interest parity to just above it, should transform a large outflow (Hedged Lagging) into a large inflow (Inward Arbitrage) of dollars into the reserves. However, after the most mobile international funds have moved, any further inflow may require a successively narrower forward discount relative to interest parity, as a higher reward is needed to overcome the inertia of holders who do not habitually look for very fine yield differences.

(4) Note the recent public statement by Herr Hermann J. Abs, head of the Deutsche Bank, that the placing of German funds in London is still "severely handicapped" by the width of the forward discount on sterling. *The Financial Times*, 4th December, 1957.

4. The Forward Rate and the Level of Reserves

As we have seen, doubt about sterling induces Lagging and Conversion, and hence may depress the gold and dollar reserves below what is regarded as a safe level. Arbitrage does not depend on confidence in sterling, but it depends on the forward rate. According to whether the forward rate is above or below its interest parity, Arbitrage will be inward or outward, either offsetting the speculative loss of reserves, or further aggravating it. The forward rate, in turn, depends primarily on what I termed Pure Speculation. If doubt about sterling is strong, a low forward rate will be established in the market under pressure of the excess supply of forward sterling, and thus Outward Arbitrage may develop. The resulting loss of reserves may further increase doubt, Lagging and Conversion may be intensified, and so on in a cumulative way.

This may develop into a vicious circle. That it is at least a real danger is shown by the British experience in July-September 1957. During that critical period, the forward discount against the dollar (not to speak of the discount against the mark) reached widths of 6-7 per cent compared to a London-New York interest parity of barely 1 per cent; and even when the violent jump in British Bank rate increased the interest parity to over 3 per cent, the forward discount remained wide enough to render Inward Arbitrage unprofitable, and leave Outward Arbitrage profitable. Not until November and the reduction in the Federal Reserve System's rediscount rate did the forward discount eventually narrow to its interest parity. The British reserves had to weather the worst period before and just after the rise in Bank rate without the aid of mobile funds from abroad.

5. How Effective is the Bank Rate Weapon?

A rise in Bank Rate may, with luck, dispel doubt about sterling, and then all will be well again on the external front, though at the cost of undesired disturbance to the home front. The main incentive for speculative Lagging and Conversion will be reduced or might disappear altogether, while a higher forward rate will presumably suffice to equilibrate the demand and supply of forward sterling due to less adverse Pure Speculation; and the

combination of a narrower forward discount and a wider interest parity (due to the higher Bank rate) should succeed in tipping the balance of incentive in favour of Inward Arbitrage.

However, there is no certainty, nor even a strong likelihood, that a rise of Bank rate will in fact dispel or even reduce doubt. Its effect in this regard depends solely on the way potential speculators choose to interpret the move. If they interpret it as a sign of firm determination not to devalue, their confidence may be restored. But if they regard it as a desperate last-ditch defence after which only devaluation can follow, the raising of Bank rate may actually heighten the speculative fever. Which way the balance of opinion will swing in a given situation cannot be predicted *a priori*, and it would be most unsafe to take it for granted that Bank rate *will* reestablish confidence. Its effectiveness in altering speculative opinion in the desired way is rather a hit-or-miss matter.

Admittedly, Bank rate cannot fail to exert an influence through the widening of the London-New York interest differential which its rise implies. But this influence is likely to be small for various reasons. Firstly, as argued above, the responsiveness of both Lagging and Conversion to the interest differential is probably low, so that the reserves might not get much relief from that quarter upon the rise in Bank rate. Secondly, although the perilous excess of the forward discount over its interest parity may be wiped out as the latter is widened by the rise in the London bill rate, this alone does not ensure that Inward Arbitrage can reach significant dimensions. Inward Arbitrage is accompanied by a non-speculative excess *supply* of forward sterling. If there is only a *small* volume of speculative excess *demand* for forward sterling even at the new, wider interest parity of the forward discount, only a *small* volume of Inward Arbitrage can be accommodated with forward cover. And if the responsiveness of Pure Speculation to the forward rate is indeed low, little speculative excess demand for forward sterling may be engendered by a widening forward discount. The vicious circle is unlikely to be broken.

6. How Effective is the Forward Rate Weapon?

If private "speculators" are not ready to step in and absorb any excess supply of forward sterling offered by potential arbitra-

geurs, there is no good reason why the authorities should not be ready to do so. Their action would amount to the provision of insurance cover against a contingency (devaluation) which is largely under their own control.

So long as the international propensity for Arbitrage is not yet exhausted, any loss of reserves due to Lagging and Conversion can be fully compensated by attracting Arbitrage. This would be like a game of musical chairs; by Lagging and Conversion, private funds shift to New York and Britain's official reserves are reduced, while by Arbitrage, the same funds (though administered by a different set of people) can be drawn back to London and the official reserves restored.

This, as is obvious from the system of "positions" discussed above, can be achieved by fixing the forward sterling rate at a (slightly) narrower discount than its own interest parity, and then absorbing any excess supply forthcoming at that rate. The absorption can continue until the initial loss of reserves from Lagging and Conversion is compensated by Arbitrage, or until the authorities have some other reason for discouraging any further inflow.

The excess supply of forward sterling forthcoming at the rate so fixed will come from two sources: from the incoming arbitrageurs who wish to hedge, and from the "pure speculators" who may, on balance, also be net sellers of forward sterling at its supported rate.

Subject again to the propensity of the international financial community to engage in Arbitrage, there can be little room for controversy about the efficacy of forward exchange policy in eliminating Outward and attracting Inward Arbitrage. Unlike Bank rate, the forward exchange weapon is not aimed at, and its efficacy does not depend on, the restoration of confidence in sterling. It depends merely on the establishment of the right level of the forward discount, and on the willingness of the authorities to provide forward cover to all comers at that discount (5). Since the potential volume of Lagging at any one time is limited by the amount of commercial payments which *can* be delayed or speeded

(5) There is an analogy here with the willingness of the central bank to act as lender of last resort to all comers at discount fixed by itself.

up (6), and since the volume of Conversion is also limited by the stock of transferable sterling in existence, the possible maximum loss of reserves on these counts must be similarly limited. Therefore the task of compensating the loss by attracting Inward Arbitrage is likely to be manageable. Consequently, unlike Bank rate, forward exchange policy need not attempt to reduce speculative Lagging and Conversion; for it should be a matter of indifference to the authorities who happens to sit in which musical chair.

7. The Cost of Official Forward Operations

By acting as large-scale providers of forward cover (absorbers of excess supply of forward sterling), the authorities commit themselves to deliver dollars on a large scale when the forward contracts mature. However, the other contracting parties (pure speculators and arbitrageurs) also commit themselves; they must honour the contracts by delivering sterling to the authorities. If they do not already hold spot sterling, they must first obtain it; and they can only find extra sterling, over and above that already in private hands, if they buy it for dollars from the authorities at the prevailing official spot rate (7). If they already hold spot sterling, or will receive some by the time their forward contracts mature, they can of course deliver that to the authorities. However, by doing so, they are merely exercising a right they already possess (8); for both American account sterling and transferable sterling are convertible anyway on a spot basis. If the holders choose to convert it on a forward basis instead, the authorities will save dollars at the rate corresponding to the forward discount. This saving will be analogous to their dollar earnings from those pure speculators who sold forward sterling short *without* expecting to receive spot sterling by the time their contracts mature; these parties will have to

(6) With proper control (e.g. with "sampling" by the Bank of England) of the quality of bills used to finance Leads and Lags, Lagging cannot exceed 3 months' foreign trade turnover, and its upper limit in reality is likely to be lower than that.

(7) Or at the spot rate for transferable sterling if the forward contract runs in terms of such sterling.

(8) Implicit here is the assumption that exchange control is no less effective in preventing the conversion of *resident* sterling into dollars on a forward than it is on a spot basis. This assumption could hardly fail to be true, for the authorities need not accept the delivery of resident sterling in satisfaction of their forward purchases.

buy sterling from the authorities at a higher (spot) rate than the (forward) rate at which they had agreed to sell it to them.

It is thus clear that by providing forward cover, the authorities do not assume any additional obligation over and above that which they must honour in any case. Any extra loss or gain can only arise from the difference between the spot and the forward sterling rate. If the forward rate is at a discount, and the spot rate is not devalued in the meantime, the difference is a gain to the authorities, and a loss to the sellers of forward sterling (9). This is what holders of spot sterling must pay for their hedges against devaluation, and what speculators against sterling must pay for their bets on devaluation. The authorities can quite cheerfully let themselves be paid for insuring spot holders against it, and for accepting speculators' bets on it, if they have no intention of devaluing before the expiry of the respective forward contracts.

On the other hand, the authorities do incur a cost with forward exchange policy in the sense that they virtually give up their freedom to devalue even if that should appear desirable after all. A downward adjustment of the spot rate would namely involve them in very heavy windfall losses (equal to the difference between the old forward rate and the new spot rate, over the aggregate volume of their forward sterling purchases).

8. Forward Exchange Policy and Confidence

In thus relinquishing their freedom to devalue the currency in the time span covered by their forward contracts, the authorities may well find that the logic of speculation helps them to turn weakness into strength. The use of Bank rate *would* leave them free to devalue. Therefore the choice of Bank rate in preference to forward exchange support *could* be a signal to speculators that the authorities are not altogether sure of their ability to resist the pressure without devaluation — and such a signal might well increase the prevailing doubts about sterling.

(9) With a large-scale speculative attack on sterling, the authorities' dollar earnings from their forward support operations may well run into \$5-\$10 millions annually for each 1 per cent of the forward discount.

The use of forward exchange policy instead of Bank rate is, on the other hand, a fairly strong signal that the authorities *are* confident of their ability to resist pressure for at least the next three months (10). But if no devaluation can be reasonably expected for the next three months, then Pure Speculation, Lagging, and Conversion hold out no prospect of profit to compensate for their cost for that period. The sophisticated speculator should therefore suspend these activities, and need not resume them before he sees that the authorities have stopped supporting the forward sterling rate, and are preparing to "clear the decks" for devaluation. Actual devaluation could then conceivably follow when the bulk of the authorities' existing forward contracts have matured. However, by that time the recovery of the gold and dollar reserves (and the fall in the speculative excess supply of forward sterling) due to the abatement of speculation, may make the prospect of devaluation remote, and may itself remove the incentive for the resumption of speculation!

Thus, though forward exchange policy can be quite effective through Arbitrage alone, and need not depend on confidence in sterling, it may nevertheless, in a perhaps unexpected way, temporarily restore confidence just at the most critical time; and once restored, confidence may not again give way to doubt unless some new disturbance induces a new, independent wave of pressure.

Summary

1. If there is a speculative attack on a currency backed by inadequate reserves, a dilemma may arise in the use of defensive weapons of policy; for one such weapon, Bank rate, may induce a domestic contraction when no such contraction is desired.

2-3. The speculative attack takes two main forms; short forward sales of the currency in question (Pure Speculation), and the

(10) The only other possible meaning of the signal could be that the authorities are simply bluffing. But forward exchange policy, not based on a firm belief about their own powers to hold the official spot rate, would be a pointless and expensive bluff, which could, moreover, be very easily called.

actual flight of funds (Lagging and Conversion). Non-speculative interest Arbitrage, combining an actual movement of funds with a forward exchange contract in the opposite direction, may be either Outward, leading to additional gold losses, or Inward, offsetting the loss of reserves due to the speculative flight.

4. Pure Speculation determines the forward exchange rate, and hence the direction (Outward or Inward) which Arbitrage will take.

5. Bank rate works partly by determining the interest parity of the forward exchange rate, and partly by affecting (foreign) confidence in the currency. The latter effect is unpredictable and may swing either way. The former effect is likely to be very small unless Bank rate is changed with great violence.

6. Forward exchange policy works by supporting the forward rate at the level which will induce sufficient Inward Arbitrage to compensate for the speculative loss of reserves. This is likely to imply forward purchases of the currency both from arbitrageurs and from short sellers (speculators).

7. Such policy does not involve any additional risk for the reserves, for only such amounts of the currency can be converted into gold or dollars on a forward basis as could in any case be converted on a spot basis. Any conversion transacted on a forward basis will represent a saving of gold or dollars if the forward rate is at a discount compared to the spot rate.

8. The efficacy of supporting the forward rate does not depend on the restoration of confidence in the currency. However, massive intervention in the forward market is the strongest possible proof of official determination to maintain the spot rate unchanged. Therefore it is likely to affect speculative opinion in a more potent and predictable way than Bank rate.

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