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**AN INTRODUCTION TO THE
PRACTICE OF
FOREIGN EXCHANGE**

**BY THE SAME AUTHOR AND
FROM THE SAME PUBLISHERS**

Practical Banking, Currency, and Exchange

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In demy 8vo, cloth gilt, 516 pp. 8s. 6d. net.

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AN INTRODUCTION TO THE
PRACTICE OF
FOREIGN EXCHANGE

BY

H. E. EVITT

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HOLDER OF THE CERTIFICATE OF THE INSTITUTE, TOP MAN IN
ENGLAND, BECKETT PRIZEMAN, TRIPLE HONOURS
LECTURER ON CURRENCY AND EXCHANGE
AUTHOR OF "PRACTICAL BANKING, CURRENCY, AND EXCHANGE"
ETC.

The revised and extended report of a series of four lectures delivered to the Members of the Institute of Bankers in London, with the addition of the questions set at the examination on these lectures, the arithmetical questions set at the Part II examination in Foreign Exchange by the Institute of Bankers in 1932, and complete Model Answers to these questions

LONDON
SIR ISAAC PITMAN & SONS, LTD.

1932

X:57
G2

SIR ISAAC PITMAN & SONS, LTD.
PARKER STREET, KINGSWAY, LONDON, W.C.2
THE PITMAN PRESS, BATH
THE RIALTO, COLLINS STREET, MELBOURNE
2 WEST 45TH STREET, NEW YORK
SIR ISAAC PITMAN & SONS (CANADA), LTD.
70 BOND STREET, TORONTO

9553

PRINTED IN GREAT BRITAIN
AT THE PITMAN PRESS, BATH

FOREWORD

THERE is a fresco in the Royal Exchange depicting a transaction between Phœnicians and Ancient Britons. So much cloth for so much tin; there is no difficulty in understanding this picture. And in the everyday life which we all live we constantly buy things which we want with the money in our pockets, which is equally simple. Complications begin to come in when we buy what we want, but not with the money in our pockets, and the first thing which the young student of accounts has to learn is the two-fold character of a purchase, even for cash down. To buy a pencil is one thing; to pay for it is another.

As commerce develops, so does it become more complicated; the public have very little idea of what a bank is, still less of what a foreign bank is. Some years ago the chairman of a great London joint-stock bank said in public that he could not define a bank. He may have been pulling our legs; a bank is an office where deposits of money are received, repayable on demand, without limit of amount, whether small or large. A bank may, and in fact all banks do, undertake various other things, but the essence of a bank is as above stated.

A foreign bank is an office where business is done with foreigners and foreign money, and the mystery of foreign exchange rears its sphinx-like head.

Traders and manufacturers are apt to regard a bank as a concern whose business it is to lend them money, and it is a remarkable testimony to the care with which our banks have carried on their primary business, which is that of holding money repayable on demand, that our trading community never even give a thought to the possibility that a bank may fail.

But banking business leads its students on to consider the intricacies of foreign banking, that is, of foreign exchange. Perhaps the classical books on these two subjects are *Bagehot on Lombard Street*, and *Goschen on the Exchanges*; nor are these two books, though getting on for a century old, by any means obsolete, and

their doctrines are vital to any understanding of the theory of money, whether domestic or foreign.

Mr. Evitt's book is a practical one, and will convey to its reader a vivid idea of the way in which foreign exchange is actually carried on; it may be heartily commended to any student who wishes to get a real grasp of the subject, which is not at all a simple one.

ALFRED HOARE.

PREFACE

IN the early spring of 1932, the Council of the English Institute of Bankers did me the honour of inviting me to deliver a series of lectures (or "talks" as I prefer to call them) on Practical Foreign Exchange to the members of the Institute in London. These "talks" were eventually given during February and March, 1932, in the Fur Trade Sale Room of the Hudson's Bay Company and were each of about one hour's duration.

A verbatim report subsequently appeared in the April and May issues of the *Journal of the Institute of Bankers*, and, having set an examination paper on this short course, marked the answers, and left it to the Institute to award such prizes as was thought fit, I regarded the matter as at an end. The time allotted to me had been so short and the field to be covered was so vast that I was acutely conscious of having dealt with a most important subject in a very inadequate fashion, giving only the barest outline of a few of the essential features.

It was greatly to my surprise, therefore, that suggestions and requests that these talks should be published in book form came to me from the most unlooked-for quarters and this little volume is the result, though I am still only too keenly aware of the great gaps which it leaves in its presentation of a part of an extremely wide subject. It may, however, serve as an introduction to the practical side of foreign exchange for those who are fortunate enough not to be brought into actual contact with that unpleasant necessity; the original "talks" were, indeed, intended to act as a poor substitute for that hardest but best of schools—bitter experience!

H. E. E.

LEIGH-ON-SEA
July, 1932

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AN INTRODUCTION TO THE PRACTICE OF FOREIGN EXCHANGE

CHAPTER I

CREDIT INSTRUMENTS AND THEIR USES IN EXCHANGE WORK

A FEW weeks after the temporary suspension of gold payments in this country on 21st September, 1931, a junior cashier at one of the Outer London branches of one of the big banks rang up the chief foreign exchange dealer at the foreign branch of the bank and said, "I say, sir, I have a lady here with a letter of credit drawn on us by a bank in New York for twenty pounds sterling. I see the pound sterling is quoted in the newspapers as worth 14s. 2½d. How much shall I give her?" This little story may be apocryphal, but there is little doubt that, to those who are not actually engaged in its practice, the principles of foreign exchange are something more than mysterious—almost awesome in fact. The object of this revised reprint of a series of four lectures on Practical Foreign Exchange delivered by the author to the members of the Institute of Bankers in London in the early part of 1932, is to give, in as simple language as possible, a brief but clear explanation of some of the basic principles underlying the practice of foreign exchange and to show that the elements of the subject are quite easy to grasp.

The ground it is proposed to cover may be described as an outline of what the exchange dealer at a bank does and why, when, how, and where he does it, but, although this field is eminently practical, it will be necessary, in the first place, to repeat one or two definitions and axioms of the theory of the subject in order that the need for and the underlying object of these practical operations may be clearly understood.

Theoretical Definitions and Axioms.

The term "foreign exchange" is applied to the means and methods

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whereby the currency of one country is translated into the currency of another country. It is also somewhat loosely applied to the actual currencies themselves, whether in the form of coin or notes or of credit instruments. Foreign exchange arises because nations trade with one another, exchanging goods and services, borrowing money from one another, paying interest on such borrowings and gradually repaying the capital, and generally indulging in operations which result in the creation of a debt due from a national of one country to a national of another. Because our modern social and economic development has grown so complex that the multitudinous wants of mankind can be satisfied only by a highly specialized international division of labour, the primitive method of "barter" would be impossible to-day and debts, whether internal or international, must be expressed in terms of money. Since money is not international because practically every nation, presumably to demonstrate its own individuality, has instituted its own national money or unit of account, and since every creditor will normally require the eventual payment to him of the amount owing not in terms of some foreign currency but in terms of his own home currency, which is the only money he can use for his own internal purposes, it follows that every international debt created means that, sooner or later, the money of the debtor country must be exchanged or translated into the money of the creditor country.

As long as the amounts owed by any country to any other are offset by the amounts owed to that country by the other, the question of exchanging the money of the one country for that of the other merely resolves itself into the establishment of some form of clearing house for the settlement of these mutual debts. If, however, the balance is decidedly in favour of one side or the other, some article or commodity of value must be found which is available in both countries and which is acceptable to each as a means of discharging indebtedness. The process of evolution made gold the generally accepted measure and store of value and, as such, it became the basis or standard for the unit of account in most of the principal countries of the world. This meant that there was a common denominator in terms of which most units of account could be expressed and, through this common denominator, such units could also be expressed in terms of each other. If, for example, the laws of Holland prescribe that the Dutch florin shall contain a

stated weight of gold nine-tenths fine and the laws of England prescribe that the sovereign shall contain a stated weight of gold eleven-twelfths fine, it is merely a matter of arithmetical calculation to discover how many Dutch florins would contain the same weight of fine gold as that in an English sovereign. This provided a theoretical and arbitrary valuation of one unit in terms of another (which is a "rate of exchange"), known as a "Mint Par of Exchange," while the generally acceptable basic commodity, gold could be used as a means of discharging any temporary balance of indebtedness either one way or the other. The value of one unit in terms of another, or the "rate of exchange" between two countries, could therefore vary on either side of the Mint Par of Exchange to the extent of the cost per unit of moving gold from one country to the other.

This point is best illustrated by considering the case, under normal conditions, of two countries both having gold as the basis of their currencies and both using the same unit of account as, for example, England and Australia when the gold standard was in full and free operation. In these two countries the sovereign was in common use on both sides, but the possession of a sovereign in London did not by any means imply the possession of immediate purchasing power in Australia. One had to transfer the sovereign from London to Australia for it to be of practical use there, and similarly with a sovereign held in Melbourne which it was desired to use in London. The transfer of that sovereign from one side to the other obviously entailed expense, as postage and insurance would have to be paid on it whichever way it went. The payment of such expenses therefore reduced the eventually available amount of the sovereign. One could say either that it cost, say, twenty shillings and sixpence Australian to obtain useful possession of a sovereign in London or that a sovereign in Melbourne or London was only equivalent to, say, nineteen shillings and sixpence by the time it had been transferred from one centre to the other. There is also the "time factor" to be considered. The movement of the sovereign from one centre to the other could not be accomplished under a certain time, and the remitter of the sovereign was deprived of the use of it while it was in transit, thus incurring a certain loss of interest. Any person in London who wished immediately to have sovereigns in Melbourne had to find some one with sovereigns immediately available in

Melbourne, which he could dispose of by T. T. (Telegraphic Transfer), and at a price satisfactory both to the buyer and the seller. This price would vary with the relation between the demand for and the supply of Australian pounds, but the price of a sight draft on either centre could not rise above the result produced by sending a sovereign from one side to the other. In other words, if a sovereign sent from London to Melbourne realized 19s. 6d. Australian after allowing for the expenses of transport, no English buyer of Australian pounds would accept less than 19s. 6d. Australian per English £ for a sight draft on Melbourne, since he could obtain at least this equivalent by shipping sovereigns. He might accept less in Australian money per English £ if he needed the funds there urgently and wanted to buy a T. T., but even this price would be governed by the cost to him of obtaining an overdraft in Australian pounds so as to enable him to make an immediate payment there pending the arrival of his shipment of sovereigns. That is the theory of the gold points, and the gold points are the theoretical limits to the movements of the value of one unit of currency in terms of another where both units are based on gold.

The reason why exchanges fluctuate, why they never maintain a stable relationship as between one unit of account and another, is because the balance of indebtedness as between one country and another continually fluctuates, and one can never say on any given day, say as between France and this country, that the amount of debts in France due to be settled here in sterling is equal to the amount of debts due for immediate settlement by persons in England to persons in France, in terms of French francs. International commerce and finance create debts and the differences in the respective units of account create the need for the translation of one currency into another. The fact that the balance of indebtedness continually varies, almost from hour to hour, prevents any exact and permanent comparison of the two units being made. The actual value of one unit of currency in terms of the other is continually being thrashed out between the hammer of demand for that currency and the anvil of supply of it.

The Use of Credit Instruments.

Now if we are to consider what an exchange dealer does, we must see what instruments he uses to do his work. That word

“instrument” is a very good word, because very largely he uses credit instruments. If you have a cheque handed to you by a debtor you do not walk about with that cheque in your pocket to try to get some tradesman to exchange it for goods or services. You pay that cheque into your bank, and when you, in turn, have a debt to pay you issue a cheque on your bank against your credit balance. Therefore, you are using the bank as a temporary reservoir for your wealth. The bank collects for you the debts you are to receive, and pays out for you the debts you have to meet. The same process is applied to foreign debts, since every foreign debt can be expressed by means of a credit instrument in the same way as an internal debt. You may have a debtor remitting to his creditor by buying from his bank some credit instrument which he can send to his creditor; or you can have a creditor drawing on his debtor in the shape of a bill or a sight draft, and handing that instrument to his bank for purchase or collection. Where the debtor is a bank (as where a foreign bank or individual maintains a current account) the debt may be claimed by the creditor drawing a cheque on the debtor bank. Therefore *all banks with international connections act as clearing houses for debts*; they receive or collect or buy debts due in terms of a foreign currency to persons to whom they are prepared to grant such facilities, and they sell, or issue, credit instruments to those people who wish to pay debts in some other currency.

Foreign Accounts.

If a bank has to act in this manner obviously it must be in a position to draw on an account, and to pay into that account just in the same way that you must have a banking account if you are to pay in the cheques you receive and draw cheques for the amounts you wish to pay away. Therefore, the first thing an exchange dealer must do is to see that he has the necessary current accounts with banks in every important centre. These accounts are run on more or less the same lines as any ordinary banking current account. A London bank will open accounts in its own name with banks in the principal foreign centres, on which it will operate in the same way as you operate on your private banking accounts, and these accounts will be credited with all the items in the local currency which the London bank sends there for its

credit, and will be debited with all the drawings which the London bank has to make. Obviously, any currency can circulate only in its own country. In London you cannot have American dollars, or in France German marks, circulating *as currency*. Any one who has in his possession, or says that he owns, American dollars or French francs must possess them, or own them, in the appropriate centre. You can have useful possession of American dollars only in America; or of French francs only in France; or of pounds sterling only in the United Kingdom. Please bear this well in mind, because it is vital in connection with foreign currency accounts. Therefore, a London bank maintains its accounts in foreign centres in terms of the relative foreign currency, and these accounts are known as "Correspondents'" accounts or "Nostro" accounts. The account which a foreign bank in return keeps with the London bank, that is, an ordinary sterling account, is run on the same lines as current accounts for home customers, and it is known as a "Vostro" account. When speaking of the account of any third party, whether it is an account in a foreign currency or in home currency, it is very often spoken of as a "Loro" account.

"Nostro" are accounts abroad, or "our account with you."

"Vostro" are accounts at home, or "your account with us."

"Loro" are "third party" accounts.

The "Nostro" accounts are those with which we are most concerned. They are the accounts which the exchange dealer uses, and which are credited with his purchases of foreign currency and debited with his sales.

" Value Date "

The date on which an entry is passed to an account is sometimes different from the date from which interest commences to run, and every entry to a "Nostro" account in the case of a London bank, and every entry to a "Vostro" account in the case of a foreign bank's account with London have what are known as "Value Dates." A value date is simply the date on which an entry or payment becomes effective and/or subject to interest, and a "true balance" is obtained by marshalling all the debit and credit items bearing the same value date, irrespective of the dates on which they were actually entered to the account.

Foreign Exchange Instruments—Telegraphic Transfer.

We will now examine the instruments the foreign exchange dealer uses in his business of buying debts in foreign currencies from those who wish to sell, and of selling amounts of foreign currencies to those who wish to pay debts in other countries. His main instrument for his larger transactions is the "T.T." (Telegraphic Transfer) which is, of course, a form of credit instrument by which an order to pay is sent from one centre to another by telegram or cable or wireless. In the case of the ordinary credit instrument given in writing, it can be delivered by the issuer, and his signature compared by the eventual payer with a standard specimen signature, as in the case of our private cheques. With a telegraphic transfer you cannot, of course, send an actual signature by telegram, and therefore you must have some method of checking the authenticity of the cables which transmit an order to pay. That presupposes a close relationship between the person issuing the telegraphic transfer, or giving the order to pay, and the person to whom the order is addressed. The actual ability to issue a telegraphic transfer depends entirely on the existence of a current account as between the issuer and payer, and the existence of some method of authenticating the cables, usually by means of a private code. Therefore telegraphic transfers or cable transfers are issued only between first-class banking and financial houses, or the largest commercial firms, because the normal, small private firms do not maintain a current account in other centres and have no method of authentication. *T.T.s actually represent the truest value of one currency in terms of another at any given moment.* There is no allowance for risk because they are passed only as between "gilt-edged" names, so that there is no risk of non-payment. There is no allowance for interest because the money is sure to be "here and there the same day," or "value compensated," or "*valeur compensée.*" that is, the value date is the same in both centres. In other words, the day on which you pay out sterling in London when buying, say a T.T. in American dollars, is the same day on which you receive credit in New York for your dollars. There is no risk or loss of interest, no stamp duties, and the cost of the cable is infinitesimal, while the brokerage, if any, is merely fractional. Therefore the "T.T." is the nearest approach to a true valuation at any moment of one currency in terms of another, and *the price of*

T.T.s may be considered to be the basic rate of exchange between any two countries.

Mail Transfer and Guaranteed Mail Transfer.

The next most usual form of credit instrument for banking use is the Mail Transfer or Guaranteed Mail Transfer. The Mail Transfer is simply an order to pay sent by letter instead of by cable, being sent by the issuer and addressed to the payer. Again the existence of a current account is essential to the use of such instruments, but the need for authentication does not arise since the letter bears the signature of the issuer. A G.M.T., or Guaranteed Mail Transfer *is guaranteed only in regard to the date of payment.* If you send a Mail Transfer through the post, or if you remit a cheque or a sight draft, the time of its arrival is naturally uncertain and, as we shall see later, the difference between the basic T.T. rate and any other rate is primarily dependent on a loss of interest to the buyer and a gain of interest to the seller. If therefore you base your ideas of a gain and loss of interest on a certain estimated mailing period and your estimate proves to be wrong, one party is benefiting unexpectedly, unwittingly, and even unwillingly, at the expense of the other. Therefore in order to avoid any dispute or misunderstanding as to the possible date of arrival of a Mail Transfer or cheque or sight draft, an instrument known as a Guaranteed Mail Transfer has been introduced, by which the issuer instructs the payer, *by deferred cable*, to pay over on a certain fixed date—usually approximating to the date of arrival of the next outgoing steamer. In the case of New York, it may be 7, 8, 9, or 10 days from the date of issue and in the case of Buenos Aires 18 to 28 days, and similarly with other centres which are dependent upon the presence or absence of a fast steamer. The difference between a G.M.T. and an ordinary M.T. is that with the former instrument the date of payment is previously agreed between buyer and seller instead of it being dependent on the uncertain date of arrival of the boat carrying the M.T. or cheque or sight draft. It may be mentioned, regarding all Mail Transfers, that there is no cover or collateral security other than the agreed contract between the two parties, while cheques or sight drafts are bought on the strength of the drawer's signature, so that such instruments pass only between approved names.

Cheques and Sight Drafts.

Cheques or sight drafts do not usually pass between first-class market members, because of the trouble involved by the seller having to draw a cheque and hand it to the buyer, while the latter must send it out for collection and possibly bear the cost of the foreign stamp. Cheques and sight drafts arise to a much greater extent from commercial business than from financial transactions. The bank exchange dealer will purchase these from approved customers only, and then only "with recourse." Remember that a foreign exchange dealer will purchase any kind of exchange instrument from customers only "with recourse," and every exchange dealer is supplied by the managerial department with a list of "sanctions" or "limits"—that is, the total outstanding liability to the bank on the part of a customer in respect of his foreign exchange operations which the bank is prepared to allow and which the dealer must see is not exceeded.

Encashments Under Travellers' and Commercial Credits.

The next form of sight engagement is that of Encashments under Travellers' and Commercial Credits. Encashments under travellers' credits are usually in the form of cashing sight drafts on foreign banks for whom the home bank is the local agent and by whom a General or Special Letter of Credit has been issued in favour of one of their customers. The holder of the letter of credit signs a sight draft in the foreign currency on the issuer abroad and this is turned into local currency by the paying bank. The instrument is actually purchased by the exchange dealer here and sterling is paid out for it to the equivalent of the amount of foreign currency for which the draft is drawn. But in such cases there can be no question of the instrument being taken "with recourse," because the paying bank will not always have the facilities or the ability to trace the holder of that letter of credit. Where a letter of credit is issued from abroad but in terms of the currency of the drawee country, it operates as an authority to the agent bank to pay out home currency to the debit of the "Vostro" account of the issuer and no exchange operation is called for by the payer. A bank making a payment under a letter of credit which has got into the wrong hands, the signature of the true owner being forged, cannot charge the payment against the foreign bank, and stands

but little chance of recovering the money paid out from the person committing the fraud. Encashments under credits must be considered to be "without recourse" and on the sole responsibility of the cashing bank. Therefore, be very, very careful under such conditions. The bank dealer will, on the other hand, be asked to sell Letters of Credit in terms of foreign currencies to his own customers, and payments made by his agents abroad under such instruments will be debited to his local accounts in foreign currency.

Stock Draft.

Another form of sight instrument is the "Stock Draft," which is simply a sight draft or cheque drawn by a stockbroker on some other stock-broking firm or on a bank in another centre in respect of the sale of stock by the home centre to the other centre, as securities are frequently bought and sold as between two centres. The purchasing centre will sometimes be content for the stock purchased to remain lodged in the safe custody of a first-class bank in the selling centre, but often there arises a private buyer who wants to have the stock locked up in his own safe, or an arbitrage operation in shares which calls for the physical delivery of the securities. In that case a seller of stock has to deliver to the other centre the actual stock or shares, and a stock draft is drawn against the collateral security which these represent, the actual stock or shares being attached to or enclosed with the stock draft. In addition to the names on the draft of the drawer and drawee, who are usually more or less reputable firms of stock-brokers, the buyer of the draft has the security represented by the stock or shares which presumably could be sold should the draft be unpaid. But because the buyer incurs the expense and trouble of packing, posting, and insuring a parcel of securities, he must receive compensation in the price which he pays for the instrument. We shall later on see how he does that.

Reverse Stock Draft.

Then there is the operation known as buying "Reverse Stock Draft." A stock draft itself is a draft with stock attached to be sent abroad for payment in another centre. A reverse stock draft is a draft drawn from another centre on the home centre in the home currency, which the drawee wishes to have met on negotiation

in the foreign centre by a payment of the equivalent amount of foreign currency. The home exchange dealer is therefore selling foreign currency to be paid out at once, but he will get his sterling equivalent only when the draft arrives here and is presented to the customer for payment in sterling. With a stock draft the buyer pays out sterling at once and receives the foreign currency in a few days' time; with a reverse stock draft he pays out foreign currency at once and only receives sterling in a few days' time, so that a loss of interest is incurred in each case.

Long Bills.

Then we have "Long Bills" which, perhaps unfortunately, one cannot now consider so important as formerly. There are many bankers who wish that the practice of drawing bills would again take deep root in the hearts of our industrialists. There is no doubt that a bill with several signatures on it is a much better and much more secure method of conveying a right to a debt than is a contract between a bank and a customer for the purchase and sale of a certain amount of foreign exchange either "spot" or "forward." The second operation is purely individual as between the bank and its customer, while a bill can be made to serve several purposes. Every bill drawn on another centre has either to be collected for the creditor or purchased from him. The pound sterling being regarded even now as an international currency, more bills are drawn on this country in sterling than we draw in foreign currencies on other countries, as a foreign creditor of this country prefers to draw a bill on his English debtor in sterling because he knows he can always sell it to advantage, whereas if the English debtor obtains a bill in the currency of his foreign creditor and sends it to him in discharge of the debt, such a bill will not be so easily negotiable as would a bill in sterling. Therefore the demands on English banks to issue long bills in foreign currencies for account of customers here has almost entirely died out, but banks abroad draw many long bills on London in sterling in the course of financing foreign trade, not only with this country but often between two foreign countries.

The long bills offered to exchange dealers here for purchase are bills drawn by our exporters on their foreign debtors, but a foreign creditor will prefer to draw on his English debtor in sterling rather

than ask the latter to purchase from his bank a long bill in terms of a foreign currency, and therefore the English banks do not sell long bills—they only buy them.

“After Date ” and “After Sight.”

We shall see later how the purchase price is adjusted to meet the particular instrument, whether it is an “after date” or an “after sight” draft. The distinction is very important because the loss of interest in the case of an “after date” bill is less than in the case of an “after sight” bill. An “after date” bill has commenced to run towards its maturity as soon as it is issued. An “after sight” bill cannot begin to run to maturity until it is “sighted,” so bear in mind that whenever you are dealing with an “*after sight*” draft, at 30, 60, 90 days or whatever it may be, *the draft must be presented to the drawee for acceptance before it commences to run.* Your loss of interest, if you are buying it, starts from the date on which you buy, and you must, therefore, allow for the time taken to reach the drawee, as well as for the duration of its currency or tenor, because it does not commence to run until it has been “sighted.”

Foreign Coupons and Drawn Bonds.

Other articles which the exchange dealer is asked only to buy and not to sell are Foreign Coupons and Drawn Bonds. Many international security issues have their interest coupons expressed as payable in one or other of the currencies of several centres, at the option of the holder, at a fixed rate of exchange. For example, some issues have coupons payable in London at the rate of £1, in New York at the rate of 4.86 $\frac{2}{3}$ U.S. dollars, and in Montreal at 4.86 $\frac{2}{3}$ Canadian dollars.

If the rate of exchange between London and Montreal is \$4.86, while the London–New York exchange is \$4.85, and a coupon can be cashed in London for £1, in New York for \$4.86 $\frac{2}{3}$ U.S., or in Montreal for \$4.86 $\frac{2}{3}$ Canadian, a London holder would obtain only £1 per coupon in London, while by cashing it in Montreal he would receive \$4.86 $\frac{2}{3}$ Canadian which he could sell and receive £1 for every \$4.86, thus leaving himself with $\frac{2}{3}$ cents in pocket for every £ purchased. If the coupons were cashed in New York, the holder would receive \$4.86 $\frac{2}{3}$ U.S., and could turn these into pounds at the rate of £1 for every \$4.85 U.S. He would therefore be left

with $1\frac{3}{4}$ cents in pocket on every £1 coupon. Whenever such coupons become payable, they are sent to the centre where the highest yield can be obtained, and if, owing to the current rates of exchange, a large number of such coupons go to New York this tends to make U.S. dollars cheaper owing to the offerings for sale against pounds of the U.S. dollar proceeds of such coupons. Similarly, if the Canadian exchange shows the largest return for cashing such coupons they would all go to Montreal and the resulting offerings of Canadian dollars against other currencies would cause a cheapening of Canadian dollars in the exchange markets of the world.

As regards drawn bonds, many issues provide for capital redemption (or repayment) by periodical drawings of a certain number of bonds, as in a lottery. The bonds whose numbers are "drawn" fall due for immediate repayment and have to be sent forward for encashment to the paying centre or, in the case of a choice of centres, to that centre showing the highest return through the current rate of exchange.

In both these cases, the buyer of the articles loses interest until he receives credit after their encashment and he must also bear the cost of packing, posting, and insuring the parcels of coupons or bonds.

Foreign Coin and Notes.

Finally we have Foreign Coin and Notes which are usually dealt with by a special department in a big bank, known as the "Foreign Money Department." The cashier has to buy or sell foreign currency in the form of coin or notes and he maintains a small balance in his till of the principal foreign moneys for the convenience of travellers, but in the ordinary way the amounts involved are so small that the exchange dealer does not take very much notice of these balances. But if, as during the American tourist season, the amounts collected in the shape of American notes become fairly large, they will be sold by that department to the exchange dealer who will allow in his buying rate for the cost of insurance, packing, and the postage of the notes to New York.

CHAPTER II

PRINCIPLES OF DEALING IN EXCHANGES

THE following is a summary of the basic principles of dealing in exchanges. The maxims and rules here set out are fundamental to a knowledge of the practice of foreign exchange, but it is hoped that they are presented in such a form as to make them easily and clearly understood by any intelligent reader. Once these rules have been fully grasped, the ordinary practical exchange problem should hold no terrors for the novice and the average examination paper should prove a "walk-over." This summary is followed by a few paragraphs of commentary which should serve to make quite clear any previously doubtful points.

Maxims for the Selection of Rates.

For "Currency" rates, a dealer must "*Buy high and Sell low.*"
For "Pence" rates, a dealer must "*Buy low and Sell high.*"

Maxims for Allowance of Profit.

For "Currency" rates, a dealer must allow for his profit in the rate at which he deals by *taking More Foreign Units per £ when Buying* or by *giving Fewer Foreign Units per £ when Selling*. For "Pence" rates, a dealer must allow for his profit in the rate at which he deals by *giving Fewer Pence per Foreign Unit when Buying* and by *taking More Pence per Foreign Unit when Selling*.

Maxims for Allowance for Interest, Stamps, or Charges.

With the purchase and sale of an "undue" instrument such as a long bill, a loss of interest accrues to the buyer (who pays cash for the instrument), and a corresponding gain to the seller. A bank exchange dealer will usually *charge interest at the Discount or Overdraft Rate in the foreign centre* (according to the type of instrument purchased) *when Buying*, but will *only allow interest at the Call Money or Deposit Rate in the foreign centre* (according to the type of instrument sold) *when Selling*. Note again that English banks

are seldom asked to *sell* tenor instruments, and their sales of "undue" instruments are usually of G.M.T.s, M.T.s, cheques, or sight drafts, or of the various forms of Letters of Credit.

To allow for interest in the rate at which he is dealing, the dealer must, for "Currency" rates, *receive interest when Buying by taking More Foreign Units per £ at the highest possible rate of interest, but will allow interest to a buyer when Selling by giving More Foreign Units per £ but only at the lowest possible rate of interest.* When dealing in "Pence" rates, the dealer must *allow for interest in his dealing rate by giving Fewer Pence per Foreign Unit at the highest possible rate of interest when Buying, but will allow interest to a buyer when Selling by taking Fewer Pence per Foreign Unit but only at the lowest possible rate of interest.*

The same principle applies to allowances in the dealing rate for out-of-pocket expenses, such as the cost of any foreign stamp or of any collection charge made by or commission due to the agent for collection to whom the instrument must be sent so that payment in the foreign centre may be obtained. *Any such charges are recouped by the bank dealer by taking More Foreign Units per £ when dealing in "Currency" rates or by giving Fewer Pence per Foreign Unit when dealing in "Pence" rates.* In general, the maxim for a bank dealer, who will usually be asked to purchase instruments on which there is a loss of interest or sundry expenses, is to *cover such losses by taking More Foreign Units per £ in "Currency" rates or by giving Fewer Pence per Foreign Unit in "Pence" rates.*

The following examples will illustrate these principles.

Examples.

1. If a London bank dealer will deal in T.T. New York at $\$4.86\frac{1}{8}-\frac{1}{4}$ per £ and in Cheque on New York at a margin of $\frac{3}{8}-\frac{7}{16}$ c. over T.T., while he takes a margin of profit of $\frac{1}{32}$ c. in each case, then he will—

Buy T.T. New York at $\$4.86\frac{1}{4}$ per £, *plus* his profit of $\frac{1}{32}$ c., making a net buying price for T.T. New York of $\$4.86\frac{3}{8}$;

Buy Cheque on New York at $\$4.86\frac{1}{4}$, *plus* his buying margin for cheque over T.T. of $\frac{3}{8}$ c., making $\$4.86\frac{1}{2}$, and *plus* his profit of $\frac{1}{32}$ c., making a net buying rate for cheque on New York of $\$4.86\frac{3}{4}$ per £;

Sell T.T. New York at $\$4.86\frac{1}{8}$ per £, *less* his profit of $\frac{1}{32}$ c., making a selling rate for T.T. New York of $\$4.86\frac{1}{8}$;

Sell Cheque on New York at $\$4.86\frac{1}{4}$ per £, *plus* his selling margin for cheque over T.T. of $\frac{7}{16}$ c., making $\$4.86\frac{1}{2}$, and *less* his profit of $\frac{1}{32}$ c., making a net selling rate for cheque on New York of $\$4.86\frac{1}{8}$.

2. If a London bank dealer will deal in T.T. Buenos Aires at $36\frac{1}{8}-\frac{1}{4}$ d. per peso, and in Cheque on Buenos Aires at a margin of $\frac{7}{8}-\frac{3}{4}$ d. under the T.T. rate, while he takes a margin of profit of $\frac{1}{8}$ d. on each transaction, then he will—

Buy T.T. on Buenos Aires at $36\frac{1}{8}$ d. per peso, *less* his profit of $\frac{1}{8}$ d., making a net buying rate of $36\frac{3}{8}$ d.;

Buy Cheque on Buenos Aires at $36\frac{1}{4}$ d. per peso, *less* his margin under T.T. for buying cheque of $\frac{7}{8}$ d., making $35\frac{1}{4}$ d., and *less* his profit of $\frac{1}{8}$ d., making a net buying rate for cheque on Buenos Aires of $35\frac{3}{8}$ d.;

Sell T.T. on Buenos Aires at $36\frac{1}{4}$ d. per peso, *plus* his profit of $\frac{1}{8}$ d., making a net selling rate of $36\frac{3}{8}$ d.;

Sell Cheque on Buenos Aires at $36\frac{1}{4}$ d. per peso, *less* his margin under T.T. for selling cheque of $\frac{3}{4}$ d., making $35\frac{1}{4}$ d., and *plus* his profit of $\frac{1}{8}$ d., making a net selling rate for cheque on Buenos Aires of $35\frac{3}{8}$ d.

Commentary.

A cheque on New York represents a loss of interest to the buyer, since he pays out cash at once but receives credit in New York only after the cheque has been collected and credited to his account, and, therefore, he requires more foreign units per £ than he would if he were buying T.T. With a T.T. he pays his sterling on the same day that he receives his dollars in New York. With a cheque or Mail Transfer, or G.M.T., he pays his sterling on one day, and only receives credit in New York some days later, so he requires, to compensate himself, more foreign units per £. In the first example, the dealer will sell T.T. at $4.86\frac{1}{2}$ dollars for every £ you pay him, but he will give you only a £ for every $\$4.86\frac{1}{2}$ you give him. In other words he sells $\frac{1}{8}$ c. higher to the £ than he buys, the difference of $\frac{1}{8}$ being the "Market Turn," but he must also take an additional profit on top of the actual market price. To take a profit when buying currency, if the rate is in foreign currency units to the £, he must take more foreign units to the £, so he adds his profit to the T.T. rate of $\$4.86\frac{1}{4}$, which, plus his margin of profit of $\frac{1}{8}$ c., makes a total buying rate $\$4.86\frac{3}{8}$. If he is going to buy cheque he wants more foreign units per £ to compensate himself for loss of interest. To his buying rate for T.T. of $\$4.86\frac{1}{4}$, he adds $\frac{1}{8}$ c. for the loss of interest, making $\$4.86\frac{1}{8}$, then he adds his profit of $\frac{1}{8}$ c., making a net buying rate for cheque on New York of $\$4.86\frac{3}{8}$ per £. If he is a seller, he sells as few foreign units to the £ as he can. He sells T.T. New York at $\$4.86\frac{1}{8}$, less his profit of $\frac{1}{8}$ c.; he deducts his profit when he is selling because he wants to give as few foreign units to the £ as he can, making

a selling rate for T.T. New York of $\$4.86\frac{3}{8}$ per £. If he sells cheque on New York, he sells at the smallest margin he can possibly give over his selling price for T.T.; therefore he sells cheque at $\$4.86\frac{1}{8}$ per £, plus his selling margin for cheque over T.T. of $\frac{3}{8}c.$, making $\$4.86\frac{1}{2}$, and less his profit of $\frac{1}{2}c.$, making a net selling rate of $\$4.86\frac{1}{8}$.

Now with "Pence" rates you get the reverse—he buys as cheaply as possible. Take as an example the T.T. rate on Buenos Aires; he would pay only $36\frac{1}{8}d.$ for every gold peso, less his margin of profit. If you want to buy from him gold pesos, he is going to charge $36\frac{1}{8}d.$ per peso, and in addition he must allow for his profit. If he is prepared to buy T.T. at $36\frac{1}{8}$ he wants a profit of $\frac{1}{8}d.$, making a net buying rate of $36\frac{3}{8}d.$ If he is buying cheque he wants to give as few pence per foreign unit as he can; he first deducts from his buying rate for T.T. the buying margin of cheque under T.T. of $\frac{7}{8}d.$, and that makes his gross price $35\frac{1}{4}d.$, again less his profit of $\frac{7}{8}d.$, making his net buying rate $35\frac{7}{8}d.$ On the other hand he sells T.T. Buenos Aires at $36\frac{1}{8}d.$ per peso, plus his profit of $\frac{1}{8}d.$ making a net selling rate of $36\frac{9}{8}d.$ He sells cheques at his selling price for T.T. of $36\frac{1}{8}d.$ per peso, less his margin under T.T. for selling cheque of $\frac{3}{4}d.$, making $35\frac{1}{2}d.$, plus his profit of $\frac{1}{8}d.$, making a net selling rate of $35\frac{7}{8}d.$ Note specially here that, while he permits the buyer to pay *fewer* pence per foreign unit by way of compensation for loss of interest, he charges the buyer *more* pence per foreign unit to cover his own profit.

"Currency" and "Pence" Rates.

These expressions having been used several times in the preceding paragraphs, it may be explained that *there are two methods of quoting exchange rates, either in terms of foreign units per £, or in terms of pence per foreign unit.* The first method of quoting is known as a "Currency" rate and the second as a "Pence" rate. "Currency" rates, that is, so many foreign units per £, are also sometimes known as "uncertain," "indirect," or "movable" rates, and the "Pence" rates are also called "certain," "direct," or "fixed"; but it is advisable to discard altogether those pre-war expressions because nowadays rates are uniformly spoken of as "Currency" rates or "Pence" rates. If you deal in a "Currency" rate you secure a certain quantity of foreign units per £. Just imagine

yourself dealing in oranges; you buy, say, 15 oranges for 1s. and sell them at 12 for 1s. "Buy High, Sell Low." You buy as many units to the £ as possible and sell as few units as you can. But if you are a boot factor and you buy a pair of boots for 5s., you try to sell them at 10s. 6d. You "Buy Low and Sell High." For "Currency" rates you "Buy High and Sell Low"; for "Pence" rates you "Buy Low and Sell High." This should be thoroughly understood by students because in the heat of the moment it is easy to trip up, forgetting the kind of article you are buying or selling. Therefore just remember these illustrations of oranges and boots. Buy as many oranges to the £ and sell as few as possible to the £; give as few shillings and pence per pair of boots as possible and get as many as you can when you re-sell.

There is another point to which reference must be made and that is the old expression "The better the bill the better the rate." That again is a pre-war survival from the days when bills were very largely the medium used by exchange dealers. The expression simply means that a better class bill obtained a better price than a lower class bill. Students may know from experience that a bank bill commands a lower rate of discount than does a commercial bill, that is, the buyer will give more for the former than for the latter instrument. "The better the bill the better the rate"; or, as regards exchange rates, "The better the instrument the better the rate." In this case, the better instrument means that it is payable at an earlier date than the other, so that a 30-day bill would command a better rate of exchange—a better price for the seller—than a 90-day bill, because the buyer would get his money sooner and does not have to lose so much by way of interest. Similarly, a bank bill at 30 days would command a better rate of exchange than would a commercial bill of the same tenor.

In connection with the selection of rates for buying and selling and the "market turn," or the margin between buying and selling prices, there are one or two further points which must be mentioned.

The "Position Sheet."

English banks will not allow speculation in exchange on the part of their dealers. Every dealer must go home very nearly with "a square book." A square book means that he has both bought

and sold approximately the same amount of any given currency. If by chance during the day he finds he has bought more of a certain currency than he has sold, then he has an "Overbought" or "Long" position. If he has sold more than he has bought, then he is short of that currency or "Oversold," and in order to prevent himself from getting into such a situation he maintains what is known as a "Position Sheet" or "Position Book." That is simply either a sheet or book ruled in columns to contain the details of his transactions in the various currencies. Every purchase of French francs goes on one side of his French franc page or column, and every sale of French francs goes on the opposite side, and thus he can see at a glance whether he is "overbought" or "oversold" in any particular currency. Now it is by no means necessary that he should cover any particular transaction such as the sale of a cheque or T.T. by an exactly similar transaction. He may cover the sale of cheque by the purchase of T.T., or he may cover a purchase of a "Long Bill" in a foreign currency by an outright forward sale of T.T. The exact form of covering is often the source of his largest profit, because by judicious dealing he can very often discover how to get out of perhaps an awkward tangle by dealing in some completely different form of credit instrument or even in a different exchange altogether. Therefore his Position Sheet is of very great importance to him, and every morning that sheet comes to him from the book-keeping department with the previous day's balances brought down for him. Usually he will have a credit balance in the foreign currency—a credit balance on his Nostro account—because he must be able to feed his accounts abroad. He expects the foreign banks to keep balances in sterling with his bank in London, and so in turn he must keep balances in foreign currency with those banks abroad which he uses as agents for his receipts and payments in the various foreign centres. Therefore, normally, he will show a credit balance to his account, but quite conceivably he may have been forced to make a heavy forward purchase of currency against which he has sold "Spot" in the shape of T.T., which means that his account may be overdrawn for the time being until he can reverse the position by doing a "swap" in spot against forward T.T., an operation which will be dealt with later; but his spot overdraft will be shown as covered by his "overbought" forward position. On balance he must show

practically nothing due either to him from the foreign bank or by him to the foreign bank in the shape of overdraft. If he is temporarily overdrawn it means he has sold short of spot and his superiors will want to know what he holds against that shortage of spot. He would probably say, "that overdraft represents my sale of 'spot' as T.T. against an outright purchase of forward, or against a purchase of cheque or short bills or undue bills which have not yet been credited to my account, but which are shown in the book-keeping department on long and short bills account or on forward exchange account." Within a little he must keep his purchases and sales balanced, but obviously he cannot rely entirely on one customer coming along at the same time as another and each customer wanting to do the opposite thing—one customer wanting to buy cheque on New York and the other customer desiring to sell; one customer wanting to buy T.T. Paris, and another wanting to sell T.T. Paris, and each for similar amounts. There must always be a certain short gap between the conclusion of one transaction and the conclusion of the covering operation, but that cannot be considered as speculation.

Speculation, or "Taking a Position."

Banks abroad regard speculation in exchange as a quite legitimate form of banking enterprise. The heads of a bank or firm will call the expert exchange dealer into consultation and they will examine thoroughly the conditions prevailing in other countries. They may come to a considered conclusion to go short or long of any particular currency for perhaps two, three, or four months, or longer still. They deliberately "take up a position" in a particular foreign currency. For example, in the case of the pound sterling, there was in May and June, 1931, a certain uneasiness abroad in regard to its future because of our commitments in Central Europe and Germany. Then the "May Economy Committee" Report was issued which gave rather gloomy particulars of our internal finances. Foreigners began to say, "Here is England living far beyond her income and spending a lot of money on unemployment doles and other social services which is only partly covered by her receipts; she has to borrow in order to maintain these payments, and that cannot go on. No one can keep on living beyond his income. Moreover, England has been extravagant and has lent large amounts

to countries which are not in a position to repay her, and countries owing her money, such as Australia, and the South American states, are not in a position to make payments of what is due. Further, her London Accepting Houses have entered into commitments for foreign debtors, having accepted bills on behalf of foreign drawers, and those foreign debtors or drawers are not in a position to remit the funds necessary to meet these bills on maturity. Therefore, England is not in a sound position; she has outstanding liabilities according to the 'May Report' of about £450 millions, against which she has between £150 to £160 millions in gold." Foreigners therefore began to think, "If I am not the first to get my money out of England in gold, I may not get it out at all," so everybody rushed pell-mell to get their money out of England, and because we had not the requisite foreign exchange resources immediately available, and because we had not sufficient free gold to cover these demands for foreign currency against sterling, we were pushed off the gold standard. But after a few months had passed, the foreigner began to say to himself, "This is marvellous. England is off the gold standard but there is no panic and the banks function normally. There has been not a single failure. It appears that the budget will be balanced and that there may even be a surplus. There is a stable National Government, the national finances are being reconstructed, and the new tariff gives the country a new bargaining power. I do not know how it has been done, but within a short period the money has been found to pay off the enormous sum which was borrowed in the attempt to remain on gold." The foreigner therefore went on to say: "The pound is too cheap, too few foreign units are being given per £, therefore let us hasten to buy pounds sterling, while they are so cheap." As a result, all those funds withdrawn from London, which by their withdrawal, pushed us off the gold standard, began to hasten back to London, and if such a movement had been allowed to go unchecked, it might even have pushed us back on the gold standard before we were ready for it. The importance of the speculative and investment factors in exchange movements cannot be over-estimated, for the enormous volume of credit money available completely overshadows the comparatively small figures of payments due in respect of varying trade balances. Contrary to continental and transatlantic practice, however, it has always been the considered

policy of banking opinion here never to allow an "uncovered" exchange position to exist.

"Covering" in the "Market."

The fact that uncovered positions are not allowed to exist means that the exchange dealer requires some field of demand and supply to which he can turn when he wishes to cover a transaction carried out with a customer. Remember that the exchange dealer is in touch, not only with the home customers of his own branch direct, but with every branch in the service of his bank, every one of which, in turn, may be in direct touch with numerous customers. From these come the internal business of the Foreign Exchange Department. More than that, the exchange dealer in a big London bank directly represents his bank in the course of numerous telephone conversations with representatives of banks abroad every hour of the day. A good exchange dealer, a man with a pleasing personality, may bring his bank an enormous amount of business, not only in foreign exchange but in other classes of banking business, because he impresses favourably the exchange dealer of a bank abroad with whom he is in regular contact. The more each is impressed with the personality and ability of the other, the more likely is the recommendation to be passed upwards that such and such a bank has an exceptionally able exchange dealer and that business with that bank seems to be conducted efficiently and well. This often leads to an extension of relations in other directions of banking and financial business which might not have been suggested if the exchange dealer had not conveyed so favourable an impression.

The exchange dealer then is faced with the necessity of making very rapid decisions as to the prices at which he will buy and sell, and he must know within a little how he can cover himself, because he is not allowed to run an uncovered position, and for his immediate needs he relies on the "market." Now, the market in any centre consists of members of the market, who are the persons, banks, and financial houses who normally trade in the market, some of whom wish to sell certain currency and others to buy the same currency. They may be in direct touch with one another or they may work through an intermediary such as a broker. Any dealer in London who is temporarily a seller of a certain currency can ring up a London broker and say: "I am a seller of francs,

marks, or dollars at such and such a price." We will suppose that he is a seller of dollars at 3.66, and the broker then proceeds to find another dealer who is short of dollars because he has undertaken an operation for a customer at home or abroad which required a sale of dollars. The second dealer wants to buy dollars, but the first dealer wants to sell dollars, and it is the business of the broker to bring them together and to arrange a price to which each will agree. The margin between prices is kept fairly close by market custom, and the seller offering at 3.66 is probably countered by the buyer bidding $3.66\frac{1}{4}$. This margin between the price offered by sellers and the price bid by buyers is the "market turn," but, while deals may actually be arranged in between these prices, a dealer can only be sure, at any moment, of selling at the bid price or of buying at the offered price. He must therefore take these prices as his basis for making quotations to customers and must allow for his margin of profit on these prices. Where a dealer sells to a customer at $3.66\frac{1}{2}$ and covers himself by buying in the market at $3.66\frac{1}{4}$, and so makes $\frac{1}{4}$ c. profit, that is not a "market turn," it is the dealer's profit. The "market turn" or "market margin" is the margin as threshed out by the factors of supply and demand, and is the difference between the rate at which dealers in the market are prepared to buy a particular currency and the rate at which others are prepared to sell that currency. Therefore, if you see in the newspapers that the close of dollars was 3.66 to $3.66\frac{1}{4}$, this means that there were members in the market prepared to sell at 3.66 and other members prepared to buy at $3.66\frac{1}{4}$. The actual price at which business takes place depends on the eagerness of one party or the other, but the fact that there is a market makes it possible for a dealer to quote rates to customers at any time, whether they are domestic or private customers, or foreign customers in the shape of foreign banks, and he quotes these customers on the basis of the ruling market rates. In all these examples I am giving you I want you to understand that the rate quoted is always the ruling "market" rate, and that *if a dealer is short of a currency he can buy it only at the market selling price. If he is "long" of currency he can sell to the market only at the market's buying price.* Therefore, if a dealer is asked by a customer to take a T.T. in French francs from him, the dealer rings up a broker and asks: "What is Paris?" If the

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broker says, "Ninety-three to an eighth," the dealer then knows that he can sell to the market at $93\frac{3}{8}$, which is the market buying price, and, therefore, he fixes his price to his customer on this basis. The market rates, of course, continuously change from minute to minute according to supply and demand, especially in times like the present, and the dealer must have a certain "flair" for foreign exchange business to sense the strength of the market and to judge whether he is safe to rely on the existing prices whilst making quotations to the customer. He will often allow for a market price higher or lower than that actually quoted at the moment, so as to give himself a margin of safeguard against the risk of the market moving before he has completed his transactions.

CHAPTER III

EXCHANGE ARITHMETIC AND THE CALCULATION OF DEMAND, LONG, AND "TEL QUEL" RATES OF EXCHANGE

THE examples which follow may strike the reader as being a little complicated. They are not. There is no need for any one to be a senior wrangler in order to cope with the arithmetic of foreign exchanges. All that is needed is ordinary ability to add, subtract, multiply, and divide, but it must be realized that the first thing to do is to be absolutely automatic in the working of decimals into fractions and of fractions into decimals. You should be able to decimalize sterling or reconvert decimals into sterling without a moment's hesitation. You should know the eighths perfectly; you should be sure of the sixteenths, have a working knowledge of the thirty-seconds, and a good idea of the sixty-fourths, as *all foreign exchange fractions are multiples of one sixty-fourth*. Every transaction in foreign exchange demands the translation of one currency into another, and demands an automatic ability to work out multiplication or division sums. The modern methods of multiplication and division, approximation and prediction are somewhat dangerous, as you may be tempted to work to too few places of decimals. For example, you may obtain, by a short method, a rate correct to four places of decimals of 4.8644, whereas the full answer should be 4.864375. If you apply the former rate to an amount of £100,000, you obtain an equivalent of \$486,440, instead of the correct equivalent of \$486,437.50, that is, you are \$2.50 out on every £100,000, or \$25.00 on £1,000,000. Therefore you must *always work foreign exchange calculations correct to at least five places of decimals*.

The simple nature of ordinary exchange calculations will be apparent from the working of the problems given below, and those which appear on subsequent pages. It will be seen that every calculation is nothing more than simple addition, subtraction, multiplication, or division. The method adopted to carry out these elementary calculations must be left to the individual but it must be emphasized that *absolute accuracy is an essential in all foreign*

exchange calculations. The old formula for the calculation of interest of $I = \frac{P \times N \times R}{100 \times 365}$ (where N is the number of days) is also an integral part of foreign exchange arithmetic. Special attention should be paid to the method of expressing interest as a decimal or fraction of a rate of exchange, by using the basic rate of exchange as the principal on which interest is to be worked. Students should practise the use of this formula and method almost *ad nauseam*, using each factor in turn as the unknown factor and so proving their results each time. It will be noticed that, in the examples given, whenever the denominator contains the factor 365, both numerator and denominator are multiplied by 2. This is in order to produce a denominator of 73,000, when the division of this figure into the numerator can be effected by means of the "third, tenth, and tenth" rule. Under this rule, the final numerator is set down and then divided by 100,000, i.e. the decimal point is moved five places to the left. To the resulting figure is added one-third of itself, then one-tenth of that result, and then one-tenth of that. These four amounts are added together and from the result is deducted one ten-thousandth of itself, i.e. the total divided by 10,000, which means moving the decimal point four places to the left. The result, which is obtained in less time than it takes to read the description of the method, is the required amount of interest and is certainly quicker and easier than a long division sum with 365 as the divisor. The following, taken from example (c) below, shows the application of this rule.

$\frac{2880}{73000}$ by $\frac{1}{3}$ rd, $\frac{1}{10}$ th, and $\frac{1}{10}$ th rule.

Take $\frac{1}{100000}$ th of numerator	.02880
" $\frac{1}{3}$ rd of this	.00960
" $\frac{1}{10}$ th of this last figure	.00096
" $\frac{1}{10}$ th of this last figure	.000096
	.039456
Deduct from this $\frac{1}{100000}$ th of itself, i.e., move decimal point four places to the left	.000004 (nearest)
Then required amount of interest is	.039452

Remember when dealing with currencies on the decimal system, e.g. U.S. dollars, French francs, German reichsmarks, etc., that the use of a normal rate of exchange as the principal, such as \$4.86 per £,

123.90 fcs. per £, etc., means that the interest result will be in terms of decimals of the main foreign unit, the dollar, franc, reichsmark, etc. Multiplication of this result by 100 will therefore give a result expressed in a decimal or a fraction of the subsidiary unit, the cent, centime, pfennig, etc., and this is the way in which cheque against T.T. margins or the "forward" margin against T.T. (or "spot") is usually expressed.

Calculation of Cheque, Sight, or Demand Rates.

Exchange rates for the purchase and sale of instruments such as cheques, sight drafts, or demand drafts, which are payable only on presentation to the drawee in the foreign centre, are arrived at from the basic T.T. rate by making an allowance in the rate for the interest lost by the buyer from the date of purchase until the date when the draft is presented and paid and the proceeds credited to his account in the foreign centre, or, in the case of instruments drawn in sterling on foreign centres and expressed as being payable by means of a sight draft in sterling on London, for the interest lost from the date of purchase until the estimated date on which the "return remittance" (as the sight draft in sterling on London which is sent home by the local agent for collection is called) will arrive and can be turned into cash here. Obviously, the buyer of such an instrument uses up funds in the purchase and is deprived of the use of those funds altogether until the instrument is paid and he has received the proceeds, either in a foreign currency or by a "return remittance" in sterling, while the seller has enjoyed the use of the cash received for the sale of the instrument and will still have credit, in one form or another, of the funds against which the draft was drawn until the draft is presented and paid and the available funds thus utilized. This is in complete distinction to a purchase and sale of T.T. where, in nearly every case, there is a simultaneous paying over of funds in the two centres. If you buy a T.T. on New York against sterling in London, the "value date" of the transaction is almost sure to be "compensated" so that you will receive credit for your dollars in New York on the same day that you pay over your sterling in London, and there is no loss of interest to either party. But if you, as a banker, buy a cheque on New York from a customer, you must pay him out sterling at once, while you will not receive credit for your dollars until the cheque

arrives in New York and is collected and credited to your account, which may be anything from 7 to 12 days after the date of purchase.

One of the best illustrations of the interest difference between the basic T.T. rate and the cheque, sight, or demand rate is to be found in the case of the Empire exchanges on Australia, New Zealand, South Africa, and the Rhodesias. If you look in the papers, you will find that T.T. Capetown is quoted at, say, £76 10s. South African per £100 English. This means that, if you are a seller of a T.T. on Capetown, the banker will give you £100 English for every £76 10s. South African which you cause to be credited to his account in Capetown by means of a Telegraphic Transfer. The rate for sight drafts on Capetown, however, will be quoted in the same newspaper, as, say, £77 South African per £100 English. In other words, the London banker will give you only £100 English for £77 South African in the shape of a sight draft instead of £76 10s. for a T.T., as he wants 10s. South African more per £100 because he is deprived of the use of his funds from the day he buys your instrument until the day he receives credit. It is analogous to the discounting of a bill. You naturally give fewer present pounds for an undue instrument for a certain sum of future pounds, because you are out of interest. If we consider the loss of interest as shown by quotations in "Pence" rates, the difference between cheque and cable, or between the price for a long bill and the price for T.T., is clearly shown by the fact that you give fewer pence per foreign unit for an undue instrument. If you give, for example, 39d. per gold peso for a T.T. on Buenos Aires, you would give probably only 38½ pence per gold peso for a cheque on Buenos Aires, because you will lose interest on your money for about 21 days. If you are asked to buy a long bill—a 90 days' bill—you will, probably, give only about 38d. or 37¾d. per gold peso, because the instrument is not worth so much to you since it cannot be met for a certain time, and you will be out of interest on your money. With "currency" rates, instead of taking a discount in the amount of sterling paid out, we take it in the shape of more foreign units per £. The allowance is made by taking from the seller a larger number of foreign units per £ than if he were a seller of T.T., and the extent of that margin depends entirely on the rate of interest which you consider your funds should earn.

The margin between cheque and cable on New York is an excellent

example of gain or loss of interest. If a dealer has bought cheque from a customer, and desires to cover himself at once, as he is supposed to do, he must sell something against it. There may not be a ready buyer of cheque either amongst his own customers or in the exchange market, but there is a ready buyer of T.T. Therefore, he sells T.T. against the cheque he has purchased, and so he bases the price at which he will buy the cheque on the price at which he can sell T.T. Further, if he has sold T.T. and bought cheque he has to pay out dollars in New York at once against his sale of T.T. while he has bought funds which will not be available until the instrument arrives and is credited to his account. Therefore, he must assume that he will be overdrawn in the foreign centre for that period, and that his interest loss is the overdraft rate in the foreign centre.

If a customer asks a dealer to sell cheque, the dealer must then assume that he will cover his sale of cheque to the customer by buying T.T. in the market. Therefore, he must base his selling price for cheque on the market's selling price for T.T., and as he will have to pay out sterling for the T.T., receiving dollars in exchange, while he receives sterling for the cheque he has sold, he will have dollars to his credit in New York until they are taken away from his account by the presentation for payment of the cheque. He will receive interest from his agent in New York on that particular balance, but only at current account rate or "call money" rate, and, as you know, the rate for advances or overdrafts in any banking centre is always considerably higher than the rate for deposits or for "call money" or the rate allowed on current accounts. In point of fact, if New York Bank Rate is 3 per cent the chances are that one would be charged 4 per cent for an overdraft, and paid only $1\frac{1}{2}$ per cent on any credit balance on current account. While the private buyer of cheque on New York from an exchange dealer is therefore entitled to some compensation for the interest he loses by paying sterling at once for a cheque for which he can obtain the funds only some days later, the exchange dealer can afford to allow him only a rate of interest somewhat lower than that which can be earned by the dollars purchased as cover. Therefore, the best rate of interest a private buyer of cheque can expect is the current account rate or ruling market rate of interest for "call money" in the foreign centre,

over the selling price of T.T. On the other hand, the best rate of interest that a seller of cheque can expect to be charged is that ruling for an advance in dollars in the foreign centre, over the buying rate for T.T.

Now, in the market itself there must obviously be certain dealers who have bought cheque from customers and sold T.T. as cover and who are anxious to do a "swap," that is to buy T.T. and sell cheque in order to square up the transactions. Similarly, there are dealers who have sold cheque to customers and bought T.T. against it, and who do not wish to leave too much money on their foreign accounts. Therefore, they are ready to sell T.T. and buy cheque as a "swap." Taking the rates already mentioned for the purpose of an example, one party has based his rate for cheque on 4 per cent and the other on $1\frac{1}{2}$ per cent, and each will be ready to take a profit on these rates, so that in the market, that difference will be threshed out and eventually a margin representing about $2\frac{1}{2}$ to 3 per cent will be arrived at. The exchange dealer therefore can consider that the "cheque against cable" margin can be dealt in to afford him cover in the same way as the market quotation for T.T. If T.T. in the market is 4.86 to $4.86\frac{1}{4}$ and the cheque margin is $\frac{7}{16}$ to $\frac{1}{2}$ c. over that, it means that a dealer can buy T.T. at 4.86 from the market and can buy cheque from the market at $\frac{7}{16}$ over T.T., or at $4.86\frac{7}{16}$ outright; while he can sell T.T. to the market at $4.86\frac{1}{4}$ and cheque at $\frac{1}{2}$ c. over T.T., or at $4.86\frac{3}{4}$ outright. Therefore, the outright cheque price in the market would be $4.86\frac{7}{16}$ to $\frac{3}{4}$, and a dealer could reasonably rely on being able to deal in the market at these prices. If he allows a margin of profit above and below these rates he should be fairly well covered. The actual margin concerned depends not only on the rate of interest but on the length of time for which you will be out of your money as a buyer of an undue instrument. If a mail boat to New York sails to-night, and it is a fast steamer such as the *Europa*, the *Bremen*, the *Majestic*, or the *Aquitania*, you can reckon that a cheque posted to-night will arrive in New York and be collected in seven days' time. But, on the other hand, if it is a slow boat, the length of time the boat takes to reach New York must obviously affect the amount of interest lost by the purchase of a cheque. The longer the boat takes the more interest you will lose, and the greater the number of days, the higher

the margin you will require for cheque over cable, when dealing in "Currency" rates, or the fewer pence you will pay per foreign unit in the case of "Pence" rates.

As regards a customer, a bank dealer will base his calculation of the "spread" between T.T. and cheque (or M.T., or G.M.T.), on the time allowed for mail period and on the *rate charged for overdrafts in the foreign centre*, when *buying* cheque, or on the *rate obtainable on call money in the foreign centre*, when *selling* cheque.

In practice, the dealer will frequently cover his purchases or sales of cheque by a "forward" sale or purchase of T.T. in the foreign currency for a date to coincide with the agreed or estimated date of payment of the G.M.T. or cheque.

Examples of calculations in connection with the "margin" of cheque, or G.M.T., against T.T.—

(a) At what rate would you sell T.T. and buy G.M.T. if the T.T. rate, London on New York, is \$4.86 per £, if you wish to earn 3 per cent per annum on the dollars used, and if the G.M.T. is guaranteed for payment in 10 days' time from the date of sale of the T.T. and purchase of the G.M.T.? (New York takes 360 days to the year.)

Answer—

$$\text{Interest} = \frac{4.86 \times 3 \times 10}{100 \times 360} = \frac{.0486}{12} = \$0.00405$$

∴ Margin for the G.M.T. will be 40½ points over T.T., i.e., T.T. will be sold at \$4.86 and G.M.T. purchased at \$4.86405 per £.

(b) At what rate would you purchase a cheque on New York from a customer if the London market quotes \$4.85½-4.86 per £ for T.T.s, if you estimate that the cheque will not be credited to your account until 9 days after the date of purchase, if your agent in New York allows you 1½ per cent per annum on credit balances and charges you 4 per cent per annum on overdrafts, and if you require a profit of ½ per mille on the transaction? (New York allows 360 days to the year.)

Answer. If the market quotes \$4.85½-4.86 per £, the operator can sell to the market only at \$4.86, and must therefore base his price on this rate. Also, as he must assume that he will sell T.T. as cover for his purchase and so will be overdrawn on his account in New York until the cheque is collected and credited to him, he must allow for interest at the overdraft rate of 4 per cent per annum.

Then,

$$\text{Interest} = \frac{4.86 \times 9 \times 4}{100 \times 360} = \frac{4.86}{1000} = \$.00486$$

∴ Margin for cheque over T.T. is .486 of a cent.	
∴ Buying rate for cheque is \$4.86, plus .486c..	\$4.86486
Add Profit at $\frac{1}{100}$ (operator must take <i>more</i> \$s per £) .	.002432
	<u>\$4.867292</u>

∴ Operator will buy cheque from customer at \$4.867292, or \$4.86 $\frac{7}{8}$ nearest, per £.

(c) At what rate would you sell to a customer a cheque on Kobe for 5,000 yen if the London market quotes T.T.s on Kobe as 1s. 11 $\frac{3}{4}$ d. to 2s. per yen, if the cheque will probably be presented and debited to your account 30 days after sale, and if you are allowed interest on credit balances with your agent at 2 per cent per annum, and if you require a profit of $\frac{1}{8}$ d. per yen?

Answer. The operator can buy T.T. Kobe from the market only at 2s. per yen, and so must base his rate on this price, while he must assume that he will cover the sale by a purchase of T.T. on which he will receive interest only at the rate of 2 per cent per annum.

Then,

$$\begin{aligned} \text{Interest} &= \frac{24 \text{ (pence)} \times 30 \times 2 \times 2}{100 \times 365 \times 2} \\ &= \frac{2880}{73000} \\ &= .03945 \end{aligned}$$

(Note use of $\frac{1}{8}$ rd, $\frac{1}{10}$ th, and $\frac{1}{10}$ th rule.)

∴ Margin for cheque against T.T. is .03945d., or $\frac{1}{2}$ d. nearest (as dealer is selling in pence), cheaper than T.T.	
∴ Operator will sell cheque to customer at 2s. <i>less</i> $\frac{1}{2}$ d., making	1s. 11 $\frac{3}{8}$ d. per yen
Add Profit (as customer must pay <i>more</i> pence per yen)	$\frac{1}{8}$ d. per yen
Making	<u>1s. 11$\frac{7}{8}$d. per yen</u>

∴ Operator's net rate for selling cheque Kobe to his customer will be 1s. 11 $\frac{7}{8}$ d. per yen.

(d) If cheque against T.T. New York is quoted at a margin of 30 points in the London market, with a T.T. rate of \$4.86 per £, and the time of mailing is taken as 10 days, what rate of interest does this show to an operator who sells T.T. and buys cheque? (New York allows 360 days to the year.)

Answer.

Using the usual formula,

$$\begin{aligned} \text{Interest } \$.0030 &= \frac{4.86 \times 10 \times R}{100 \times 360} \\ \therefore 48.6R &= 108 \\ \therefore R &= \frac{1080}{486} \\ &= 2.222 \end{aligned}$$

\therefore Rate of interest represented by a margin of 30 points for a 10 day's run on a T.T. rate of \$4.86 per £ is 2.222% per annum.

“Long” and “Tel Quel” Rates.

We can now proceed to discuss the construction of “long” and “tel quel” rates. A “long” rate was the term originally applied to the special market quotation for bills at 90 days' date, but it has subsequently come to be applied to any bill having more than a few days to run. A “tel quel” rate is literally a rate for a bill “such as it is,” i.e. a rate specially made to fit the unexpired portion of an undue bill. In point of fact any rate other than the basic T.T. rate is a “tel quel” rate since it invariably has to be compiled so as to make an exact allowance for the amount of interest lost by the buyer from the date of purchase of any other form of instrument until the estimated date of payment and credit of proceeds.

The allowance for loss of interest on undue instruments is dealt with in exactly the same way as in the case of cheques or demand drafts, that is, more foreign units per £ are taken in the case of “currency” rates or fewer pence per foreign unit are given in the case of “pence” rates. Taking again the example of the South African Exchange where we saw that an exchange dealer would give £100 English for £77 South African in the shape of a T.T. but would require £77 10s. South African in the shape of a sight draft, he would require still more South African pounds per £100 English for instruments which would have some time to run even after their arrival in South Africa, and so would require, say, £78 5s. South African for a 30 d/s draft, £78 17s. 6d. South African for a 60 d/s draft, £79 10s. South African for a 90 d/s draft, and so on in exchange for each £100 English which he paid out at once. The difference in each case is due to his needing more South African pounds per £100 English by way of compensation for the

extra loss of interest on the longer-dated instruments, together with the cost of South African bill stamps and agent's charges.

Stamps and Charges.

In the case of M.T.s, G.M.T.s, cheques, and sight drafts, either no stamp duty is levied in the foreign centre on which they are drawn or any duty payable is so small as to be negligible, while there is seldom any charge for collection made by the agents abroad except in the case of drafts on secondary places or drafts with documents attached. In the case of undue instruments, however, there is usually an *ad valorem* foreign stamp duty to be paid, while the foreign agent will frequently make a small charge for the trouble involved by obtaining acceptance of the instrument, holding it in portfolio until maturity and then collecting the proceeds. When building up a "long" or a "tel quel" rate we must, therefore, allow for the loss incurred by the buyer in paying these charges, which is effected in the same way as is the allowance for loss of interest either by taking more foreign units per £ or by giving fewer pence per foreign unit. The allowance for dealer's profit must also be taken into account in the same way.

The examples given below should now be fairly easy to understand. Remember that in all cases the bank dealer must assume that he will cover any operation by buying from or selling to the market a T.T. at the current rate. If, therefore, he is buying an undue instrument, he must base his "all-in" rate on the price at which he would be prepared to buy T.T., without allowing for profit, which is, of course, the price at which he could sell T.T. to the market. Remember that, in the case of an "after sight" instrument, it must be presented to the drawee for "sighting" before it can commence to run towards its maturity and the buyer of such an instrument must, therefore, allow for a total loss of interest from the date of purchase until the estimated date of maturity, *which includes the time taken in obtaining the drawee's acceptance*. Thus, in the first of the examples which follow, the total period over which interest will be lost is actually 110 days although the draft is only at 90 days' sight. Attention is again drawn to the method of calculating interest on the T.T. rate as the principal sum, so that the decimal or fraction of a unit so obtained represents the amount of interest lost on each £ used, and ultimate conversion of the face

amount of the bill at the final "all-in" rate will result in interest, at the required rate and for the necessary period, having been charged on the full amount of the bill. The same applies to the allowances for stamps, charges, and profits, and the method of expressing a rate per cent per annum for a given period as a decimal or a fraction of a given rate of exchange, and vice versa, is also of the greatest importance, particularly when we come to the consideration of "forward" rates.

The second example is of the calculation of a "long" rate in a "pence" quotation while the third shows the calculation of a pure "tel quel" rate. Many continental and transatlantic countries have the habit of basing interest calculations on a 30-day month or a 360-day year and illustrations of this practice are included. In an examination paper you should be told by the question what basis of calculation you are to use, but, in practice, only experience will teach you the varying customs as regards the basis of interest working, stamp duties, and other local manners and customs. All the examples given are intended to illustrate a *principle* or a method and are not necessarily in accordance with actual current practice.

"London Draws Few Bills but Accepts Many."

Reference must again be made to the importance of the sterling bill, even during the suspension of the gold standard by this country, as a form of international currency. Consequently, a foreign creditor of an English debtor will usually prefer to draw in sterling on his debtor rather than to ask the latter to remit a bill payable in the currency of the creditor's country, since a good-class sterling bill is ordinarily discountable with absolute ease and at a favourable rate of discount, while "long" bills in a foreign currency may have only a limited market for sale, i.e. discount, and then only at a comparatively high discount rate. This means that English debtors become the drawees of bills drawn on them in sterling and have no occasion to endeavour to purchase "long" bills in foreign currencies, and it may be taken that London banks are never asked by their customers to manufacture and sell "long" bills on other centres. Therefore, London banks are asked by their customers only to *purchase* "long" bills in foreign currencies and any examples of a sale of such a bill by a London bank would be purely theoretical.

In the final example an instance is given of the purchase by a

New York bank of a "long" bill in sterling on London. As will be seen, the calculation involved is on the same lines as that made by a London bank for the purchase of a "long" bill in a "pence" quotation.

Calculation of "Long" and "Tel Quel" Rates.

Allowance for loss of interest must be made *at the current rate at which the instrument could be re-discounted in the foreign centre.*

The bank dealer will always *charge against the seller* the cost of any foreign stamps, taxes, agent's charges, etc., and these must be allowed for in the rate by *taking more foreign units per £* when dealing in *currency rates* or by *giving fewer pence per foreign unit* when dealing in *pence rates.*

London banks seldom, if ever, *sell tenor instruments.*

Examples.

(a) At what rate would you purchase from a customer a 90 d/s draft, with documents attached, on San Francisco, if the T.T. rate London on New York is $\$4.85\frac{7}{8}$ —4.86 per £, if the time of mailing from London to New York is 10 days, from New York to San Francisco 5 days, and the return journey the same, if market discount rates for commercial paper are 3 per cent in London and 4 per cent per annum in New York, if the stamp duty in the U.S.A. is $\frac{1}{2}$ per mille *ad valorem*, if your agent makes a charge for collecting documentary drafts of $\frac{1}{2}$ per mille *ad valorem*, and if you require a profit of $\frac{1}{2}$ c. in the rate? (U.S.A. takes 360 days to the year.)

The buying bank will be out of its money for 10 days mailing to New York, plus 5 days on to San Francisco, plus 90 days' currency of the draft (since it cannot be "sighted" until it arrives in 'Frisco and so does not commence to run until then, while no days of grace obtain in the U.S.A.), plus 5 days for the return remittance from San Francisco to New York, making a total of 110 days from the date of purchase until the estimated date of credit of the proceeds in New York.

Working interest for this period at 4 per cent per annum on the rate at which the bank would buy T.T., viz. \$4.86 per £, without allowing for profit, gives—

$$\text{Interest} = \frac{4.86 \times 110 \times 4}{100 \times 360} = \frac{5346}{9} = \$.594$$

The bank must therefore take \$ 0594 *more* per £ than the T.T. rate to cover loss of interest.

It must also take *more* \$s per £ to cover the cost of U.S. stamp, agent's charges, and its own profit.

Therefore, the final buying rate will be—

T.T. rate	\$4.86
Plus, Interest for 110 days at 4% per annum . . . . .	.0594
.. U.S. stamp, at $\frac{1}{4}\%$ on 4.86 . . . . .	.00243
.. agent's charge of $\frac{1}{4}\%$ on 4.86 . . . . .	.00243
.. bank's profit . . . . .	.0003125
	<u>\$4.9245725</u>

∴ The required buying rate would be—

\$4.9245725, or \$4.92 $\frac{1}{2}$ nearest, per £.

(b) At what rate would you purchase a 90 d/s draft on Buenos Aires if the London market rate for T.T.s is 36- $\frac{1}{8}$ d., if the market rates of discount for such bills are 2 $\frac{1}{2}$ per cent in London and 6 per cent in Buenos Aires, if the time of mailing is 21 days and there are no days of grace in the Argentine, if the foreign stamp duty is $\frac{1}{2}$ per mille *ad valorem*, if your agent makes a collecting charge of $\frac{1}{4}$ per mille, and if you require a profit of $\frac{1}{2}$ d.?

The rate of interest applicable is that ruling in the foreign centre, which is 6 per cent per annum, and the total period between the date of purchase and probable date of credit is 21 plus 90 days, making 111 days in all. The bank can sell T.T. Buenos Aires to the market, as cover, only at 36d. per gold peso, and so must base its buying rate on this price.

The interest at 6 per cent per annum for 111 days on 36d. will be—

$$\begin{aligned} \text{Interest} &= \frac{36 \times 111 + 6 \times 2}{100 \times 365 \times 2} \\ &= \frac{47952}{73000} \\ &= .6568767\text{d.} \end{aligned}$$

(Note use of $\frac{1}{3}$ rd, $\frac{1}{10}$ th, and $\frac{1}{10}$ th rule.)

The bank must give *fewer* pence per gold peso to cover this loss of interest and fewer pence still to cover foreign stamps, agent's charges, and profit.

It will therefore calculate its buying rate thus—

T.T. rate	36d.
Deduct, Interest for 111 days at 6% per annum on 36d. . . . .	.6568767d.
„ Foreign stamp at $\frac{1}{2}\%$ . . . . .	.018
„ Agent's charge at $\frac{1}{4}\%$ . . . . .	.009
„ Allowance for profit . . . . .	.03125
	.7151267
Net	35.2848733d.

∴ The required buying rate would be—
35.2848733d., or 35 $\frac{3}{8}$ d. nearest, per gold peso.

(c) On 8th June, 1931, a customer presents to you for purchase a bill on Berlin drawn at 5 months' date from 30th April, 1931. If the London market quotes T.T.s on Berlin at 20.43 $\frac{1}{2}$ -44, if the market discount rates for such paper are 3 per cent in London and 5 per cent in Berlin, if German stamp duty at $\frac{1}{2}$ per mille *ad valorem* must be paid, and if you require a profit of $\frac{1}{4}$ per mille, what buying rate would you quote to your customer?

A 5 months' date bill drawn on 30th April, 1931, matures on 30th September, 1931, there being no days of grace in Germany. On 8th June, 1931, the bill has therefore 114 days still to run (22 in June, 31 in July, 31 in August, and 30 in September), and the bank will therefore be out of its money for this period. T.T. could be sold as cover in the London market only at 20.44 per £, and the bill could be re-discounted in Berlin only at 5 per cent per annum.

The interest to be allowed is therefore—

$$\begin{aligned} \text{Interest} &= \frac{20.44 \times 114 \times 5 \times 2}{100 \times 365 \times 2} \\ &= \frac{23301.6}{73000} \\ &= .3192 \end{aligned}$$

(Note use of $\frac{1}{8}$ rd, $\frac{1}{10}$ th, and $\frac{1}{10}$ th rule.)

The bank will require *more* marks and pfennige per £ to cover loss of interest and expenses so that the final buying rate will be calculated thus—

T.T. rate	20.44
Add, Interest for 114 days at 5% per annum on 20.44 . . . . .	.3192
„ German stamp duty at $\frac{1}{2}\%$ on 20.44 . . . . .	.01022
„ Bank's profit at $\frac{1}{4}\%$ on 20.44 . . . . .	.00511
	20.77453

∴ The required quotation is—
Rms. 20.77453, or Rms. 20.77 $\frac{1}{2}$ nearest, per £.

(d) A New York banker has offered to him for purchase a 60 d/s draft on London for £2,389 14s. 4d. The market rates in New York for T.T.s on London are \$4.86½-¼ per £, discount rates are 3 per cent in London and 2 per cent per annum in New York, time of mailing is 8 days, English bill stamp may be taken as ½ per mille *ad valorem*, and the banker requires a profit of ⅓½c. in the rate. At what rate will he purchase the bill from his customer?

The New York banker will have to pay out dollars on the spot and receive sterling in about 2 months' time. He must therefore pay out as few dollars per £ as possible, and so must *deduct* from his buying rate for T.T.s all the necessary allowances. He can sell sterling T.T. to the New York market as cover only at the *lower* quoted rate, as a buyer of sterling would give as few dollars per £ as possible. He must therefore base his rate on \$4.86½ per £, and must take the London discount rate as he could re-discount the bill there only at that rate. He will be out of his money for 8 days' mailing, plus 60 days' currency of the bill after it has been "sighted," plus 3 days' grace, making 71 days in all.

The interest will therefore be (taking London terms of 365 days to the year)—

$$\begin{aligned} \text{Interest} &= \frac{4.86125 \times 71 \times 3 \times 2}{100 \times 365 \times 2} \\ &= \frac{2070.8925}{73000} \\ &= .02836835 \end{aligned}$$

(Note use of ⅓rd, ⅒th, and ⅒th rule.)

He will now build up his 60 days' rate by deducting from the T.T. rate the allowances for interest and expenses thus—

T.T. rate	\$4.86125
Deduct, Interest for 71 days at 3% per annum on this rate	\$.02836835
.. English stamp duty at ½/100 on 4.86½ . . . . .	.002430625
.. Banker's profit of ⅓½ cent . . . . .	.0003125
	.03111475
	\$4.830138525

∴ The required buying rate is—
\$4.830138525, or \$4.83 nearest (for buying banker), per £.

Note again that the New York banker pays fewer dollars per £ in the same way that an English banker would pay fewer pence per foreign unit.

In connection with these examples, the sign " $\frac{0}{00}$ " is, of course, the sign for "per thousand" or "per mille." In the same way that 1% stands for 1 per hundred, so does $\frac{1}{00}$ stand for 1 per thousand, so that $\frac{1}{2}\frac{0}{00}$ means one-half of a unit in every thousand units, e.g. .50 cents on \$1,000. You should also bear in mind the difference between the expressions "per cent" and "of a cent," as where the latter is applied to U.S. currency. A quarter per cent of a rate of 4.86 is $\frac{1}{4}\%$ of 4.86, which is .01215 or one and about seven thirty-seconds of a cent. On the other hand, a quarter of a cent, or $\frac{1}{4}c.$, can only be a quarter of a cent and needs no calculation.

CHAPTER IV

THE COLLECTION AND NEGOTIATION OF BILLS IN FOREIGN CURRENCY OR IN STERLING, DRAWN ON FOREIGN PLACES

It may prove of assistance to students if a brief description is given of how a bill of exchange drawn in this country on some foreign centre is dealt with in order that it shall be presented for acceptance, if needed, and in any case for payment, so that the proceeds are eventually collected for and placed at the disposal of a bank on this side which is acting as the agent for the customer who is the owner of the bill.

Collection of Bills in Foreign Currency.

Let us take as an example the case of a bill drawn in this country at 30 d/s in French francs on an importer in Bordeaux, and to which documents respecting the relative shipment of goods are to be attached. The drawer of the bill, the English drawer, is some one who has supplied goods to a buyer in Bordeaux and has to draw a bill on that firm, in order to obtain payment of his money. If he is drawing in French francs it means that an exchange operation must be undertaken sooner or later to convert the French francs into sterling. The customer here first proceeds to ship his goods, receiving in exchange a bill of lading. Probably he effects also insurance and obtains an insurance policy, makes out his invoice, draws his bill, and hands the bill and documents to his bank for collection. The London bank acts merely as the agent of its customer and is bound to exercise only the same care as it would do were the collection to be for its own account. The customer has to sign a form under which he absolves the bank from liability in respect of any wrongful act of, or the bankruptcy of, its agent abroad, and he also agrees that any foreign currency held abroad for his account by the bank shall be at his entire risk and responsibility.

The London bank will then post off the bill and documents to its agent in Bordeaux and, on arrival, the agent will present them to the drawee for his acceptance of the bill, against which he is usually entitled to have the documents handed over to him. With the documents he can obtain possession of the goods on their arrival

and can proceed to sell them so as to have funds available with which to meet the bill at its maturity. In the meantime, the agent bank will hold the accepted bill in its portfolio for account of the London bank and, at maturity, will present it to the acceptor for payment and will collect the face amount in French francs, possibly by a bank draft or a cheque, or, in the case of very small amounts, in actual currency, and these French francs are credited to the account of the London bank. In other words, the London bank's "Nostro" account in Bordeaux (or the Bordeaux agent's "Vostro" account of the London bank) is credited with the net amount due to the London bank. The customer here may wish to use these francs in the purchase of French goods, in which case the bank will transfer in its own books a certain number of French francs to the credit of its customer to the debit of its "Nostro" account. The francs are then at the disposal of the customer on "Foreign Currency Account." If, however, he wants the French francs turned into sterling, the London exchange dealer has to buy them from him as if they were a T.T. because the francs are already to his credit, probably by this time with a "back value," meaning that he has received credit "value" some prior date to the date on which he is actually operating. The customer loses perhaps two days' interest, because the francs will have been credited to the London bank on, say, the 23rd, while the letter advising the entry does not arrive in London until the 25th, and the customer's account is not credited with sterling until the 25th. The London dealer buys the francs at his buying price for T.T. plus his margin of profit, and credits his customer with the sterling equivalent. Before the net amount of francs is arrived at, the local agent in France will have deducted the cost of any French stamps on the bill, his own commission, and any extra commission because the bill has documents attached. The resulting net amount will be credited to the London bank's account, and the London bank will, on receipt of the letter of advice, either deduct a further commission or will allow for that commission in the rate at which it buys the francs.

Collection of Bills Drawn on Foreign Centres in Sterling.

In the case of bills in sterling on other centres we have a rather different process. Supposing we have a bill at 90 days' sight on

Valparaiso, in Chile, drawn in sterling by a London drawer on a Chilian drawee. The bill, according to the custom prevalent in the South American trade, will almost certainly bear an exchange clause, and *an exchange clause is a phrase included in the wording of the bill directing the method of payment.* The object of the exchange clause is to throw the risk of any loss in exchange from the drawer to the drawee, and in the case of the South American trade the clause is nearly always "*payable at the collecting banker's selling rate for 90 days' sight drafts on London.*" Your bill is again handed over to the London banker by the drawer or customer, and sent out by him by post to his agent in Valparaiso. The agent there presents it to the drawee for acceptance and again holds it in portfolio until maturity, but at maturity the bill itself shows how it is to be paid, and that is by means of a 90 days' sight draft on London, to be sold by the collecting banker to the drawee. Consequently the collecting banker fixes a rate of exchange for sterling into local currency at which he is prepared to sell a 90 days' sight return remittance on London. In other words, if the T.T. rate for Chilian pesos against sterling is 25.40, the Chilian bank acting as agent of the London bank will offer to sell a 90 days' sight draft in sterling to the drawee at, say, 25.15 pesos per £, since the buyer will expect to give fewer pesos per £ for a long bill than if he were buying a T.T., while the seller will receive payment at once in local currency, but only pays out sterling in London at some future date.

Therefore, it arranges a rate at which the drawee pays over so many units of local currency and theoretically receives in exchange a 90 days' sight bill on London for the face amount of the original bill, the new draft being handed back to the bank in exchange for the accepted bill. Thus, the exchange is done on the other side, and the London bank eventually receives a bank bill on London for the original amount of the remitted bill, less local stamps and agent's charges. Consequently it has merely to obtain acceptance of the return remittance on its arrival and can then discount it as a first-class bill, crediting the net proceeds, less English stamp and its own commission, to the account of the customer.

In the case of a bill on India, in addition to bearing some exchange clause for the conversion of the sterling into local currency by the local agent and the remittance of a sterling bill in payment, bills

drawn on this side on India often bear an "interest clause," i.e. the full clause will read "*payable at the collecting banker's selling rate for sight drafts on London plus interest at (for example) six per cent per annum from the date hereof until the approximate date of arrival of funds in London.*" That means that the collecting agent has to estimate on what date his return remittance will arrive in London, and, taking the date of the bill, work out the interest for so many days, i.e. the number of days from the date of the bill to the approximate or estimated date of arrival of the return remittance in London. This interest is calculated at the rate per cent per annum stated on the bill and that amount is added to the sterling amount of the bill. The total is then converted into local currency at the rate of exchange at which the agent is willing to sell a sight draft on London. The local drawee not only has to provide enough local currency to buy a sterling remittance for the face amount of the bill, but also has to pay an amount of local currency sufficient to purchase the additional amount of sterling required to cover the interest included in the return remittance, which latter will be for a larger amount than the face value of the bill, though the agent will deduct local stamps and his own charges. Therefore, the drawer will eventually receive the face amount of the bill plus interest at the agreed rate, but less charges since the London banker will collect the sight draft sent as a return remittance by his agent, will deduct his own commission, and then credit his customer with the resulting net amount.

In the first instance the London banker buys the French francs which have been credited to his account after the bill has been collected in the foreign centre and he has received advice of credit. In the second case, the London banker receives eventually from his Valparaiso correspondent a 90 days' bank bill drawn on some London bank, which can be discounted as a prime bank bill, and the customer then receives the amount of that bank bill, less discount, less all charges, and less the London banker's commission. In the case of the Indian bill, the London banker receives a sight draft for more than the face amount of the bill in settlement, presents that draft for payment, and will deduct from the gross amount only his own charges, crediting the customer with the resulting net amount, which will be the face amount of the bill plus interest, less charges. In all these

cases, the customer waits until his London banker receives the proceeds in one form or another before he gets any payment whatever, and that is the principle of "collections."

The "Negotiation," or Purchase "With Recourse," of Bills on Foreign Centres.

The "negotiation" of a bill means that the London bank "negotiating" a bill is in fact purchasing it or discounting it. When a customer presents for purchase a long bill or an undue bill in a foreign currency, the exchange dealer works out a "long" rate or a "tel quel" rate, to arrive at the "present value" of the bill. He is purchasing the bill from his customer and pays ready money for it. It becomes his property and all rights in the bill pass to him, but, of course, he only buys "with recourse" to the customer.

We have seen how he compiles his long rates and tel quel rates when dealing with a bill in a foreign currency. Occasionally you come across a bill in sterling drawn on a foreign centre which bears the clause "*exchange as per endorsement.*" That simply means that the negotiating banker here fixes such a rate of conversion into the foreign currency as will give him a sufficient amount of foreign currency to cover not only his present payment to the drawer here but his loss of interest, foreign stamps, agent's charges, and his own profit. In other words, he works out a "tel quel" rate for the bill on the assumption that he will have to bear a certain loss of interest, agent's charges, and foreign stamps. Take the case of a bill drawn in sterling on Germany bearing the "exchange as per endorsement" clause, due possibly in 42 days' time; the banker would say "I am ready to buy T.T. at 20.42 marks to the £. I must allow for forty-two days' interest at the German discount rate—remember to take the rate ruling in the *foreign* centre—and I must allow for $\frac{1}{2}$ per mille German stamp, $\frac{1}{4}$ /₁₀₀ agent's charge, and $\frac{1}{16}$ % profit. I want more marks to the £ to cover all these charges, therefore, I will convert the sterling into marks at, say, 20.51, the extra nine pfennigs being the total cost per £ of all these various charges." If the bill is for £100, he writes on the back "remitted for collection to such and such a bank, payable at the rate of 20.51 per £," and on the front he writes, over the amount of £100, "2,051 marks," and the bill then becomes a bill for 2,051

marks. The drawer here receives at once his £100 because the banker discounts the bill at once, but passes on the costs to the drawee in the rate of conversion. By receiving 2,051 marks in 42 days' time, based on his T.T. buying rate of 20.42, the banker will be receiving 9 marks extra to cover loss of interest, stamps, agent's charges, and profit.

A "Flat" Rate of Negotiation for Bills in Sterling on Foreign Centres, with an "Exchange Clause."

In the case of a sterling bill bearing one of the other various forms of "exchange clauses," which require a "return remittance" to be made in sterling, the banker negotiating, or purchasing, such an instrument is using sterling funds for a certain time which will eventually come back to him in the form of sterling. He is, therefore, in reality making a sterling advance to the customer against the security of the bill until he receives the "return remittance" in the shape of a sterling T.T., sight draft, or "tenor" draft and it is customary for him to work out a "flat" or "all-in" rate for the purchase, "with recourse," of such instruments.

The "flat" rate of negotiation in such cases is a rate per centum *absolute*, i.e. an *ad valorem* percentage, and not a percentage per annum. The buying banker estimates that he will be making an advance in sterling at the appropriate rate per cent per annum for the period from the date of purchase until the return remittance arrives back in London and is either immediately payable or accepted and so becomes discountable. He therefore begins by calculating an absolute, or *ad valorem*, percentage on this basis, e.g. if he estimates that he is making an advance for 122 days and his rate per cent per annum for such advances is 6 per cent per annum, the absolute rate per cent for the period is $\frac{1}{3}$ of 6 per cent, which is 2 per cent "flat." He then calculates a "flat" or absolute rate per cent for the currency of the return remittance, where this is to be by a "tenor" draft, on the basis of the estimated London discount rate which will then be current for such paper, e.g. a 90 d/s return remittance would have 93 days to run after sighting, and, taking this roughly as a quarter of a year, if the probable London discount rate for such paper were to be estimated at 4 per cent per annum, this would give a "flat" rate for the second part of the operation of

1 per cent absolute. He then allows for foreign and home stamp duties, agent's charges, and his own profit and builds up the total "flat" rate thus—

122 days at 6% per annum is	.	.	.	.	.	2%	flat.
93 days at 4% per annum is	.	.	.	.	.	1%	"
Foreign stamps on original bill and on return remittance,							
each at $\frac{1}{2}$ ⁄ ₁₀₀ making 1⁄ ₁₀₀ , is	.	.	.	.	.	$\frac{1}{2}$ ⁄ ₁₀₀	"
Agent's charge, of, say, 1⁄ ₁₀₀ is	.	.	.	.	.	$\frac{1}{10}$ ⁄ ₁₀₀	"
Home stamps at $\frac{1}{4}$ ⁄ ₁₀₀ is	.	.	.	.	.	$\frac{2}{10}$ ⁄ ₁₀₀	"
Profit at, say, $\frac{1}{4}$ ⁄ ₁₀₀ is	.	.	.	.	.	$\frac{1}{4}$ ⁄ ₁₀₀	"
Total "flat" rate for negotiation is	.	.	.	.	.	<u>3$\frac{1}{2}$</u> ⁄ ₁₀₀	

The banker would then deduct 3½ per cent from the face value of the bill which would represent the same result as if all the operations had been worked out individually.

Applying these principles to the case of the bill on Valparaiso, for instance, it is sent by the London bank to its agent, but it cannot be "sighted" until it arrives there and then has to run its full tenor. The return remittance has then to be sent to London before that in turn can be "sighted," so that the London banker is making an advance against the security of the foreign bill until he receives the return remittance from his correspondent. He will, therefore, charge as if he were making a sterling advance for the period from the date on which he negotiates the bill until the date when the return remittance arrives in London, because as soon as the return remittance arrives it can be presented for acceptance, sighted and turned into a negotiable bill, discounted, and the proceeds received right away, whereby the London banker can then reimburse himself. So the London banker considers that he is making an advance of sterling from the date of purchase until the date when the return remittance arrives back in London, and for that advance he wishes to charge a certain rate per cent per annum. Now, instead of working out the interest for so many days at so much per cent per annum on the amount of the original bill and then working out so many days at so much per cent on the amount of the return remittance, which amount is uncertain, the buying banker will fix a "flat" rate of negotiation based on the estimated length of time during which he will be out of his money as a sterling advance, and the estimated value of the return remittance when it does arrive. As you will see from the example, taking a bill

which has 122 days' estimated time, including time of mailing both ways and of the currency of the bill on the other side, he takes first of all 122 days at 6 per cent per annum. For the purpose of this illustration, the figures given need be only approximate and the respective percentages have not been exactly worked out. Taking 122 days as a third of a year, a third of 6 per cent is 2 per cent. Therefore 122 days at 6 per cent gives 2 per cent as your "flat" rate for this part of the operation. When the return remittance arrives it will have 93 days to run, and if the banker estimates that the rate of discount for such paper will then be 4 per cent per annum, taking 93 days as being roughly a quarter of a year, he will allow for one quarter of 4 per cent, which is 1 per cent absolute, and he therefore adds 1 per cent to his "flat" rate. Next, foreign stamps on the original bill when it arrives, which the collecting agent has to pay, and also on the return remittance, means two sets of foreign stamps at $\frac{1}{2}^0/00$ each, and for this the banker allows $\frac{1}{10}$ of 1 per cent. The agent's charge of, say, $1^0/00$ is also $\frac{1}{10}$ of 1 per cent; home stamps on the return remittance at $\frac{1}{2}^0/00$, and the profit of $\frac{1}{4}$ per cent must all be allowed for in arriving at the total "flat" rate to be applied to the original bill. The eventual total of all these items is $3\frac{1}{2}$ per cent, and this is the absolute or *ad valorem* percentage rate which is the "flat" rate of negotiation. If the "flat" rate is $3\frac{1}{2}$ per cent, you would deduct £3 10s. from a bill for £100, or £17 10s. from a bill for £500, and so on. The resulting net amount is the "present value" of the bill and is paid over to or credited to the account of the customer.

Notice the difference between the collection and negotiation of bills. Where a bill is "collected," the customer waits for the proceeds until the bank itself has received them. Where a bill is "negotiated," the bank pays out money at once to the customer and allows in its buying price for the loss of interest and other charges which it may be incurring, because it will not itself receive the proceeds until some time later.

CHAPTER V

FORWARD EXCHANGE; "SWAPS"; "OPTION" FORWARDS; CALCULATION OF "LONG" RATES BASED ON "FORWARD" RATES

A "FORWARD" rate of exchange is a rate which is fixed *at once* between two parties for an exchange operation which will be completed only at a future date as agreed between the parties at the time the contract is entered into. Unless a "margin" of security is demanded by one party, no money passes between them until the date of completion of the contract.

An "Option forward" rate of exchange is a rate fixed at once between two parties for an exchange operation to be carried out at some future date, but which, under the contract, can be completed at the option of one of the parties on any date between two agreed and specified dates settled when the contract is made. Any "forward" contract must be completed eventually and the "option" is an option only as to the *date* of the eventual completion and not as to the *actual* completion of the contract.

TABLE OF "FORWARD MARGINS"

	1 Month	2 Months	3 Months
Amsterdam (b)	7- $\frac{1}{2}$ c.	11- $\frac{1}{2}$ c.	17-1 $\frac{1}{2}$ c.
Berlin (a)	1-1 $\frac{1}{2}$ pf.	1 $\frac{1}{2}$ -2 $\frac{1}{2}$ pf.	2 $\frac{1}{2}$ -2 $\frac{1}{2}$ pf.
Brussels (b)	4-3c.	6-5c.	8-7c.
Madrid (b)	5-3c.	8-6c.	9-7c.
Milan (a)	7-9c.	13-16c.	20-23c.
New York (b)	3 $\frac{1}{2}$ -1 $\frac{1}{2}$ c.	8-3 $\frac{1}{2}$ c.	17 $\frac{1}{2}$ -2 $\frac{1}{2}$ c.
Paris (b)	18-16c.	30-28c.	38-36c.
Zurich (b)	3 $\frac{1}{2}$ -2 $\frac{1}{2}$ c.	4 $\frac{1}{2}$ -4c.	7 $\frac{1}{2}$ -6 $\frac{1}{2}$ c.

(a) Over "spot," i.e. discount. (b) Under "spot," i.e. premium.

The margins shown are in terms of the subsidiary unit of the currency concerned or in fractions thereof. Where the margin is at a discount, as in the case of Berlin, the rates quoted mean that for reichsmarks for delivery one month from date the margin is "sellers at 1 pfennig over spot" and "buyers at 1 $\frac{1}{2}$ pfennige over

spot"; for delivery two months from date, sellers offer $1\frac{3}{4}$ pfennige over spot while buyers ask $2\frac{1}{4}$ pfennige over spot; and for delivery three months from date, sellers offer $2\frac{1}{4}$ pfennige over spot while buyers ask $2\frac{3}{4}$ pfennige over spot. The margin is either *over* spot, that is at a discount, or *under* spot, that is at a premium. Discount means cheaper, premium means dearer, and if the forward is at a discount, the outright forward is cheaper than the spot. If, therefore, people will buy spot and sell forward cheaper than the spot, it must be because spot is more useful in the other centre than at home. Therefore, the centre where a discount on forward exists is the cheaper centre. If London shows forward marks at a discount, it is because interest rates are higher in Germany than in London. If London shows New York at a premium it is because there are people wishing to sell spot dollars and buy forward, and, therefore, London interest rates are higher than in New York. Premium means that the home centre has a higher interest rate than the foreign centre. Discount means that the home centre has a lower interest rate than the foreign centre.

The market quotations are for the standard periods of one, two, or three months from spot date, but it is always possible to obtain quotations for up to six months from spot date or for any "broken" period in between, e.g. if the spot date is 6th July, the usual quotations would be for delivery on 6th August, 6th September, and 6th October, but rates could be obtained for, say, 6th November, or 6th January, or 22nd August, or 31st December, etc. The rates for periods other than those normally quoted are not always in strict proportion to the normal rates, and an outright buyer should expect to pay rather worse and a seller to obtain rather worse than the strictly proportionate rate for a "broken" period.

Returning to the example above, if the market quotes the spot (or T.T.) rate on Berlin as 20.50–50½ per £, the market "outright" forward rates for the recognized periods would be—

	Sellers	Buyers
T.T.	20.50	20.50½
1 month forward	20.51	20.51½
2 months forward	20.51¾	20.52¾
3 months forward	20.52½	20.53½

These rates are obtained by adding to the rate at which dealers are willing to sell T.T., the margin which they are prepared to give away to sell forward, and by adding to the rate at which they are prepared to buy T.T. the margin which they require over spot if they are asked to buy forward.

In the case of, say, the Madrid rate, for which the forward margin is at a premium (under spot), the "outright" forward rates in the market, taking the T.T. rate as 52.87-88, would be—

	Sellers	Buyers
T.T.	52.87	52.88
1 month forward	52.82	52.85
2 months forward	52.79	52.82
3 months forward	52.78	52.81

These rates are obtained by a seller deducting from the rate at which he is willing to sell T.T., the margin he requires in his favour for selling forward, and by a buyer deducting from his buying rate for T.T., the margin he is willing to give away for buying forward.

In order to show clearly the difference between "outright" or "fixed" forwards and "option" forwards, the following table gives the rates which might be quoted by a bank to a customer for each class of operation, based on the first table given above—

	Sellers	Buyers
T.T.	20.50	20.50 $\frac{1}{2}$
1 month forward fixed	20.51	20.51 $\frac{1}{8}$
1 month forward option	20.50	20.51 $\frac{7}{8}$
2 months forward fixed	20.51 $\frac{3}{4}$	20.52 $\frac{1}{2}$
2 months forward option for period	20.50	20.52 $\frac{3}{4}$
Option over 2nd month only	20.51	20.52 $\frac{1}{2}$
3 months forward fixed	20.52 $\frac{1}{2}$	20.53 $\frac{1}{2}$
3 months forward option for period	20.50	20.53 $\frac{1}{4}$
Option over 2nd and 3rd months	20.51	20.53 $\frac{1}{4}$
Option over 3rd month only.	20.51 $\frac{3}{4}$	20.53 $\frac{1}{4}$

Note how the bank gives away the smallest possible discount for selling any "option" forward but takes the full discount for

the period, when buying, whether the purchase is of a "fixed" or an "option" forward.

The following table gives the corresponding rates based on the second of the earlier tables—

	Sellers	Buyers
T.T.	52.87	52.88
1 month forward fixed	52.82	52.85
1 month forward option	52.82	52.88
2 months forward fixed	52.79	52.82
2 months forward option	52.79	52.88
Option over 2nd month only	52.79	52.85
3 months forward fixed	52.78	52.81
3 months forward option	52.78	52.88
Option over 2nd and 3rd months	52.78	52.85
Option over 3rd month only	52.78	52.82

Note here how the bank dealer always takes the worst possible view of the delivery date when *selling* and so allows himself the largest possible premium; but when *buying*, he takes the view that an option may be exercised at the earliest date possible and so gives away the smallest premium possible, while when the option starts from the spot date, he gives away no premium whatever but only buys at his spot buying price.

On the Stock Exchange, an "option" is actually an "option to deal." A person who purchases, say, the "put option" on a certain share pays cash for the right to sell the number of shares dealt in, at the price fixed by the contract. His "option" purchase price is recoverable, all or in part, only by a favourable movement in the price of the shares by the time he exercises his option. If the price of the shares has not moved or has moved unfavourably, he is not compelled to deal but can merely say "good-bye" to his "option money"! In the case of an "option forward" in foreign exchange, however, a bank will not permit a customer to speculate nor will it speculate itself by giving a customer an "option to deal" in foreign currencies. It will give him an option as to *when* he will deal, but it will not allow any option as to the eventual completion of the contract. If you wish for a certain margin of time as to the date of completion to be allowed you, the bank will agree to sell to you or buy from you an amount of foreign currency which you may

take up or deliver on any date between two dates or over a stated period which is arranged at the time of making the contract. That is the only option accorded to the customer—*an option as to the date of completion of the contract*. A forward contract is quite as binding as any other simple contract, and must eventually be completed. In the case of any forward contract, if the customer does not complete, the bank buys in or sells out the currency against the customer *at the then current rate of exchange* and charges his account with any loss.

Now, in the case of an option asked for by a customer, the banker must obviously consider that the customer will exercise the option at the most unlikely moment. In other words, if forwards are at a discount, the customer buying forward will expect to receive more foreign currency per pound in the case of "currency" rates, because the forward is at a discount. But, if he contracts for an option for a period, the banker must consider that the customer will exercise the option at the earliest possible date, and so will become entitled only to the smallest amount of discount. Should the customer actually not exercise the option until the end of the option period, the bank is, of course, the gainer, but the bank cannot take this view as, by giving away the full discount for the whole period, it would be the loser should the customer exercise the option at an earlier date. It will therefore give away only the minimum amount of discount to which the buying customer would be entitled if he took delivery at the earliest date of the option. Where the customer is a seller of currency, the banker must consider that the customer will deliver the currency only at the end of the option, that is, he must take the most gloomy view possible. He will, therefore, take the highest amount of discount on the forward, in case the customer should not complete until the last date of the option. Where the forward is at a premium, and is dearer than spot, the customer selling to the banker an option forward, would receive a premium only for the shortest possible period, because the banker must consider that the option may be exercised at once. On the other hand, where a customer is buying an option forward and the forward is at a premium, the banker must consider that the option will be exercised at the latest possible date, and, therefore, he must charge the customer the fullest possible premium. Really, although it is not actually so, it seems that the

banker is always working against the customer, but he is actually taking the prudent view that the customer will exercise the option to buy or sell forward on the best date for himself, and not for the banker. Therefore, the banker works on the worst date from his point of view, and not on what may prove to be the actual date of completion.

Dealing in "Forwards."

The essential difference between a "forward" rate and a "long" rate is that, in the case of a "long" rate, that is the rate at which a bank will purchase for ready money an undue instrument, the bank pays out money at once and the customer receives the money at once but the bank receives reimbursement for its outlay only when the undue instrument is met. With a "forward" rate, *a rate of exchange is fixed at once between two parties for an exchange operation which will be completed only at some future date.* In other words, an actual exchange of currency will take place on a previously agreed date in the future, but the money passes between the parties only on that date. A bank usually forms one party to the contract and may require the customer to put up a cash margin as security in case the rate of exchange should fluctuate violently in the meantime and the contract should not be completed by the customer at maturity, thereby involving the bank in possible loss. But that is only a margin of security and is not a payment in respect of the actual "forward contract." The first thing we must notice about "forward" rates is that a bank being usually one party to the contract, and since in this country leading banks do not speculate in exchange, the bank must take immediate steps to cover its exchange risk under such contracts. If, for example, a bank sells 100,000 marks to a customer for delivery in three months' time at the rate of 20 marks 42 pfennige per £, at the end of three months the bank must deliver to the customer 100,000 marks, receiving payment in sterling at the rate of 20.42. Supposing the bank does nothing, after completing that contract, but waits for the date of completion, and the spot rate for T.T.s in marks is then 20.39, it has undertaken to deliver 100,000 marks at the rate of 20.42 per £ but, by that time, it can buy spot marks only at the rate of 20.39 per £, which would show a loss of 3 pfennige per £. Obviously no bank dealer would take that risk

in any forward contract, and all such contracts with another bank or customer are immediately covered in one way or another. As has already been stated, a great part of the profits of a foreign exchange dealer is made by setting one class of exchange operation against another. One customer will offer to the foreign exchange dealer a foreign long bill for negotiation, which means that the dealer will have foreign currency to receive at some future date for which he must pay cash at once. On the other hand, another customer may wish to buy that same foreign currency for delivery on a future date, and the dealer can sell "outright forward" currency to the second customer, against the eventual proceeds of the long bill which he purchased from the first customer. A purchase of T.T. may be covered by the sale of cheque, or the purchase of coupons may be covered by a sale of T.T., and particularly in the case of "forwards," it is more the exception than the rule for an "outright forward" to be covered by another "outright forward." Normally, the bank dealer will work in T.T. against "outright forward" deals with customers. One uses the expression "outright forward" to describe an operation consisting solely of a "forward" purchase or sale of foreign currency. Where a "forward" deal is combined with a "spot" deal, as where a dealer buys spot T.T. and sells forward T.T. to the same amount in the same currency, the double operation is known as a "swap."

" Swaps."

Where an exchange dealer has bought or sold "outright forward," he will usually cover his exchange risk by an immediate sale or purchase of spot, since he can always find a ready market in spot, whereas it might take some time for him to find an exact counterpart to his "outright forward" deal and the spot rate (which is his basis of calculation for his forward rate) might move against him before he could secure the exact cover. Having covered himself by dealing in spot, he can then proceed, if he wishes, to turn the spot into forward by carrying out a "swap" of spot against forward "at a margin." But for him to do this, there must be some one who wishes to carry out a "swap" of a reverse nature. Let us now examine why people should be ready to buy, say, spot dollars and re-sell them three months' forward, or *vice versa*.

Bear in mind that finance now is international and floating funds

are moved freely from one world centre to another in normal times. An abnormal crisis, such as we have recently passed through, cannot be taken as a fair criterion of what normally goes on, but the principles remain the same. Under reasonably normal conditions a person having funds at his disposal, particularly a finance house or a bank, can use those funds in any principal centre of the world with perfect safety, and the centre in which he will use the funds is decided by the return shown to him on the use of the funds there. The return shown is obviously the relative interest rate. If, therefore, prime bank bills in New York can be bought only at a discount rate of $2\frac{3}{4}$ per cent per annum, whereas first-class bills can be bought in London at $3\frac{1}{2}$ or $3\frac{3}{4}$ per cent per annum, obviously a person having funds in New York, which he wishes to invest in prime bank bills, would prefer to use those funds in London if he could. If he uses his dollars to buy sterling at the rate of, say, \$4.87 per £, and uses the resulting sterling for 3 months at one per cent per annum better than in New York, in 3 months he has made $\frac{1}{4}$ per cent profit. If, in the meantime, the dollar appreciates and has become dearer when he tries to re-convert his pounds into dollars, he may find that he will get only \$4.85 to the £, whereas he had to give \$4.87 for each £, in the first place. He has therefore lost 2 cents on every £. Now a loss of 2 cents for three months is 8 cents a year, and 8 cents for one year on 4.87 is very nearly 2 per cent per annum. Consequently, against an interest gain of 1 per cent per annum, he has made a loss on exchange of nearly 2 per cent per annum, and his operation has been turned from a profit into a loss by the movement in exchange. But if he can find some one who will take from him spot dollars against sterling, and will re-sell the dollars to him for delivery in three months' time, also against sterling, he can cover his exchange risk by selling spot dollars at one price and buying back his dollars forward at a price which is fixed there and then. In that case, any fluctuations in exchange which may take place no longer affect him, but the margin he will give away in order to obtain spot sterling against forward sterling depends entirely on the interest gain he will make by investing his funds in London.

The Basis of Forward Margins.

If, therefore, we have only 1 per cent per annum difference

between New York and London, obviously the investor will not give away 1 per cent per annum to do his "swap," because if he did he would be giving away the whole of his possible profit, so he may start with an offer of $\frac{1}{2}$ per cent per annum margin, in favour of the person who is to give spot sterling and take it back 3 months forward, and $\frac{1}{2}$ per cent per annum for 3 months on a rate of 4.86 is $\frac{1}{8}$ per cent of this rate which is, roughly, $\frac{1}{8}$ of a cent. This means that he is prepared to buy pounds at the rate of, say, \$4.86 to the £, and to buy back dollars against pounds, receiving only \$4.85 $\frac{3}{8}$ per £. On the other hand, the person who is being asked to exchange sterling for dollars for 3 months will do so only if it is worth his while. It has been mentioned that banks here have to "feed" their accounts abroad by maintaining balances there, and it may often suit them to have the use of a foreign currency for a limited period, with the knowledge that the eventual rate of re-conversion of the foreign currency into sterling is already fixed. The force of competition on both sides will, however, force would-be takers of dollars to accept less than the actual interest difference and would-be takers of sterling to offer an increasing portion of their interest gain in the shape of a forward margin in order to induce holders of sterling to part with it. Therefore, if you take the margin between spot and forward and turn it into a rate per cent per annum, whichever centre is offering to give the margin is the cheaper centre, and the other centre will have a comparative rate of interest which shows more than the margin between spot and forward. If the margin represents 1 per cent per annum, the comparative difference in interest rates will be at least 1 $\frac{1}{2}$ per cent—possibly 2 per cent per annum, because there would be no object in transferring funds from the cheaper to the dearer centre if all the gain has to be given away in the form of the forward margin.

Note particularly the method and object of expressing a forward margin as a rate per cent per annum by means of the spot rate, and *vice versa*, since the difference in the relative rates of interest ruling in two centres should be the basis of the forward margin ruling between them.

Other Factors Affecting Forward Margins.

Very often the forward margin is moved by speculative influences, and should it move under such conditions to an undue extent,

investment may take place which would not otherwise have been possible. For example, at the time of writing, let us assume the necessary amount of confidence by New York in London, and, incidentally, by London in New York, and see what should happen under existing conditions. First-class bills in New York can be purchased at $\frac{7}{8}$ per cent per annum, but only at $1\frac{1}{8}$ per cent per annum in London, therefore, there is practically no inducement for the transfer from one centre to the other on this basis alone. If anything, funds should flow from London to New York, and one would expect the forward margin to be at par with spot. But because there is a certain confidence abroad in the future of the £ and a certain amount of speculation for a rise in the £, "outright" forward dollars are being offered against sterling in the hope that, by the time the forward date arrives, dollars will be so much cheaper in terms of the £, that is, that the £ will have appreciated so much, that they can buy back their dollars as spot and receive more dollars to the £ than they are at present selling. This speculative forward selling has forced the forward margin out of all proportion to what is justified by the current interest rates. In point of fact, 3 months' forward dollars have recently been dealt in at $3\frac{1}{2}$ cents over spot, that is, at the rate of 14 cents for a year, which is nearly 4 per cent per annum on a spot rate of about \$3.67 per £. Therefore an owner of spot dollars can sell them for spot sterling and can, at the same time, obtain a rate of re-conversion of the sterling into dollars for completion in 3 months' time, which shows a margin of $3\frac{1}{2}$ cents in his favour for the period, or a gain at the rate of 4 per cent per annum. With the spot sterling, he can buy bills in London at only a little under the rate ruling in New York, but he is making nearly 4 per cent per annum profit because of the disproportionate forward margin.

"Swap and Investment" and "Swap and Deposit."

Such an operation is known as a "swap and investment." You "swap" one currency for another and you invest in the foreign centre the currency you have purchased, for the period of the "swap." A similar class of operation is that known as a "swap and deposit." For instance, a German bank may wire to a London correspondent, "Will you take spot marks against 3 months at 10 pfennige in your favour, leaving the marks on deposit with us

at 4 per cent per annum?" That is to say, the German bank wants to sell spot marks against sterling and re-convert that sterling into marks in 3 months' time, but does not want to pay out the marks to any other bank. The London banker is, in effect, giving the foreign banker a loan of sterling for 3 months against the security of foreign currency held by his debtor. Apart from any question as to whether or not such an operation can be considered as good banking according to British banking policy, it usually affords a high rate of profit to the London banker. The discount on forward marks which he receives, of 10 pfennige for 3 months, is at the rate of 40 pfennige for a year, which is nearly 2 per cent per annum on a spot rate of, say, 20.40, while he is also to receive 4 per cent per annum on the mark deposit, making a gross yield of 6 per cent per annum. If Bank Rate here is $3\frac{1}{2}$ per cent, he could obtain only $4\frac{1}{2}$ per cent on advances in sterling at the best, so that he makes $1\frac{1}{2}$ per cent per annum more by using sterling in a "swap and deposit" operation in Germany. Such operations may work well under normal conditions, but should a financial crisis arise in the foreign centre, the result appears to be a standstill agreement or a moratorium!

Covering "Outright" Forwards.

Students sometimes find difficulty in understanding the method of, or the reason for, a bank buying or selling T.T. when it has dealt with a customer in an "outright" forward and why it is more easy to deal in T.T. as immediate cover than to search round the market for the counterpart to an outright forward deal. It should be remembered that most forward operations are initiated by an investor, that is, a person who wishes either to buy sterling to use for temporary investment here, or to sell sterling against foreign currency to use that foreign currency for temporary investment abroad. In other words, the basis of all forward markets is the investment operation of "swapping" one currency for another for a fixed period. Even under the present abnormal conditions one can usually find, in the principal currencies, persons who are ready to "swap" one currency for another by buying ordinary re-selling forward for a fixed period, but it is more difficult to find a counterpart to an "outright" forward order. Consider also any one who has an "outright" forward order to execute in the foreign centre and

on trade or on speculative account, will usually make sure of securing a basic rate by buying or selling a spot T.T. and will then proceed to turn that into an "outright" forward cover by carrying out a "swap." For example, let us suppose that London market rates for U.S. dollars are $3.63\frac{1}{2}$ – 3.64 for spot T.T. and $1\frac{1}{2}$ –2 cents discount for the 3 months' forward margin, which gives an outright 3 months' forward rate of 3.65 – 3.66 , and that a London banker sells 3 months' outright dollars to a customer at $3.64\frac{1}{2}$. If he starts a broker going round the market trying to buy on his account so many dollars for three months' delivery outright at even 3.65 , the broker may have considerable difficulty in finding the exact counterpart in the course of a few minutes. In the meantime, a seller of spot may appear and the spot rate may move up from $3.63\frac{1}{2}$ – 3.64 to $3.64\frac{1}{2}$ – 3.65 . In that case the rate for the eventual outright forward will become better for the buying bank, because the forward rate is based on spot, and if the spot rate rises the outright forward rate also rises. On the other hand, if a big spot buyer appears and the rate goes down to $3.62\frac{1}{2}$ – 3.63 , even if the broker succeeds in getting the outright forward at $1\frac{1}{2}$ c. over the spot rate, he will only get it at $1\frac{1}{2}$ over $3.62\frac{1}{2}$, which is 3.64 instead of 3.65 . Therefore, the contracting bank has made a loss of $\frac{1}{2}$ c. instead of a profit, through the movement in spot and because of the difficulty of finding *immediately* in the market an exact counterpart to an outright forward deal. Bear in mind that forward margins against spot are based primarily on the relative interest rates in the two centres, but that they can be pushed out of proportion by speculative operations. Neither of these conditions, however, is likely to alter so suddenly as to cause widely different forward margins to be set up in a moment, whereas a sudden rush of buyers or sellers of spot currency can move the spot rate even 1 per cent in a few seconds. Moreover, the outright forward rate is calculated on the basis of the spot rate and by operating at once in spot, this basic rate can be fixed and the operator rendered immune from subsequent fluctuations in the spot rate. In the case suggested, therefore, a banker, having based his outright forward price on a spot rate of $3.63\frac{1}{2}$ – 3.64 , would at once proceed to cover his basic risk by buying spot dollars at $3.63\frac{1}{2}$ before the market moved one way or the other. Having done this, he can then carry out a "swap," by selling 3 months' forward, at the margin of 2 pence.

current in the market, and his broker is far more likely to find an immediate response to a suggestion of a "swap" than to a suggestion of an outright forward deal. The margin between spot and forward does not vary to anything like the same extent as the spot rate itself; because spot moves up and down there is no reason why the forward margin should vary more than a little, since it is based primarily on the difference in interest rates and secondly on speculative operations which will probably continue in force or at least continue to affect the forward margin for the short period during which the operating banker is covering in spot and then doing a "swap." If he buys spot at $3.63\frac{1}{2}$, which is the market's selling price, and then sells spot and buys forward at a margin of $1\frac{1}{2}$ cents in his favour, which is again the market's margin for selling forward, he has eventually secured his outright forward at 3.65 since his purchase of spot is offset by his sale of spot against buying forward. He is independent of any fluctuations in the spot rate as soon as he has bought in his spot as cover, and thereafter is concerned only with the forward margin, and his possible loss through an adverse movement in this margin before his "swap" is completed is very much less than that which he might incur by wide movements in the spot rate.

Long Rates Based on Forward Rates.

You must remember that speculative or investment operations are undertaken in view of possible changes in the economic, political, or financial outlook of a country, and that these factors may move the forward margin to what is really an uneconomic level—that is, to a level at which it does not represent anything like the interest difference as between two centres. Customers, particularly large customers, nowadays are so well acquainted with the principles of foreign exchange and the methods of snatching a little extra profit here and there, that unless you, also, are prepared to work very closely you would find that you are missing business, and that it is going to other people who are quoting better rates, perhaps because they are more alert, or perhaps somewhat more inclined to do their best for the customer. When calculating an ordinary long rate, we have seen how a banker assumes that he sells T.T. as cover for his purchase of a long bill in a foreign currency. He also assumes that he immediately sends the bill to the foreign centre and

re-discounts it at the rate ruling there, thus providing himself with the necessary spot funds to meet his sale of T.T. But usually, of course, he uses some T.T. which he has in hand, that is, he finances it himself out of his foreign currency funds, but he assumes that he re-discounts the bill and so bases his rate of interest on the discount rate in the foreign centre. If he has T.T. in hand he may use it, but if he is short of spot he may sell an outright forward as cover for that particular purchase. In point of fact, it is sometimes more profitable to sell an outright forward than to sell T.T., as the latter course either makes him go overdrawn or lose the use of it for the period. Consequently, we can build up a long rate on the basis of the outright forward rate as easily as we can build it up on the basis of spot. If we build it up on the basis of spot we assume that we re-discount the bill at the rate of discount ruling in the foreign centre. If we base it on the outright forward price for the currency we must consider that we are using sterling for the period, because, in any event, we have to pay out sterling with which to purchase the bill. If we sell T.T. as cover, we get back sterling for the sale of T.T. as compensation, but we are out of the use of the foreign currency. If we sell foreign currency forward as cover we are out of sterling until the purchaser of that outright forward pays us over the sterling in exchange for the foreign currency. Therefore, if you build up a long rate on an outright forward basis you must consider that you are using sterling, and the rate at which you will be prepared to make a sterling advance to discount a sterling bill of such a class is the rate you must use in calculating your loss of interest. There is no difference in the method of calculation. From the following example you will see that it is merely a difference in the rate of interest used and a difference in the basic rate from which you are building up. Instead of building up from the T.T. rate, you build up from the outright forward rate, and instead of using the rate of interest ruling in the foreign centre, you use the home rate of interest for discounting such a class of paper. Consequently, if your forward margin is more favourable to the customer than is the difference between the interest rates, you must get a better rate for the customer as a result. In that example you will see there is one Dutch cent per £ difference in the long rate of 12.15 $\frac{1}{8}$ florins per £ obtained by the usual method, and the long rate of 12.14 $\frac{3}{8}$ florins per £ obtained by

using sterling at the home rate and selling outright forward as cover, and building up your long rate from that outright forward sale.

In the ordinary course, the forward margin will not allow you to work in that way, because, as explained earlier, the person who wishes to transfer funds from a low interest centre to a high interest centre will not give away the full margin of profit he thereby obtains. If he does so, the operation is not worth undertaking, so that if there is actually a difference of 1 per cent in interest rates, the forward margin will usually represent at the most only $\frac{3}{4}$ per cent per annum. Thus in the ordinary way, any benefit which might accrue to the seller of a long bill by reason of the forward margin in the foreign currency being at a premium, that is, below the spot rate, is more than offset by the higher discount rate which must be ruling in the home centre if a seller of the foreign currency on the spot is prepared to buy it back more dearly for future delivery. Consequently, *it is only when the forward margins have moved out of proportion to the relative difference in interest rates in the two centres, that the method of building up a long rate on the basis of the outright forward rate may prove more advantageous to a customer who is a seller of a long bill in the foreign currency.* The following example illustrates the result obtained in a case where the forward margin, based on the relative discount rates for *bank bills*, shows an advantage to a seller of a foreign *commercial bill*.

Calculation of "Long" Rates Based on "Forward" Rates.

A London banker purchasing a long bill in foreign currency on a foreign centre uses sterling immediately. Normally, he bases his buying price on the assumption that he will at once recoup himself by discounting the bill in the foreign centre at the rate prevailing there for such paper and then selling the proceeds as a T.T. in the foreign currency. It may occasionally prove more advantageous to his customer if he bases his buying price on the assumption that he is lending sterling for the period until the bill is met, and that he will cover his exchange risk by selling an "outright" forward T.T. in the foreign currency for the date on which he expects to receive credit for the proceeds, allowing in his rate for stamps and charges as usual.

Example.

Comparative "long" rates for a 90 d/d commercial bill on Amsterdam. T.T. rate, London on Amsterdam, $12.03\frac{1}{2}-.04$; 3 months' forward margin, $4\frac{1}{2}$ -4c. premium; London discount rate for 90 days' commercial bill, $4\frac{1}{2}$ per cent per annum; Amsterdam ditto, $3\frac{1}{2}$ per cent per annum; Dutch stamp duty $\frac{1}{2}\%$; London banker's profit, $\frac{1}{2}$ c. (360 days taken to the year.)

(a) "Long" rate based on assumption of re-discount and sale of proceeds as "spot" T.T.

Market buying rate for T.T.	. . . . .	12.04
90 days' interest at $3\frac{1}{2}\%$ per annum	. . . . .	.10535
Dutch stamp at $\frac{1}{2}\%$	. . . . .	.00602
Banker's profit	. . . . .	.005
Total "long" rate	. . . . .	<u>12.15637</u>

(b) "Long" rate based on assumption of use of sterling and of sale of eventual proceeds as an "outright" forward T.T. "Outright" 3 months' forward could be sold in the market at 12.04 (market's buying price for "spot" T.T.) less 4 cents premium (market's buying price for 3 months' forward), making 12.00 net.

∴ "Outright" forward rate	. . . . .	12.00
90 days' use of sterling at $4\frac{1}{2}\%$ per annum on 12.04	. . . . .	.13545
Dutch stamp at $\frac{1}{2}\%$	. . . . .	.00602
Banker's profit	. . . . .	.005
Total "long" rate	. . . . .	<u>12.14647</u>

∴ In the first case, the banker could quote his customer a rate of only $12.15\frac{6}{10}$ at best, whereas in the second case he could quote a rate of $12.14\frac{6}{10}$ at best.

The rates of interest given predicate Bank Rates of 4 per cent in London and 3 per cent in Amsterdam, but if the London rate were effective and bank bills could only be discounted at, say, $3\frac{3}{4}$ per cent per annum, while money was easy in Amsterdam and bank bills could be discounted there at 2 per cent per annum, the "forward margin" would approximate to the difference between these market rates of discount, which would account for the premium on "forward" florins of $4\frac{1}{2}$ -4 cents per £, or about $1\frac{1}{2}$ - $1\frac{1}{4}$ per cent per annum.

CHAPTER VI

EXCHANGE DEALINGS; "ARBITRAGE" AND "CROSS RATES" CONSTITUTION OF THE LONDON FOREIGN EXCHANGE MARKET; A "SPECIMEN" DEAL IN THE MARKET

We can now proceed to examine the actual dealings of the foreign exchange operator in a London bank, not only in the London market but in the markets of the world.

Dealing in the Market.

We saw how a dealer must rely on the existence of a "market" to be able to quote to a customer, immediately, rates at which he will buy and sell all classes of instruments. In every principal centre of the world there is, more or less, a Foreign Exchange Market, and, to-day, the world is practically one Foreign Exchange Market, because telephonic and telegraphic facilities are so far-reaching, so instantly available, so easy and rapid, that a change in a rate in one centre is almost immediately reflected in other centres, since each centre is continuously being linked up with every other centre. Consequently, an exchange dealer really has the whole world before him as a market in which to cover. If the London market does not contain dealers willing to provide the counterpart to any operation, he has telephone calls coming through to him almost every few minutes from all the principal centres, not only in Europe but in other continents, or cables from North and South America and the Far East, to which centres he can, if necessary, put through a telephone call. Thus, in a relatively short time, he can search out practically the whole world in order to find out the best centre in which to cover whatever operation he has in hand. Therefore you must visualize the exchange dealer as a man with an international outlook, a man with an international touch, combining an operation in one centre with an operation in another centre, and always on the look-out to snatch a margin of profit as between the rates ruling in one centre and another.

"Arbitrage."

Now, this snatching of a profit between centres is known as

“arbitrage dealing in exchange.” The term “arbitrage” is applied to the simultaneous buying and selling of any commodity in two or more centres, whether you are dealing in francs, dollars, coal, wheat, rubber, or any other commodity. You can “arbitrage” in rubber between New York and London, or between London and Batavia, or between Paris, Singapore, and London, and it merely means that you take advantage of any difference in the price of the particular commodity which is ruling in one centre and the price ruling for the same commodity in another centre at the same moment. In the case of foreign exchange, it is the price of any currency ruling in two or more centres at the same moment, the prices of the currencies being the rates of exchange. If London quotes Paris as $92\frac{3}{4}$ and London quotes New York as 3.64 and Paris quotes New York as 25.43 francs per dollar, you can, by a simple calculation, work out how many dollars you would obtain in Paris by buying francs at the rate of $92\frac{3}{4}$ per £ and using those francs to buy dollars at 25.43 or whatever rate is quoted. If the operation is carried out and it shows you more dollars to the £ than you can obtain by buying at 3.64 in London, you at once proceed to sell sterling for francs by buying francs in London or Paris and using the francs to buy dollars in Paris. Simultaneously, you may sell dollars in London, or New York, against sterling at the then existing price. That is the essence of arbitrage, immediate quickness of action, and there should be no lengthy gap between your purchase of a currency at the existing rate and the sale of the currency at the same existing level of rates. If you wait, the chances are that other people, because they are up and doing, will snatch the same margin of profit or push the margin against you, and it may disappear altogether, leaving you with an adverse market. Therefore, it is essential that the exchange dealer, in the course of his business of quoting rates, should keep in the closest touch, not only with clients and all the branches, but with all the other principal world centres, and this is the most strenuous part of the exchange dealer's life.

Arbitrage in exchange may therefore be defined as the simultaneous buying and selling of any currency by means of operations carried out in two or more centres and against another currency or other currencies. Where only two currencies and the two relative centres are concerned, the operation is known as “direct” or

“one-point” arbitrage. If more than two currencies and centres are involved, it is known as “indirect” or “circuitous” or “two- (or three-, four-, etc.) point” arbitrage.

Cross Rates.

A “cross rate” is the rate of exchange between two currencies which are being expressed in terms of a third currency, e.g. in considering the exchange rates for French francs and U.S. dollars each in terms of the £, the “cross rate” is the rate for U.S. dollars in terms of French francs or for French francs in terms of U.S. dollars.

Examples.

If London on Paris is $89\frac{9}{16}-\frac{5}{8}$ per £ and London on New York is $3.52-\frac{1}{4}$ per £, then the “cross rate” between Paris and New York should be about 25.44 fcs. per \$;

If London on Amsterdam is $8.76-.77$ per £ and London on New York is $3.52-\frac{1}{4}$ per £, then the “cross rate” between Amsterdam and New York should be about 2.49 fl. per \$;

If London on Zurich is $18.23\frac{1}{2}-.24\frac{1}{2}$ per £, and London on New York is $3.52-\frac{1}{4}$ per £, then the “cross rate” between Zurich and New York should be about 5.18 Swiss francs per \$.

If arbitrage operators find that the actual quotations in the relative centres differ from the “cross rate” obtained from the two home quotations, they will endeavour to snatch a profit by buying, say, dollars in the cheaper centre and selling them in the dearer, e.g. if dollars could be bought in Paris at only 25.43 fcs. per \$, the operator would buy dollars in Paris, sell them in London for sterling, and use the sterling to buy French francs in London or Paris with which to pay for his purchase of the dollars in Paris.

These examples show you how the rates for various currencies may be expressed in other centres. The “cross rate,” as is stated there, is merely the rate linking two currencies which are already expressed in terms of a third. If, as was said earlier, Paris is $92\frac{3}{4}$ and dollars 3.64 per pound, and dollars in terms of francs are 25.43 francs per dollar, the latter is the “cross rate” between francs and dollars in Paris. In New York they would quote cents per franc, or dollars per 100 fcs., and this “cross rate” between New York and Paris would be, say, $3.93\frac{3}{8}$ dollars per 100 francs. The exchange dealer endeavours always immediately to cover any operation

either at home or in another centre, whichever shows the greater margin of profit, and a continuous comparison of these cross rates with those ruling in his own and in other markets is an essential part of his job.

Constituents of the London Market.

To illustrate the business of a dealer rather more fully, an attempt will now be made to describe to you how business is carried on in the London Foreign Exchange Market. It must be remembered that the Foreign Exchange Market does not exist physically as does a market such as the Stock Exchange. It is an undefined area and comprises all those banks, financial houses, and brokers who deal in foreign exchange, but there is no formal "membership" such as is the case with the Stock Exchange. The only form of admission to the Foreign Exchange Market is the general acceptance by the existing members of the market of any new member who may propose to deal or desires to put himself forward in an attempt to deal. If a new name in the shape of a bank, accepting house, or financial house endeavours to deal in the market it can soon be frozen out simply by the existing members refusing to "take the name." Similarly with the other constituent of the London Foreign Exchange Market—the foreign exchange broker. Unlike, for instance, the stockbroker, he need not submit any application or go before any committee or official body to become an exchange broker, but unless he has a certain amount of support from a bank or banks in the market he cannot obtain a footing, solely because no one will listen to him. Admission is brought about only through the general acceptance by existing members of a new member.¹

The Foreign Exchange Broker.

Foreign exchange brokers are not, strictly speaking, *members* of the market, they merely link together the members of the market. The broker is not a dealer; he is only a broker and acts only as an agent bringing buyers and sellers together. He works on a commission basis only. He must not work as a principal, and must not deal for his own account. If a banker finds a certain broker is buying or selling foreign currency for his own account, even if he uses the name of a bank to cover his operations, the banker will usually refuse offers of business from that broker since he cannot

¹ But see addendum, facing this page.

be sure whether the broker is carrying on his proper function of acting only as an agent or whether he is, in reality, dealing as a principal. The "members" of the market are those banks, accepting houses, and financial houses, who by custom have been accepted as "market names." They, and they alone, are generally recognized as being dealers in and members of the Foreign Exchange Market. They are the main constituents of the market, but their desires to deal with each other are greatly facilitated by the intermediary of the exchange broker, whose sole object is to bring buyers and sellers together. In accordance with the modern tendency towards specialization and because a better service can thus be rendered to his clients, the exchange broker usually specializes in certain currencies only. Thus, one broker will deal only in dollars; another in French francs, Belgian belgas, and Italian lire; another in Scandinavian, Swiss, and Spanish currencies; another in Far Eastern; and others, again, in South American currencies, and so on. The bank dealer, as will be seen, refers continually to those various brokers, putting one in competition with another, and dealing with the brokers in whom he has the greatest faith, or perhaps one should say, the least lack of confidence!

Method of Dealing in the Market.

Formerly the method of dealing in London was mainly at the bi-weekly meetings in the Royal Exchange, on Tuesdays and Thursdays, but business in these days has become so much more extensive and active and exchange operations have to be carried through with so much greater rapidity as compared with former times, that the once familiar gathering of eminent gentlemen with top-hats and spats, who met with some dignity, and without any undue haste, has given way to the conduct of modern exchange business in a somewhat hectic rush through the medium of the telephone and the cable. It is not the general custom in London for banks to be directly connected with each other, and only in a few instances are representative offices of the American banks, or Dutch or French representatives (as distinct from branch offices), directly connected by telephone with the leading London banks. The bulk of the business in the London market is carried out through the intermediary of the brokers, and these latter install and maintain private telephone lines to their clients, the market

members, and expect to recoup themselves and make their livings out of the business which they can extract by means of these lines.

There is no compulsion placed upon a dealer to deal with any broker who may install a private line to him, and whether business is active or not depends entirely on the broker's own ability and upon the impression he makes on the dealer in question. A good broker will generally have the goodwill of the dealers; dealers will "open up" to him and tell him what they want him to do, and the more he knows as to what people want to do, the better is he able to quote prices. On the other hand, there is no compulsion that can be exercised by a dealer to force a broker to stand by his price. The broker simply quotes a price to the best of his ability. However, in reply to a quotation from a broker, the dealer says "Are you firm?" that is as much as if he said to the broker "Have you definite dealers?" If the broker says "Yes" and the dealer "takes him" at either of his quoted prices, the broker is expected to give or take at least a small amount of the currency at the price stated even if the dealer on whom he relied turns out to be no longer interested in that particular currency. That is the broker's only responsibility—to be sure of the people behind him. When he quotes "firm," he must be able to go back to the buyer or seller and do the business, not necessarily for the amount which the inquiring dealer has offered to him or bid him for, but for a reasonable amount. If the broker fails to exercise good judgment and, as a result, continually "lets down" dealers who have traded on his prices, he will find his business disappearing and he may even be "given a rest" for any period from a day to a week or more by a really aggrieved dealer, who then simply refuses to answer the broker's line for the period of the punishment. A broker's main asset is to know how much faith he can place in the dealer, and, in the same way, a dealer must know how much faith he can place in the broker. All is done by word of mouth, and mutual trust and confidence and goodwill are the essentials of the smooth working of the market. In view of the speed at which business in the market is carried on and of the opportunities for misunderstandings and trouble, the number of actual disagreements is amazingly small. But presumably all those in the business acquire in time a certain philosophy and quickly cease to expect the best

from their fellows, looking rather for the worst! Then the "lets down," whether of a dealer by a broker, or of a broker by a dealer, all become part of the day's work, and only in the case of persistent and glaring offenders on the brokers' side is the "give him a rest" punishment adopted by one or more of the complaining dealers. The broker has no means of punishing any dealer and must submit to any number of "lets down" with the best grace he can muster. His only reaction to such treatment is that he will, as far as possible, avoid making firm prices to such a dealer and will give any preference which may be possible in the course of business to dealers who treat him more kindly. The sole aim and object of the broker is to keep in the closest possible touch with his clients, the bank dealers, by means of his private lines, so as to have buyers and sellers of the currencies which he quotes, ready to hand or at least to have an idea of likely buyers and sellers. The more successful he is in doing this, the more often is he able to quote a "two way" price in which he is "firm both ways," and the broker who can most frequently "stick to his prices" is the broker to whom the dealers will pass most business.

A Specimen Deal.

It may be convenient here to mention the various steps from the initiation to the final completion of an exchange deal carried out by a bank dealer in the London market. Let us assume that Martins Bank, London, has the Liverpool office on the 'phone and that the latter is, in turn, holding on to a customer who wants a quotation for the sale to him of fifty thousand U.S. dollars. The dealer at Martins Bank, London, at once rings at least two of his dollar brokers, one after the other, and asks, "What are dollars?" One broker may reply, "Three sixty two and a quarter a half," meaning $\$3.62\frac{1}{4}$ sellers, $\$3.62\frac{1}{2}$ buyers, while another may say, "Either side of sixty two and a half; would like to try either way at the price," meaning that he is uncertain of his market but might find either buyers or sellers at $\$3.62\frac{1}{2}$. At the same time there is almost sure to be a trunk call to a continental centre being taken in the office of Martins and the dealer will call to his colleague taking the call, "What is he calling dollars?" and assuming the call to be to Paris, his friend may reply "Forty one to two," meaning that dollars in Paris are 25.41 francs per dollar buyers

and 25.42 sellers. Working out this cross rate on the basis of the London market rate for French francs, the dealer may find that this also shows dollars to be about $3.62\frac{1}{2}$, and all this will have taken perhaps sixty seconds. He thereupon turns back to Liverpool and says, "I can give you your dollars at 3.62, might improve a fraction." The Liverpool man promptly passes on the rate to his customer, who may either accept or refuse right away or may say that he will ask for another quote later, which means that he will probably try some other bank in the meantime. If he accepts at once, the Liverpool man says to his London dealer, who will have been waiting on the 'phone for the answer, "Right, I take fifty thousand dollars at 3.62." London replies, "Very good, I sell you fifty thousand dollars at three sixty two, ordinary value." This means that Liverpool will instruct London to pay over to a stated bank in New York for account of a stated customer the sum of fifty thousand dollars, and that this payment will be made, on instructions cabled by the London office to its New York agents, on the second day after the date of the deal, this being the customary "value date" for "money here and there" in the case of dealings in U.S. dollars in London. On the same date, London will debit Liverpool with the sterling equivalent of the dollars sold and the latter will also debit its customer to the credit of London.

As soon as the deal is completed, London is in the position of having engaged to pay out \$50,000 in New York in two days' time against sterling to be debited to Liverpool office on the same day. In accordance with the principle of never "running a position," the London dealer must at once proceed to cover this engagement, which we will assume he does in the London market. Naturally wishing to make the largest margin of profit for his bank on the deal, he will go back to the first broker who quoted him $3.62\frac{1}{4}-\frac{1}{2}$ and say "I'm on the top for fifty," meaning that he is a buyer of \$50,000 at $3.62\frac{1}{2}$, since for some time there has been an agreement not to deal in "eighths" in the London market, and he cannot therefore bid $3.62\frac{3}{8}$. He will also ring the other broker and say, "Try and offer me fifty at a half." The first broker, having already a "firm" or at least a probable buyer at $3.62\frac{1}{2}$, will merely note the new order and will not change his price, but the second broker will at once call to his colleagues, "Martins wants the offer of fifty at a half," and they will all proceed to

ring their respective clients, asking them for the offer of fifty thousand dollars at $3.62\frac{1}{2}$.

By market custom, a "firm" order is held to have expired and to require reference before execution after the lapse of a few seconds only, at the most one minute, and the request for the offer or the bid for a currency is not, of course, a "firm" order at all. In any event, it is the broker's duty to keep on referring to any prospective dealer and to advise him of any success, or want of it, or of any change either in the actual current quotation or even in the "feel" of the market. Thus the second broker may come back to Martins' dealer and say, "I can't find any at a half; a quarter seems to be the best of it at the moment," while the first broker may come back and say, "Nothing better than a quarter yet and I'm not too firm there now." If, in the meantime, the dealer has had other continental calls and has found that dollars are inclined to be bid for, he will decide to take his profit while he can and will ring the first broker who made him a "firm price" originally and say, "All right, I'll take fifty at a quarter," meaning that the broker is to try to find a seller of \$50,000 at $3.62\frac{1}{2}$. In a few seconds the broker will ring and perhaps say, "I'm awfully sorry; I'm afraid I've missed them at a quarter," in which case the dealer will hurriedly ring his other dollar brokers in the hope of finding that one of them is still a seller at the price. Note that the broker in question can no longer be considered by the dealer as "firm" since he was not taken immediately on his original quotation but, for his own sake, he will have done his best to find another seller at the price should his original seller be no longer interested. Finding that there are no sellers about at the moment and not wishing to make the market too strongly bid, the dealer may withdraw his bids from the brokers and say that he is no longer interested, hoping by this to induce sellers to come forward if they think that the buyer is not too keen, or to pick up the dollars in the course of other trunk calls or from small orders from private customers.

That, however, is a pessimistic tale, so let us assume that the first broker, on receiving the firm order to buy at a quarter, comes back and says, "I've bought you fifty dollars at a quarter from the Chase." This means that he has rung the dealer at the London office of the Chase National Bank of New York saying, "I want

fifty dollars at a quarter," to which the dealer there has replied, "Right, who to?" To this the broker replies, "To Martins," and the deal is clinched. Note that the name of the buyer is not disclosed to the seller, or of the seller to the buyer, until the bargain is actually agreed to in that a seller accepts a firm bid or a buyer accepts a firm offer. This custom is jealously guarded in order that no dealer shall learn of the operations of another without dealing with him and, moreover, it is considered a betrayal of confidence to talk of business concluded between two parties to a third party who was not actually concerned in the deal.

At this stage of our example, Martins Bank has agreed to purchase from the Chase National Bank, \$50,000 at 3.62½ for delivery "ordinary value," which is two days ahead in the case of U.S. dollars, through the intermediary of a certain broker but, so far, everything has been done by word of mouth. The broker will now make an entry in his day-book, showing particulars of the deal, and will then at once make out, and send round by hand, "contract notes" to both buyer and seller. These notes show whether currency has been bought or sold, the amount, the class of remittance (T.T., G.M.T., M.T., etc.), the centre in which the currency is to be payable, the value date, the rate of exchange fixed between the parties, the name of the seller on the "bought" contract and of the buyer on the "sold" contract, the name of the broker and the amount of his commission. The commission is usually payable by both parties equally, except in the case of some Eastern currencies, and the scale for every currency is fixed from time to time by a committee of exchange dealers in consultation, to some extent, with leading brokers.

In the meantime, each of the two dealers will have made an entry on his "position sheet" and will have made out "dealer's slips," which give the particulars of the deal. These slips are passed to clerks whose duty it is to complete the final details, which means that they must telephone one to the other to find out which bank in New York will pay over the dollars for account of the seller and which bank will receive the dollars for account of the buyer (this is known as "exchanging instructions," but many banks have "standing instructions" with each other), work out, and have checked, the sterling equivalent, pass entries debiting the "Nostro" account and crediting, say, "Bankers Payments,"

and *vice versa*, send out cabled instructions to the agents in New York to pay and receive the dollars respectively, send to each other typed and signed confirmations of all the details of the deal, including the sterling amount and the "instructions," and check the broker's contract note, when it arrives, with their own entries.

On the second day after the deal, Martins Bank will issue a bankers payment, to the debit of whatever account was credited, for the sterling equivalent of \$50,000 at \$3.62½ per £, and will send this round by hand to the Chase National Bank. On the same day, during New York banking hours, the New York agent of the Chase will pay over, by means of a bankers payment, the sum of fifty thousand dollars to the New York agent of Martins Bank and the payments are thus "compensated" and the deal finally completed. We have seen how Martins Bank wanted the dollars to cover a sale to the Liverpool office and the Chase National Bank will have executed some counter operation to cover its sale of the dollars to Martins. The dollar receipts and payments of each may balance, and they will be left with a difference in sterling payments issued and received which represents their profit—or occasionally their loss!

CHAPTER VII

LIFE IN THE LONDON FOREIGN EXCHANGE MARKET

A MANAGER under whom the author once served, a brilliant Frenchman, once said, in the course of a talk to the staff, that a man who engaged in foreign exchange either went mad or committed suicide! After some years of experience, one might amend this and say that no man who is no more than a little mad would ever think of engaging in foreign exchange! There can be no other profession, business, or trade in which the work is so exacting or conducted at such high pressure for long periods together with a corresponding severe mental strain, which is far more fatiguing than any prolonged physical effort. Certainly, like the War, one gets used to it to some extent, and the job has a fascination which is all its own, but let any aspiring cambist ask an old hand whether or not he shall come into the business, and the chances are that he will receive the reply which is often given by the benedict of many years' standing to a would-be groom—"My boy, you don't know how well off you are now"! Perhaps the glimpse of life in the market which the following paragraphs will try to depict may give the reader some idea of the constant strain which is placed on all those who are actively connected with the business of buying and selling the currencies of the world.

In the "Dealing Room" of the Exchange Department.

Imagine yourselves in the dealing room of a large London bank. You will find an imposing array of electrical apparatus, either the old-fashioned Post Office switchboards of the drop-indicator or "doll's eye" type, with "plug-in" contacts, or more probably the all-electric "French" boards, which are flat like a table and which consist of several "positions" of groups of studs, pressure on which establishes contact with the private line, and on which ringing is also done by stud pressure. Each "position" is a replica of the others, the one private line being connected to each, and there may be four to ten "positions" according to the size of the business of the bank and the number of dealers needed. Above

each stud are two tiny lamps, one red and one green. An incoming call lights the red lamp and an outgoing call lights the green lamp, the same signal showing on all the "positions" together. Against the wall will be the "relay cabinet" containing all the connections between the table and the Post Office private lines, as well as a fearsome-looking switch and meter panel complete with fuses, while on the floor is a cased-in dynamo feeding the massive accumulators which are housed in another wall cupboard.

The lines on the table will be not only to brokers but also to a few of the chief branches and closely connected other banks, to certain special customers, and to the leading cable companies, so that messages can be 'phoned direct between exchange and cable operator, thus saving the time spent by a boy messenger in dashing to and fro, as one so frequently sees them. The table will be further encumbered by several "public lines," that is, the ordinary public telephone instrument which is connected to the main switchboard of the bank, by "house" telephones, calculating machines of varying kinds and uses, and cable forms and books, private codes, letters, rate pads, scribbling pads, blotting pads, and even felt pads to prevent the elbows of the dealers' coats from becoming too shiny!

The tendency to specialization is also carried out to some extent by bank dealers. Their chief dealer will, of course, exercise general supervision, but will also specialize in one of the leading currencies, usually U.S. dollars. His second man will be mainly responsible for the next most important group, say French francs, Belgian belgas, and Italian lire, with Swiss francs and Dutch florins thrown in. A third assistant will look after the "exotics," such as the Central European and South American currencies, and so on. Another assistant will be a linguist and do nothing much else but take trunk calls, either incoming or outgoing, while yet another will have the duty of answering branch and customers' inquiries—a somewhat unenviable job! In times of stress, however, specialization goes by the board and each must be ready to jump to the help of another in case of need or to concentrate on dealing in any currency which is particularly active at the moment. The need for "team work" was never better exemplified than in the case of the foreign exchange dealing room and, from long experience, the author can assure our big banks that they have every reason to be

proud of the *esprit de corps* and team spirit shown by their exchange dealers.

In a Broker's Office.

The "lay-out" of a broker's office is much the same with either Post Office or French boards and several public 'phones, but the calculating machines are missing, as brokers are not concerned in any way with the sterling equivalents of the amounts of foreign currency in which they deal—except when they get "caught up" on a price and have to "cut out" at a loss!

Starting the Day.

The bank dealer, on the way to his office, will have studied the morning's news in the shape of financial and political or economic happenings in all the principal countries of the world, since a detached and panoramic view of world conditions is an essential to a proper estimation of the probable course of exchange rates, and the dealer must try to anticipate movements rather than to be caught unawares by them. On arrival at the office, he will find on his desk a batch of de-coded cables mostly giving the closing rates in foreign centres on the previous business day, and he also uses these in trying to plot the possible coming changes in rates. There may also be some "best orders," that is, orders from customers or banks at home and abroad to be executed at the best rate possible. For the sake of his connections, the dealer always tries to obtain the best rate possible for his client so as to draw further business, which certainly would not happen if such orders were consistently "slaughtered." More probably, what orders there are will be for execution at stated limits, that is, the order will contain a maximum or minimum price at which the purchase or sale is to be effected and it will invariably conclude with the optimistic plea, "or better," meaning that the London dealer is to try to improve on the limit given. These orders may also help him to get the trend of a market. For example, a batch of limit orders from all parts of the world to sell Spanish pesetas will warn him of a probable "bear" attack on that currency with a consequent fall in the value of the peseta. As we saw earlier, however, London rates are mainly ruled from abroad, and the dealer will not come to any definite conclusions until his first

trunk calls have come through. Swiss banks start work at 8.0 a.m., and as Swiss time is ahead of ours, they have been working for some little time before we start, and the first calls are usually from some Swiss centre or else from Paris where dealers will already have been in touch with Switzerland. As soon as any proposals of business begin to be made by the dealers in any of these centres to the London dealers, the London market begins to get to work.

The brokers, in the meantime, have nothing to guide them in composing "opening" rates except the closing rates in foreign centres published in the morning papers. They are not in direct touch with any foreign centre and can quote only tentative rates until a friendly dealer "opens up" and offers to buy or sell at a certain price. Consequently, there is a good deal of fencing going on between 9.30 and 10.0 a.m., and it is not often that a market in any currency has been established before the latter hour. From then onwards, rates are being constantly amended by brokers as they are challenged by dealers, and the latter will challenge the London price as soon as they find any margin between that price and a price ruling in any other centre with which they are in touch. The whole business is carried on at top speed the whole time, as fast as the words can be uttered and as fast as each conversation can be finished and another begun. You must therefore understand that the conversations in the examples which follow take place at least as fast as they can possibly be read if they are to be at all intelligible to you and that, in every dealer's and broker's office, a number of people are carrying on differing conversations about various currencies simultaneously and yet all must contrive to hear what the others in the same office are saying about other currencies in case a change is taking place which will affect another or other currencies.

"Opening the Market."

First, the head dealer in a bank. After placing due value, or lack of it, on the opening rates from his brokers, he may hear:

From a colleague on a "trunk": "Geneva bank calls London 23 to 4 and dollars 17 to 18. Do you want to do anything?"

Dealer: "Let's see. That's 52½ to 3 for dollars. Evitt (*a broker*) calls them either side of 3, might come, but he's only guessing I know. Still, see how many he wants at 17."

Colleague (to Geneva bank): "I might give you a few dollars at 17 and a half." (Just to see if the Swiss man is keen.) Then to chief dealer: No. He's only small at 17, wants twenty (20,000) that's all."

Dealer: "All right. Give them to him just to do a business."

Colleague (to Geneva bank): "All right. Twenty dollars I give you at five seventeen." After a pause, to chief: "O.K. That's done."

Dealer books the deal on his sheet and makes out a slip. In the meantime, he has been in touch with several brokers and had to answer inquiries from other colleagues, such as—

"Amsterdam here, want to know how you'll take spot florins against three months."

"How do you deal in marks, sir, for Birmingham branch?"

"A broker here wants to know if you can use dollars for to-day against Thursday."

"Old So-and-so is on grousing about the rate you took his Finmarks at yesterday. Says *The Times* highest is 293½ and you charged him 295."

One could multiply these *ad lib.* but this is enough to show you the need for very quick and chameleon-like thinking on the part of the dealer.

As to the market, let us assume that the small sale of dollars against Swiss francs has been done "on tendency," that is, the dealer senses a cheapening of dollars against other gold currencies. He will at once try to sell his Swiss francs, probably in Paris, where there is a good market for that currency. He is prepared to wait a few moments before buying in his dollars and indeed, at the present time, it is customary to regard a long position in any gold currency as covered by a short position in any other gold currency, since the margins of fluctuations in the cross rates for such currencies are limited to the still effective gold points, whereas the inconvertible currencies, of which the pound is at present one, may move without any limit whatever. In the course of the next trunk call or two, he sells, or a colleague sells, the Swiss francs in Paris for French francs. The London brokers call Paris 89¾-½ and dollars are now 3.53-½ and looking offered according to the brokers.

“ Making Prices.”

The dealer therefore rings one of his leading “Paris” brokers and says—

“What are you now?”

Broker: “Still three-eighths a half, I think.”

Dealer: “Give you half a million at a half.”

Broker: “One second, sir.” (A pause, the length of which depends on the success, or lack of it, which the broker is having.)

Dealer, having heard nothing from the broker for over a minute, rings again, “Well, what about it?”

Broker: “Just give me another second, old man, I think it’s going here.”

Dealer: “No, don’t bother. I can use it myself.” This just to make the broker think that he is no longer interested and so that he can ring another broker.

Dealer (to second broker): “What’s Paris with you?”

Broker: “Either side of a half, might pay.”

Dealer: “Give you a half a million at a half.”

Here we may watch the broker at work. As soon as the man attending to that particular dealer receives such an order, he calls to his colleagues, “Give you a half at a half, Cornhill bank.”

Immediately, the four, six, eight, or more operators in the office each ring their respective clients in succession saying: “At a half I sell half a million,” or “Give you half a million at a half” or some such phrase. This is where good team work in the broker’s office is even more essential than in the dealer’s office, since, if they are all offering “firm” and two of them are “taken” by different dealers at the same moment, the half million francs will have been sold twice over. In such a case, either one operator will appeal to the friendship and good nature of his dealer client to let him off the bargain or, if both the dealers insist that the deal was done, the broker’s firm is “caught short” of half a million Paris and must at once endeavour to buy it in, if possible at the same price, when a different “name” is substituted to the dealer to whom a “name” is owed, or it is “cut out” at the minimum loss possible and a cheque for the difference sent to the buying dealer.

Listen again to the brokers’ chorus of, “Paris I give at a half.” In a few seconds, a bank dealer may say, “Five-eighths I pay.” At once the chorus is changed to “A half five-eighths I deal,” and

the "board" is swiftly covered by each operator advising the section of clients whom he serves. The man who took the first order to sell must now go back to the dealer and report his lack of success. The dealer may say, "All right, I'm still there," or he may say, "Well, don't take me firm any longer," or even "Nothing to do then. Take it off." In the latter case, the operator will call to his colleagues, "No longer there at a half," and the new slogan goes running round, "Either side of a half; might still come, but shaky." Then another dealer finds a slight tendency to bid for francs in some continental centre and rings the broker saying, "I'd like the offer at a half." At once, the rate is changed and becomes "Either side of a half, might pay," or, taking the bull by the horns, "Three-eighths a half in Paris." If the tendency is correct, before long a dealer will ask, "How much have you got at "three-eighths?" and the cry is once again changed to "three-eighths in the middle, would like the offer at the price." And so the game goes on, prices changing every few seconds, but a deal being pulled off only here and there.

Not only are inquiries for the "spot" rate coming in nearly as fast as they can be answered, but demands for forward rates and cheque margins are interspersed, often at inconvenient moments. Imagine the feelings of a broker who has just got "caught up" with a half million Paris or fifty thousand dollars, and who knows that every second may make all the difference between bringing off a deal or making a loss, when a client rings, is answered feverishly in the hope that he is going to put a question about spot which may save the situation, and the actual inquiry is "What was the boat to New York last Friday?" or, "Just run through the forwards from one to six months for me, will you?" Sometimes broker and dealer are so friendly that the former can reply, "Let me come back in a tick, old boy, I'm caught up at the moment," and the dealer will wait for his inquiry to be answered a little later, but often the broker dare not risk giving offence and has to give the required information as cheerfully as he can, but fretting inwardly and with a severe strain on his self-control. He, like the bank dealer, must be prepared for all sorts of conundrums to be fired at him such as, with "spot" date, say, 23rd March, "What would you make 15th April against end August?" or, "How could I sell cheque delivery and payment end June?" or, "How can I buy

to-day and sell to-morrow and sell to-morrow and buy ordinary?" The broker makes answer to the best of his ability, but, nine times out of ten, the dealer is asking only as a check on his own rate, which he has already worked out and, in any event, no responsibility attaches to the broker making such prices except that, should the bank dealer be misled by them, and carry through a deal based on a price which later proves to be hopelessly wrong, the broker will, without doubt, hear a good deal about it!

As, even after more years of experience than he cares to think about, the author still finds something to learn about the business every day, it is obviously impossible to give more than a very faint idea of the hectic life of the exchange market in busy times such as the present, but it is hoped that enough has been written to give readers some knowledge of how prices are made and of how market deals are carried out.

In conclusion, it must be emphasized that the present book is nothing more than its title conveys, namely, that it is an introduction to the practice of foreign exchange. It is sincerely hoped, however, that the reader who has plodded through to these last lines will have had his (or her) interest in the subject stimulated sufficiently to make the reading of other more comprehensive works on the subject not only more intelligible but also more interesting and even enjoyable.

INTRODUCTION TO THE PRACTICE OF FOREIGN EXCHANGE

ADDENDUM

SINCE this book went to press, a further effort has been made to regulate the status and functions of the foreign exchange brokers working in the London market. For a few years during the post-war boom an association of brokers existed which endeavoured to control the actions of its members and had a committee which negotiated with a semi-official committee of bankers regarding market practices and working. This association suffered from lack of official recognition by the banks and eventually broke up, after which the only method of deciding market problems or points of mutual interest was either by arbitrary action on the part of the banks or by a canvass of leading parties on both sides.

Immediately on the suspension of gold payments by this country in September, 1931, an emergency committee, representative of the clearing banks and of the Dominion and foreign banks in London, was formed at the request of the Bank of England. This committee, finding itself faced with the necessity of making provisions requiring the co-operation of banks and brokers alike but with no authoritative body of brokers with which to consult and advised that the brokers' association should be re-constituted. On an assurance being obtained from the banks that any new association of brokers would receive complete official recognition and that the committee of bankers should also possess official status, a new body was formed under the style of "The Association of London Foreign Exchange Brokers." A comprehensive set of regulations has been drawn up and, at the time of writing, is in course of being accepted by both sides. If the object desired by responsible parties amongst both banks and brokers is attained, the banks will acquire a certain control over the functions and actions of the brokers, while the latter will acquire something of a professional status which has hitherto been theirs only in practice and not in theory, together with some

assurance that admission to their ranks will be rendered far easier than before, and that a definite standard of conduct and ability will be demanded from them, which will tend to attract the same class of recruits as the older professions.

In the opinion of many, besides the author, a high degree of efficiency on the part of exchange brokers is an essential for the continued maintenance of the leading part in world affairs played by the London Foreign Exchange Market, and it is important, therefore, that a reasonable livelihood should be assured to the right type of man for this undoubtedly exacting kind of business. Possibly, in course of time, such an examination as that of The Institute of Bankers will be held to be of as much use and credit to an employe in an exchange broker's office as it already is to men employed by a bill broker, particularly if the international aspect of banking as an exchange continues to be emphasized in the future development of the Institute and similar bodies.

APPENDIX A

QUESTION BY MR. H. E. EVITT ON "PRACTICAL FOREIGN EXCHANGE"

WEDNESDAY, 6TH APRIL, 1932, 6.30-8.30 P.M.

only to be attempted. All questions carry equal marks.)

(Time allowed: two hours)

notes on each of the following—

Reverse Stock Draft,
Money here and there the same day,
Cross Rates,
Guaranteed Mail Transfer, and
Value Date.

exchange ruling in London for 3 m/s bills in a foreign other centre always differs from the rate for T.T.s on plain the nature of this difference and illustrate your ence to the rates for T.T.s and 3 m/s bills normally on New York and Buenos Aires.

the London Foreign Exchange Market, what are its conow is the business of the market carried on? Illustrate describing fully a specimen deal.

er can, at any time, ask his bank to sell to him a draft tre in terms of the relative foreign currency. Explain bank is able to supply such a draft on request and state hich the price at which it will sell the draft depends.

exchange dealer has sold forward to a customer 10,000 r in 30 days' time at 2s. 1d. per yen. The T.T. rate on ondon market is 1s. 11½d.-2s. per yen and the cheque on 30 days), is ½-¾d. under T.T.; money for 30 days is it per annum in London and 4 per cent per annum in ere is no market for forward yen existing at the time. I London dealer cover his sale and why? (Take 360 days is d. charges.)

"flave dealer is asked to quote a competitive rate 6 annuustomer of a 90 d/d bank bill on San Francisco cu. the transexchange market quotes T.T. New York as lon negotiations' forward margin as 1¼-1 c. premium, 3 montom then as per £ for transfers of funds from San of 1/8 c. From the fol could be used in London for 90 days If sterling next highest tive discount rate for the proffered and the rela ained from, ark, what would be the best rate m in New Yc,

for the customer which the London dealer could quote? (In the year, allow $\frac{1}{16}$ c. per £ profit for the London dealer, and expenses.)

7. A London exchange dealer has bought from a customer T.T. New York at \$3.50 $\frac{1}{2}$ per £. The following are the current rates—

T.T. London on New York	3.50
„ London on Paris	89.00
„ London on Zurich	17.96
„ London on Amsterdam	8.65
„ Paris on New York	2 1/2
„ Zurich on New York	n o
„ Amsterdam on New York	ises

What operations should the London dealer undertake to secure the maximum profit on his purchase, neglecting expenses?

8. What do you understand by an "option forward" rate? To whom does the "option" accrue and what is the "option"? Given the following data, at what rates would an exchange dealer sell to a customer French francs for delivery April fixed, (b) 6th May fixed, (c) 6th June fixed, (d) buyer's option 1 month, (e) buyer's option over 2 months, (f) buyer's option 3 months, (g) buyer's option 6th April/6th June, (h) buyer's option May/6th June?

T.T. London on Paris, value 6th March, is 88 $\frac{7}{8}$ -89.00 forward margins, 1 month $\frac{1}{16}$ - $\frac{1}{8}$ discount.
 2 months $\frac{1}{8}$ - $\frac{3}{16}$ „
 3 months $\frac{1}{8}$ - $\frac{1}{4}$ „

APPENDIX B

The arithmetical section of the examination paper in Foreign Exchange, Part II, set at the 1932 examination for the Associate's Certificate of the Institute of Bankers.

7. A London banker sells \$40,000 to a customer for delivery in 3 months' time. His selling rate is based on the London market rates of \$3.76- $\frac{1}{4}$ for T.T. and $\frac{1}{4}$ - $\frac{1}{4}$ c. premium for 3 months' delivery, at which rates he is prepared to deal. He covers himself by buying the dollars in Paris, for the same forward date, at an "outright" rate of 25.53 frs. per \$, and subsequently buys the necessary francs in the London market on the basis of the ruling rates of 96 $\frac{1}{2}$ - $\frac{1}{2}$ frs. for T.T. and $\frac{1}{2}$ - $\frac{1}{2}$ frs. premium for 3 months' delivery. Neglecting expenses and charges, what will be the eventual profit or loss on the operation?

8. If, on 30th November, 1931, the T.T. rate London on New York was quoted at \$3.74- $\frac{1}{4}$ per £, and the forward margins were: 1 month, $\frac{1}{2}$ - $\frac{1}{4}$ c. premium; 2 months, 1- $\frac{1}{4}$ c. premium; and 3 months, 1 $\frac{1}{2}$ -1 $\frac{1}{4}$ c. premium, and a London banker was prepared to deal with his customers at these rates, what rates would he have quoted to a customer who required the sale to him of—

(a) \$20,000 for delivery 31st January, 1932.

(b) \$20,000 for delivery during December, 1931, at his option;

(c) \$20,000 for delivery during December, 1931/January, 1932, at his option;

(d) \$20,000 for delivery during January, 1932, at his option?

Assuming that the customer accepts the quotation for (b), with how much sterling would he be charged on completion of the contract and on what date would this take place if he took full advantage of his option?

9. Bills of exchange drawn in sterling on South American places frequently bear a clause reading "Payable by approved banker's 90 d/s draft on London." Such bills are often negotiated in London at a "flat" percentage rate (i.e. an *absolute* percentage, not a percentage per annum) deducted from the face amount of the bill, the banker treating the transaction as an advance of sterling for the period from the date of negotiation until the return remittance becomes discountable, and from then as an ordinary discount.

From the following data, calculate (a) the "flat" rate of negotiation to the next highest $\frac{1}{8}$, to be used by, and (b) the net amount which would be obtained from, a London banker for a bill for £3,261 14s. 6d., drawn

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from Gothenburg on Rio de Janeiro at 90 d/s and bearing the clause given above; mail period between London and Rio de Janeiro, 21 days; banker's rate for sterling advances, 7 per cent per annum; London discount rate for bank bills, $5\frac{1}{4}$ per cent per annum; Brazilian stamp duty, $3^0/00$; agent's charges, $\frac{1}{4}$ per cent.

N.B. English bill stamps are not allowed for in the "flat" negotiation rate, but are deducted from the proceeds of the bill.

APPENDIX C

MODEL ANSWERS TO THE QUESTIONS.

GROUP A

Q. 1. A REVERSE STOCK DRAFT is a sight draft drawn in respect of a sale of securities by a foreign centre to the home centre, drawn usually by a firm of stockbrokers in the foreign centre on another firm of stockbrokers in the home centre in terms of the home currency, which the home firm desires shall be purchased from the foreign firm, by a payment in the foreign currency in the foreign centre, on presentation of the draft accompanied by the relative securities. The bankers to the home firm must therefore arrange for their agents in the foreign centre to negotiate the draft and stock on presentation, and for the payment out in local funds to be charged to their "Nostro" account with the agents. As they will receive reimbursement only on the arrival of the draft and stock, which will then be presented for payment to the customers, and as such payment will be in terms of the home currency, the bankers are, in effect, selling to their customers an amount of foreign currency for immediate payment, for which they themselves will receive payment in terms of the home currency only at some later date. Consequently, they must allow in the rate of exchange at which they sell the foreign currency to their customers for the loss of interest on the funds used, and also for the cost of posting and insuring the parcel of securities and any charge made by the paying agent or other expenses.

"**MONEY HERE AND THERE THE SAME DAY.**" This is an expression used in the business of exchanging currencies and means that, in respect of a purchase and sale of one currency for another, the paying over of funds in the two centres concerned will take place on the same day so that no loss of interest accrues to either party.

CROSS RATES. This is the term used in foreign exchange to describe a rate of exchange existing between two currencies which are being expressed in terms of a third currency. For example, if French francs are being quoted in terms of pounds as 93 frs. per £, and U.S. dollars are at the same time quoted in terms of pounds as \$3.67½ per £, then the "cross rate" between Paris and New York is the number of francs quoted in Paris per dollar while the "cross rate" between New York and Paris is the number of dollars and cents quoted in New York per 100 French francs.

GUARANTEED MAIL TRANSFER. This is the name given to a special form of credit instrument used in the exchange markets of the world by which instructions are given for the payment over of money on a given date in another centre, which would otherwise have been paid by means of a mail transfer, cheque, or sight draft, so that the payment is actually made on a date previously agreed upon between the parties.

Under an ordinary mail transfer, the buyer pays cash in the home currency at once while the seller sends, by ordinary mail, instructions to his agent in the foreign centre for the equivalent in the foreign currency to be paid out immediately on arrival of the mailed instructions. The date of such arrival, however, is entirely dependent on the punctuality of the train, vessel, or air service carrying the letter of instructions and the allowance for loss of interest which the buyer receives in the rate of exchange may be too little or too much, according as to whether the letter arrives later or earlier than the date used in computing the interest loss. The object of the guaranteed mail transfer is to obviate any such unforeseen loss or gain of interest and *the date on which the payment over of funds in the foreign centre will take place is guaranteed by the seller* for a fixed date agreed upon at the time the purchase and sale of the instrument takes place. The exact gain and loss of interest on the part of seller and buyer can then be calculated and the seller ensures that payment shall actually be made by his agent on the appointed day by sending his instructions by deferred cable instead of by mail.

VALUE DATE. This is a term used to describe the date on which a payment over of funds or an entry to an account is to become or has become effective and/or subject to interest. It is an integral part of international bank book-keeping and of foreign exchange operations.

Q. 2. The reason for the difference which exists between rates of exchange ruling in London for T.T.s in foreign currencies on foreign centres and the rates for 3 m/s bills on the same centres is that with a T.T., payment in sterling is usually received on the same day as the funds are paid out in the foreign centre, so that there is no loss of interest to the buyer of the foreign currency, whereas in the case of the purchase of a 3 m/s bill on a foreign centre, the buyer must pay out sterling at once, but will receive reimbursement only when the instrument has matured and has been collected by his agent in the foreign centre, and the proceeds placed at his disposal so that he can then sell them as a T.T. against sterling. Alternatively, the buyer can send the bill forward to the foreign centre and have it discounted there for what it will fetch at the discount rate for such a class of bill ruling in the foreign centre. He can then at once dispose of the proceeds as a T.T. and so recoup himself for his outlay. In either case, however, the "undue" instrument is not worth its face value to the buyer at the time of purchase, since he must lose interest during the currency of the bill on the amount he has paid for it, or he must accept less than its face value if he wishes to turn it into immediate cash by discounting it at the ruling rate in the centre where it is payable. He will also have to pay the cost of any necessary foreign stamp and any charge which his agent may make for collecting or arranging for the discount of the bill abroad.

In order to obtain compensation for these various losses and expenses, the buyer makes allowances for them in the rate of exchange at which he will be prepared to purchase the 3 m/s bill, and such allowances cause the difference which always exists between the rates for T.T.s and

3 m/s bills in foreign currency on any given foreign centre. The allowances are taken by demanding more foreign units per £ when the quotation concerned is in terms of foreign units per £, or by giving fewer pence per foreign unit where the quotation is in terms of pence per foreign unit and the effect of such altered rates of exchange is to cause a smaller amount of sterling to be paid for the bill than would be given were the funds which it represents to be available immediately. For example, if the rate of exchange ruling in London for T.T.s on New York were \$4.86½ per £, the buyer of a 3 m/s bill on New York would take compensation for his losses and expenses by taking more foreign units per £ thus—

T.T. rate	4.865
Interest for time during which he will be out of funds, i.e. from date of purchase until bill matures (which includes time of mailing, as bill cannot be "sighted" until it arrives on the other side), at rate of interest which it would cost him to turn bill into cash there, which is the relative discount rate ruling in the foreign centre, say 100 days at 4% p.a.	.054
Cost of foreign bill stamp (if any) say ½ ¢/100	.00243
Cost of paying agent's collecting charge, say ½ ¢/100	.00243
	<hr/>
	4.92386

The buyer would therefore require \$4.92½ (roughly) per £ in the case of a 3 m/s bill where he would be content with only \$4.86½ per £ in the case of a T.T.

Where the quotation is in pence per foreign unit, as in the case of the Argentine peso, the buyer would pay fewer pence per foreign unit for a 3 m/s bill than he would pay for a T.T., and would make his allowances thus—

T.T. rate, London on Buenos Aires	48.00d.
Loss of interest from date of purchase for period during which bill is mailed to the other side, "sighted," runs its full tenor, and is collected and credited to the "Nostro" account, at the rate of discount ruling in the foreign centre for such bills (which is the rate at which he would have to turn the bill into immediate cash should he wish to do so), say, 120 days at 6% p.a.	.96d.
Cost of foreign bill stamp (if any), say, ½ ¢/100	.024
Payment of agent's collecting charge at, say, ½ ¢/100	.024
	1.008
	<hr/>
	46.992d

The buyer would therefore pay roughly only 47d. per gold peso for a 3 m/s bill on Buenos Aires where he would be prepared to pay 48d. per gold peso for a T.T.

Q. 3. The London Foreign Exchange Market has no physical existence, but comprises all those banks, accepting, and financial houses who engage in the business of foreign exchange and who are recognized as

"members" of the market. There is now no actual meeting-place, or "bourse," but the business of the market is carried on by telephone between the "members" who, though they are in some cases in direct connection with each other, are mainly in touch with the "foreign exchange brokers" and are only indirectly in touch with each other through the medium of these "brokers." No formalities attach to the acceptance of a bank or other "house" as a "member" or of a person or firm as a "broker" in the market, but any would-be "member" can be prevented from operating by the existing "members" refusing to "take the name," i.e. to deal with the aspirant "house," and any person or firm attempting to establish themselves as "brokers" in the market can meet with success only if the "members" will agree to the installation to them of the necessary private telephone lines and will then listen to, and perhaps make on their side, offers of business with the new "broker." The constituents of the market are, therefore, the "members," or "dealers," and the "brokers" who act as intermediaries. The "dealers" are the principals in the business which passes in the market, and they are authorized to enter into exchange transactions on behalf of the banks or "houses" by whom they are employed. The "brokers" act only as agents between the "dealers" and their function is to bring buyers and sellers together; they must not deal for their own account as principals, but must act as agents only and work for a commission and not for a profit in the rate of exchange. The business of the market is conducted, in the first place, entirely by word of mouth over the telephone or, between the "dealers" and their foreign connections, by telephone, cable, or wireless. All transactions are subsequently confirmed in writing, and, in the case of those deals carried out completely in the London Market, the "broker" concerned will send a written confirmation of any deal to both buying and selling "dealer," and the two "dealers" concerned will subsequently confirm to each other in writing (in the names of their respective "houses") the full particulars of the transaction.

The method of dealing is best illustrated by a description of a specimen deal. The "brokers" are constantly in touch with their clients, the "dealers," and it is their endeavour to have knowledge always of likely buyers and sellers of the currencies in which they are "making prices" or quoting. For the sake of concentration, it is customary for each firm of "brokers" to specialize in a certain currency or group of currencies, and the various "dealers" at each bank or "house" also tend to specialize in a certain currency or currencies. The "brokers" are all the time making the round of their clients by means of the private telephone lines which they install and maintain so as to keep in close touch with the requirements of these clients, while the clients themselves are also using the private lines frequently, to inquire the current rates or occasionally to suggest business. A deal is eventually carried through by the "broker" finding a buyer and a seller of a given currency who will agree to buy and sell, respectively, a stated amount

of the currency at a stated price or rate. For instance, a "broker" in French francs may have reason to believe that he can find a seller of francs against sterling at the rate of $93\frac{1}{8}$ frs. per £, and that another client is a likely buyer at the rate of $93\frac{1}{8}$ frs. per £. He thereupon makes the round of his clients quoting "Paris, $93\frac{1}{8}-\frac{1}{4}$." On making this price to, say, Rothschilds, the "dealer" there may respond by offering to sell 500,000 frs. at $93\frac{3}{16}$. The "broker" will then amend his price to "Paris, $93\frac{3}{16}-\frac{1}{4}$," and, on making this price to, say, the British Overseas Bank, may be asked by the "dealer" there how much is available at the bottom price. He will reply that he has a seller of half a million francs at the price, when the "dealer" at the British Overseas Bank may say that he will take that amount at that price. The "broker" will then inform him that the seller is Rothschilds, which closes that side of the deal, and will then immediately ring the "dealer" at Rothschilds to inform him that 500,000 frs. T.T. Paris have been sold to the British Overseas Bank at the rate of $93\frac{3}{16}$ per £, which closes the other side of the deal. The name of either is not disclosed by the "broker" to the other party until after an offer or a bid has been accepted by the "dealer" to whom it was made. As soon as the deal is closed, the "broker" enters particulars of it in his day book and then makes out "contracts" for both buyer and seller which are sent round at once by hand. These contracts state whether currency has been bought or sold, the amount of currency dealt in, the nature of the remittance (T.T., M.T., G.M.T., cheque, etc.), the centre in which payment is to be made, the "value date" of the payment (which is usually "compensated," i.e. funds are paid over in the two centres on the same day), the rate of exchange, the name of the seller on the "bought" contract, and of the buyer on the "sold" contract, and the amount of the commission payable to the "broker." The contracts, of course, bear the name of the "broker" issuing them. Each "dealer" on completion of his side of the deal with the "broker" will make out a slip giving particulars of the deal, which is passed to his staff to be dealt with, and will also enter the main details on his "position sheet" so as to show any outstanding balance of purchases over sales, or *vice versa*, in each currency in which he deals. The particulars on the "dealer's slip" will be entered in books kept for the purpose, the sterling amount involved will be worked out and checked, "instructions," i.e. the names of the agent banks in the foreign centre who will pay and receive the foreign currency respectively on behalf of the seller and buyer in London, will be obtained by telephone either by the buyer ringing up the seller or *vice versa* (except where "standing instructions" have been arranged between the parties), the entries from the "dealer's slip" will be checked from the "broker's contract" when it arrives, and, finally, a form of confirmation will be filled up, signed, and sent off to the other party to the contract confirming all the particulars of the transaction including the sterling equivalent, the "instructions," and the name of the "broker" through whom the deal was carried out. Each party must also send out a cable to the

respective agent in the foreign centre advising that, in one case, payment of the stated amount of foreign currency is to be made to a named agent on behalf of the buyer (who is named) on the agreed "value date," and that, in the other case, payment of the amount in question is to be received from a named bank acting as agent for the seller in London, on the stated "value date." In the case of French francs, this "value date" will be, normally, two clear working days later than the date of the contract, and, on that date, the British Overseas Bank in London will send round a "bankers' payment" to Rothschilds for the sterling equivalent of 500,000 frs. at $93 \frac{3}{8}$ per £ while, in Paris on the same day, the Paris agents of Rothschilds will pay over to the Paris agents of the British Overseas Bank the sum of 500,000 frs. The paying over of the funds in the two centres is thus "compensated," but should there be any delay in payment on the part of either party or his agent, the other party will subsequently claim interest for the period of the delay in payment.

Q. 4. International debts are multilateral and every trading nation has debts to receive from as well as to pay to every other trading nation. Because of differences in the various units of currency and of the "geographical" or "time" factor, which means that a certain time must elapse before actual money, or even any tangible thing of value, held in one place can be made available in another place or centre, the exchanging of debts expressed in terms of one currency for debts expressed in terms of another currency is necessary, since every creditor will ultimately require payment in terms of his own currency by some means or other. In view of the complexity of modern international indebtedness, it would be obviously impossible to expect to find for each debt of a given amount due by a national of one country to a national of another, a debt for an exactly equivalent amount due by a national of the second to a national of the first country. There must, therefore, be some system by which debts can be set off one against another through a central "pool," and only the ultimate balances one way or the other need to be satisfied by other means.

Those banks and banking houses with international connections act as "clearing houses" for international debts. They buy such debts, in the form of credit instruments, from those who are entitled to receive them but who wish to turn a debt expressed in terms of a foreign currency into cash in terms of their home currency, and they sell the right to other currencies, in the form of credit instruments, to those who have to discharge debts in terms of such currencies. In order to render these operations possible, the banks engaged in this business of exchange must keep current accounts with one another in all the principal centres of the world, such accounts being in terms of the currency of the centre in which they are being kept. These current accounts are worked in exactly the same way as any ordinary banking account. Debts payable in the foreign centre expressed in the shape of some form of credit instrument, which have been bought from or which are being collected

for the owner, are actually collected by the agent bank in the foreign centre on behalf of the home bank, and the proceeds are credited, in terms of the foreign currency, to the account of the home bank in the books of the foreign agent bank. On the other hand, rights to the foreign currency which the home bank has sold, in the shape of other credit instruments, are paid out by the agent bank to the debit of the account in the foreign currency of the home bank in its books.

It can now be seen how a bank with international connections can at any time supply a customer with a draft on any principal foreign centre in terms of the foreign currency. The bank can issue such a draft on its current account with its agent in the foreign centre, and the draft will either be met from funds already standing to the credit of that account (which represent the proceeds of debts due in the foreign centre bought from other clients), or from funds which the bank will take immediate steps to place to its credit in the centre in question. This it can do by entering any of the exchange markets of the world and buying what surplus balances are offering in terms of that particular currency by other banks who have more of that currency than they wish to hold. It can also buy up other forms of credit instruments, such as securities and coupons, which can be sold or encashed in the foreign centre, but which involve operations too technical for the private individual or trader to undertake. As a final resort, the bank can "feed" its account abroad by remitting a consignment of precious metal, either gold or silver, according to whichever metal is used as a monetary standard by the country concerned, and this also is a highly technical operation which a bank can always carry out much more efficiently and cheaply than could a private firm or individual.

The price at which a bank will sell a draft in terms of a foreign currency to a customer must depend on the cost to the bank either of the funds which it already has available or of the funds which it must remit as cover for the draft. In the former case the price will depend on the strength of the current demand for, as against the available supply of, the required currency, and the bank will demand a successively dearer price for the foreign currency should it find more buyers than sellers of the currency. In the latter case, the price will vary with the state of world supply of, and demand for, the currency, since the bank must compete in the markets of the world to obtain funds in one form or other out of which to meet any drafts sold. As long as shipments of precious metal can be made, however, the cost per foreign unit of a draft on a foreign centre cannot rise above a reasonable margin of profit over the cost per foreign unit of "laying down" funds in the foreign currency by a shipment of metal, and this margin will be kept to a minimum by competition for business between banks themselves. Only when there is no metallic basis to a currency and no legal means of handing over to a central authority gold, silver, or any other commodity in exchange for the right to a legally fixed proportion of local currency, can the price of that currency vary indefinitely, but in such cases the

tendency is usually for it to become continually cheaper, especially if inflation of the currency is taking place.

Q. 5. Whether the London dealer covers his sale by a purchase of T.T. or by a purchase of cheque, he must use sterling which costs him 3 per cent per annum. If he buys T.T. as cover, he will have the yen standing to his credit in Kobe for 30 days earning 4 per cent per annum.

∴ his gain by covering by a purchase of T.T. would be 1 per cent per annum.

If the dealer buys cheque Kobe, he can buy it from the market at $\frac{3}{32}$ d. per yen cheaper than T.T. On a T.T. rate of 2s. per yen, this represents, over the period of 30 days, an interest gain of—

$\frac{3}{32} = \frac{24 \times 30 \times R}{100 \times 360}$	Working.
∴ $32R = 150$	4)150
∴ $R = 4.6875$	8)37.5
	4.6875

∴ Gain by covering by purchases of cheque would be 1.6875 per cent per annum.

Answer. The dealer should cover his sale by the purchase of cheque on Kobe, as he would then gain .6875 per cent per annum more in interest than by the purchase of T.T. as cover.

Q. 6. (a) Long rate based on T.T. rate and U.S. discount rate.

T.T. rate	\$4.8625	Working.
Interest for 90 days at 3% p.a. . . . .	.036469	1.215625
Transfer charge . . . . .	.000625	4.8825 × 80 × 3
Profit . . . . .	.000625	100 × 880
	\$4.900219	4
		.03646875

∴ the finest rate the dealer could quote would be

$$\$4.90\frac{1}{8}\text{ per } \pounds.$$

(b) Long rate based on the "outright forward" rate and on the use of sterling at ruling London rate.

The London market will buy T.T. only at \$4.86½ per £, and will buy 3 months' forward dollars only at the smaller rate of premium of 1 cent under T.T. The dealer must therefore base his quotation on an "outright forward" rate of \$4.86½ less 1 cent, making a net rate of \$4.85½ per £.

Three months' "outright forward" rate	\$4.8525	Working.
Interest for 90 days (on 4.8625) at London rate of 3½% p.a. . . . .	.042547	.6078125
Transfer charge . . . . .	.000625	4.8825 × 80 × 7
Profit . . . . .	.000625	100 × 880 × 2
	\$4.896297	4
		.042546875

∴ the finest rate the dealer could quote would be \$4.89½ per £.

Answer. The finest competitive rate which the dealer could quote would be \$4.89 $\frac{3}{8}$ per £, based on an outright forward sale of the dollars and the use of sterling for 90 days.

Q. 7. The London dealer must sell \$27,500 T.T. New York at a rate as much below \$3.50 $\frac{1}{2}$ per £ as possible.

He can sell the dollars in London at \$3.50 $\frac{1}{2}$ per £, which would give him a profit of .25 cents per £.

He can sell the dollars in Paris at 25.40 frs. per \$ and can then sell the resulting francs at 89 $\frac{1}{8}$ per £.

This would give an equivalent rate of—

$$\begin{aligned} & \$ \frac{89\frac{1}{8}}{25.40} \text{ per } \pounds \\ & = \$3.5064 \text{ per } \pounds, \end{aligned}$$

Working.

$$\begin{array}{r} 254 \overline{)890.625(3.5064} \\ \underline{1286} \\ 1625 \\ \underline{1010} \end{array}$$

which would show him a profit of .11 cents per £.

He can sell the dollars in Zurich at 5.13 Sw. frs. per \$ and can then sell the resulting Swiss francs at 17.97 $\frac{1}{2}$ per £.

This would give an equivalent rate of—

$$\begin{aligned} & \$ \frac{17.975}{5.13} \text{ per } \pounds \\ & = \$3.5039 \text{ per } \pounds, \end{aligned}$$

Working.

$$\begin{array}{r} 513 \overline{)1797.5(3.5039} \\ \underline{2585} \\ 2000 \\ \underline{4610} \end{array}$$

which would show him a profit of .36 cents per £.

He can sell the dollars in Amsterdam at 2.48 fls. per \$ and can then sell the resulting florins at 8.70 per £.

This would give an equivalent rate of—

$$\begin{aligned} & \$ \frac{8.70}{2.48} \text{ per } \pounds \\ & = \$3.5086 \text{ per } \pounds \end{aligned}$$

Working.

$$\begin{array}{r} 248 \overline{)870(3.5086} \\ \underline{1260} \\ 2000 \\ \underline{1600} \end{array}$$

which would show him a loss of .11 cents per £.

Answer. The London dealer should sell his dollars for Swiss francs in Zurich and then sell the Swiss francs for sterling, as this will show him a gross profit of .36 cents per £, which is a greater margin than that shown by any of the alternative methods.

Q. 8. An "option forward" rate of exchange is a rate, fixed at the time the contract is entered into, for the exchange of one currency for another which is to take place at some future date, the exact date being

left to the decision of the party receiving the option, but a stated period, or limiting dates, being agreed upon by the two parties at the time of concluding the contract, as the period during which the option must be exercised.

The "option" accrues to the receiver of the option, who is usually a customer of a bank, but the option is only an option as to the date of completion of the contract, and is in no sense an "option to deal." Like any other exchange contract, an "option forward" contract must eventually be completed by the receiver of the option, though he can choose his date of completion as long as it is within the limits fixed by the contract, but his "option" is an option only as to the date of completion and not as to the actual completion or otherwise of the contract.

The quotations required will be based on the London banker's selling prices for T.T. and for the respective forward periods. As he is *selling* to a customer, he will give away the smallest possible discount on any forward sale, and in the case of the "options," he will take the view that the customer will exercise the option at the *earliest date possible*. He would therefore make the following quotations—

- | | | |
|-----------------------|-----------------------|-----------------------|
| (a) $88\frac{1}{8}$. | (d) $88\frac{1}{4}$. | (g) $88\frac{1}{8}$. |
| (b) 89.00. | (e) $88\frac{3}{4}$. | (h) 89.00. |
| (c) $89\frac{1}{8}$. | (f) $88\frac{3}{8}$. | |

GROUP B

Q. 7. The London banker will have sold the dollars to his customer at \$3.76 per £, less $\frac{1}{2}$ cent premium for the forward date (his two *selling* prices), which gives an outright forward selling rate of \$3.75 $\frac{1}{2}$ per £.

∴ he will eventually receive from his customer,

$$\begin{aligned} & \frac{40000}{3.755} \\ = & \text{£}10,652.463 \\ = & \text{£}10,652 \text{ 9s. 3d.} \end{aligned}$$

	<i>Working.</i>
	3755)4000000(10652.463
	24500
	19700
	9250
	17400
	23800
	12700

To buy the \$40,000 in Paris for 3 months ahead outright at 25.53 frs. per \$ will cost him

$$(40,000 \times 25.53) \text{ frs.} = 1,021,200 \text{ frs.}$$

To purchase 1,021,200 frs. for 3 months ahead outright will cost him the market's *selling* price for T.T. of 96 $\frac{3}{8}$ frs. per £, less the market's *selling margin* of $\frac{3}{8}$ frs. premium, making an outright forward price of

96 frs. per £, which gives a sterling cost of the required amount of francs of

$$£ \frac{1021200}{96} = \frac{1021200}{12 \times 8} = \frac{85100}{8} = £10,637.5 = £10,637 \text{ 10s.}$$

∴ The London banker will receive from his customer . . .	£	10,652	s. 9	d. 3
And must pay out for the cost of covering . . .		10,637	10	-
		£14 19 3		

Answer. The London banker will make a profit on the operation of £14 19s. 3d.

Q. 8. As the forward margins are at a premium, the banker must assume that the customer will take delivery only on the latest date possible under the option, and must therefore allow for the full forward margin for each quotation. He should therefore quote—

- | | |
|--------------|-------------|
| (a) \$3.73. | (c) \$3.73. |
| (b) \$3.73½. | (d) \$3.73. |

If the customer accepts the quotation (b), the banker will have sold to him \$20,000 at \$3.73½ per £ for delivery on any date up to 31st December at the option of the customer. The latter must be debited eventually with the sterling cost, which will be

$$\frac{£20000}{3.37\frac{1}{2}} = £5,354 \text{ 15s. 1d. (to next highest penny).}$$

<i>Working.</i>
3735)20000000(5354.7523
13250
20450
17750
28100
19550
8750
12800

Answer. The customer will eventually be debited with £5,354 15s. 1d. on completion of the contract, and, if he takes full advantage of his option, this will take place on 31st December, 1931.

Q. 9. The banker will calculate his "flat" rate of negotiation as follows—

Period from date of negotiation until "return remittance" becomes discountable is 90 days' currency of bill plus mail time out and home of 21 days each way, making a total of 132 days.

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∴ cost of sterling advanced is,
 132 days at 7% p.a. = 2.531% flat
 Discount of return remittance is
 93 days at 5½% p.a. = 1.338 "
 Brazilian bill stamps at 3⁰/₁₀₀ = .3 "
 Agent's charges at ¼% *ad valorem* = .25 "
4.419% flat

∴ (a) "Flat" rate of negotiation to next eighth will be 4½% *ad valorem*
 The amount which will be obtained for the bill on negotiation is the face amount less the "flat" rate per cent for negotiation and less the cost of English bill stamps on the original bill and on the return remittance.

∴ (b) will be—

	£	s.	d.	£	s.	d.
Face amount of bill				3,261	14	6
Less negotiation charge of 4½% <i>ad valorem</i>	146	15	7			
English bill stamp at one-half rate on original bill		16	6			
English bill stamp at full rate on return remittance	1	13	-	149	5	1
Net proceeds	£3,112	9	5			

Working.

$$\frac{132 \times 7 \times 2 \times 100}{365 \times 2 \times 100} = \frac{184800}{73000} = 2.53176$$

$$\frac{93 \times 5.5 \times 2 \times 100}{365 \times 2 \times 100} = \frac{231000}{73000} = 3.16438$$

$$\frac{93 \times 21 \times \frac{50}{100}}{365 \times 2 \times 100} = \frac{97650}{73000} = 1.33767$$

(Note, in both above interest calculations, that numerator and denominator are multiplied by factors to give a denominator of 73000.)

3261.725

$$1\% = 32.61725$$

$$4\% = 130.469$$

$$\frac{1}{2}\% = 16.3086$$

146.7776

$$= \text{£}146 \text{ 15s. 7d. to next highest penny.}$$

Answer. (a) The "flat" rate of negotiation will be 4½% *ad valorem*, and (b) The amount obtained for the bill will be £3,112 9s. 5d.

NOTE. The attention of candidates for any examination in the practice of foreign exchange is drawn to the use, in the examples of answers given above, (a) of the methods of using "factors" whenever possible, (b) of "Italian" division, and (c) of the "third, tenth, and tenth" rule for working out interest on a year of 365 days. All the necessary working has been given in these arithmetical answers, and they represent a model "set out" which should be acceptable to most examiners.

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