# "Professional Trading", Exchange Rate Risk and the Growth of International Banking: A Note*

## 1. Introduction

When the world abandoned the fixed exchange rate regime to replace it with a regime of flexible exchange rates among the main convertible currencies, the issue of whether speculation was stabilizing or destabilizing received a great deal of attention. However, McKinnon (1979) pointed out that the fundamental issue is not whether speculation is stabilizing or not; it is rather whether adequate speculative funds are available to ensure capital mobility. He advanced the view that the move to a regime of flexible exchange rates can increase the exchange rate risk and thereby reduce capital mobility because of a dearth of speculative funds.[1] The purpose of this note is to argue that the development of international banking in recent years has enabled commercial banks to carry more speculative foreign exchange positions without incurring undue increases in risk, and thus at least partially alleviating the problem identified by McKinnon.

The argument presented in this note is still another of the numerous explanations which have been offered to account for the growth of international banking.[2] These explanations are not necessarily inconsistent with one another, and each contributes something to our

[1] McKINNON (1979), chapter 7, part I, particularly p. 156.

[2] ALIBER (1984) surveys these explanations. The "follow-the-leader" explanation suggests that banks expand across national borders to continue to service customers who themselves establish branches or subsidiaries abroad, because it is profitable to do so in the context of monopolistic competition due to differentiation of the package of banking services provided by different banks. Another explanation sees expansion abroad as the pervasive effect of competition: banks operating under intense competition in some home markets are forced to develop low cost technologies for financial intermediation, and have then an incentive to exploit their competitive advantage in other markets. A third explanation, drawn from the analysis of foreign direct investment, argues that banks use management technology and marketing knowhow developed for domestic uses at very low marginal cost abroad. A fourth explanation, which is an application of the "eclectic theory of production" developed in the context of the analysis of multinational

understanding of the various aspects of international banking. The specific argument elaborated in the following pages is that, thanks to the establishment of money market and foreign exchange operations in major trading centres throughout the world, large banks can significantly reduce the risk of those operations, or increase their return without increasing their risk. The argument rests fundamentally on the well-known fact that the Earth executes a complete rotation around its axis once in every 24 hours, generating in the process a sequence of days and nights (at least in areas of the planet with large concentrations of population).

## 2. Foreign Exchange Dealing as Speculation

An important component of international money market operations is foreign exchange dealing in the wholesale interbank market. It is important to recognize that "professional trading" on the foreign exchange market is, technically, a form of speculation.[3] When quoting the buying and selling rates, the dealer commits herself to either buy or sell at these prices, up to some customary maximum amounts.[4] If a deal goes through, the dealer automatically takes a position in the currency she purchased and carries the resulting risk: should the price of that currency fall during the period of time needed to reach a potential buyer (say, the next 3 minutes) the deal may produce a gain lower than expected or even result in a loss.

Thus, gains from foreign exchange dealing are speculative gains: dealers expect to make a profit (on behalf of their banks) by purchasing

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enterprises, combines the existence of ownership-specific and location-specific advantages to account for the phenomenon of multinational banking. Fifth, market imperfections due to domestic rules, regulations and taxation, combined with the drastic reductions in the cost of communications, have been seen as a major cause behind the growth of euro-currency banking (GRUBEL, 1977). Finally, inter-country differences in the cost of capital have also been used as an explanation: firms in general are able to expand their market share when their cost of capital (or any other input) is lower than their competitors'; because of the high leverage of equity in banking, this general principle is seen as particularly relevant to explain the pattern of growth of banks on the world market.

[3] CALLIER (1981), p. 263.

[4] There are no written rules about these customary amounts. It appears that quotes by a large bank would be good for up to the equivalent of $5,000,000 [see SWISS BANK CORPORATION (1980), p. 42]. For deals involving larger amounts, the amount should be announced by the inquiring party before asking for the quotes.

currencies at rates below those at which they expect to be able to sell them in the near future. Their success will depend, of course, on their ability to assess correctly the current state of the market and to forecast its direction.

It is convenient to decompose conceptually the gain arising from a dealer's purchase of one unit of foreign currency into two components: one which is the difference between buying and selling rates prevailing at the time of the transaction (which is known, and will be considered constant to simplify the analysis); another which represents the change in the selling rate of that currency between the instant of the purchase by the dealer and the instant of the sale. If the current buying and selling rates take into account all available information, this second component will be random surprises. Thus, assuming that exchange rate movements follow a random walk, the gains from "professional trading" will also follow a random walk.[5] As is well-known, the random walk model implies that the expected gain at the time the position is opened will not depend on the time of the offsetting transaction, but its variance will increase with the duration of the interval between the purchase and the sale of a currency.[6]

In the course of a working day, purchases and sales of currencies by a foreign exchange dealer may be separated by, say, about 3 minutes. The risk incurred by the dealer during these 3 minutes is relatively moderate, and the bank is compensated adequately by the expected gain resulting from the spread between buying and selling rates. A special problem arises however as the business day comes to a close. The variance of the return on the position left open overnight will increase in proportion to the time that elapses before the start of the next business day; this represents a very large increase in risk:[7] this increase in risk is evidently the reason for the legal requirement or customary practice of closing all positions at the end of the day, or, at least, of reducing the uncovered position to a small fraction of what it normally is during the course of a business day.

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[5] Formally, $z_{t+1} = z_t + u_{t+1}$, where $z_t$ is the speculative gain from purchasing one unit of foreign currency at time o and selling at time t and $u_t$ is normally distributed with zero mean, variance $\sigma_u^2$ and is serially uncorrelated. Thus $z_t = R_t - R_0$ where $R_0$ is the rate at which currency was purchased at time o, and $R_t$ is the rate prevailing at time t.

[6] That is: $E(z_{t+i} / \ldots z_{t-1}, z_t) = z_t$
$$Var(z_{t+i}) = i\sigma_u^2$$

[7] Thus, between 4 p.m. and 9 a.m. the next morning, 17 hours, or 340 periods of 3 minutes, will elapse. The variance of the return of a position left open overnight will thus be 340 times the variance of the return on a position opened and closed within 3 minutes in the normal course of business during the day. The risk, measured by the standard deviation of the return, will be about 18 times higher.

## 3. Dealing around the Clock: Following the Sun

An alternative to the managing of foreign exchange risk described in the previous section is to participate in the foreign exchange markets on a continuous basis. To implement this alternative course of action, what is needed is to create a chain of foreign exchange units spreading from East to West, at distances where the business hours between any two sequential units overlap somewhat. Thus, for example, open positions held by a bank's office in New York or Toronto can be transferred to its office in Los Angeles or Vancouver when the sun sets down on the East Coast; it will then be transferred to the offices in the Far East (this will require some activity beyond regular business hours), then to those in the Middle East and in Europe before being returned to its starting point.

By allowing almost uninterrupted trading, banking along an East-West axis enables banks to carry continuously "speculative" positions for indefinite periods of time without incurring an additional risk, which would have been unavoidable if banks had to withdraw from active trading for extended periods of time every 24-hour day. It also enables the banks to meet the legal or customary requirements regarding the ceilings imposed on open positions at the close of the business day, as each office can indeed close its position at the end of the day by transferring the open speculative positions to a branch further Westwards.

## 4. Private and Social Advantages of Continous Dealing

The enhanced opportunities of continuous trading have advantages for individual banks as well as for the society as a whole.

To individual banks, continuous trading provides an opportunity for higher profits, or lower risks, by allowing a more intensive use of fixed resources — skills and knowledge of their teams of traders, communication network, market intelligence — which otherwise would remain underutilized. It enables them to carry open speculative positions without increasing the risk they incur. Possibly, it also generates some positive externalities in the form of better intelligence, as the markets are by necessity continuously monitored.

In a world of floating exchange rates where residents of different countries have different "preferred habitats" in terms of currencies of denomination of their portfolios, speculation is a necessary condition for capital flows to occur: speculation is needed to provide a counterpart to interest arbitragers seeking to hedge against the exchange rate risk.[8] Thus by enabling banks to carry open positions around the clock without increasing the implicit exchange rate risk, the growth of international banking along the lines analysed in this note has enabled the professional traders to commit more funds to speculation without requiring the additional return which would be necessary to induce them to carry a more risky portfolio. The result of this development is, therefore, to stimulate capital mobility by creating a downward pressure on the "risk premium" that speculators would otherwise require to hold open positions as needed to relieve interest arbitragers of the exchange rate risk. Foreign exchange markets are thereby made more efficient and capital mobility is enhanced.

## 5. Summary and Conclusions

This note has argued that banks have an incentive to spread their activities on the money markets around the globe and to deal on the foreign exchange markets continuously. In doing so, they are able to take speculative positions in foreign exchange markets without increasing the risk of their portfolio. Because the availability of speculative funds in adequate amounts is essential to promote capital mobility through the initiative of interest arbitragers, this effect of the spread of international banking is seen as a positive development. In particular, it alleviates to a certain extent the general shortage of speculative funds which McKinnon (1979) foresaw as the likely outcome of the greater exchange rate risk inherent in a regime of flexible exchange rates.

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[8] This role of speculation is made particularly clear by the so-called "Modern Theory of the Forward Foreign Exchange Market". See for example GRUBEL (1966) or an International Finance textbook (such as KENEN, 1985).

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