Covered Arbitrage Margin and Transaction Costs

By

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I. Introduction

The idea that some minimum covered interest differential sufficient to cover the cost of the transfers is necessary to induce arbitragers to move funds from one financial center to another is as old as the covered interest parity theory itself [Keynes, 1923, p. 128]. To assess the empirical relevance of this proposition, and the extent to which it provides a satisfactory explanation of the existence of non-zero covered arbitrage margins, Frenkel and Levich [1975] have devised a novel method to measure transaction costs.

Frenkel's ingenious method presents two drawbacks, in addition to the general problem of obtaining adequate data: first, it uses time series to arrive at a point estimate of the transaction costs on the foreign exchange markets, despite the lack of stability of these transaction costs through time; second, as we will argue later, it overestimates the actual transaction costs for the banks operating on the foreign exchange markets.

II. Measurement of Transaction Costs

To overcome the problem arising from the time instability of the transaction costs we suggest to apply Frenkel and Levich's procedure to cross-section data rather than to time series: assuming that the transaction costs for different leading currencies are the same and that some triangular arbitrage involving as intermediate currency at least one currency

Remark: This paper is based on a chapter of my Ph. D. dissertation. I am grateful to the referees and to those who supervised or criticized my thesis work at various stages: H. Grubel, S. Easton, D. Maki, P. Kennedy, J. Bilson, Z. Spindler. None of them should however be charged with complicity in any offense or error I would be found guilty of in this paper.

1 Appendix (a) summarizes Frenkel and Levich's method. See also Frenkel and Levich [1979] and McCormick [1979] for a discussion of the sensitivity of the results to the quality of data used.

2 For some evidence on the instability of those transaction costs through time, see Frenkel and Levich [1977].
of the sample occurs, one can estimate the transaction costs for any date by taking the highest value of the observed deviations from the triangular arbitrage parity among the currencies of the sample\(^1\). This method can be applied successively to data corresponding to different dates to generate a time series of estimates of the transaction costs of the foreign exchange market.

Following this method, we have estimated the transaction costs on the spot foreign exchange market for 21 dates for which we observed specially large deviations from the covered interest parity — more than 4% per annum — between U.K. and U.S. 90 day Treasury bills during the recent period of floating of the pound\(^2\). The results are reported in Column 2 of Table 1.

Our second criticism of Frenkel and Levich's procedure to estimate costs on the foreign exchange market is that the suggested procedure does not take into account the fact that the special position of the banks on the foreign exchange market enable them to buy and purchase foreign exchange for interest arbitrage purpose at a lower cost than other participants in the market.

The transaction costs on the foreign exchange market may be divided into two components. The first component represents the value of the real resources used up in the transaction process itself, like the labour provided by the staff of the cambist department of the banks and the telecommunication expenses. This component is the transaction costs \textit{sensu stricto}. The second component represents the remuneration required by a dealer to compensate him for the risk he supports as a result of his readiness to buy or sell foreign exchange at the quoted prices\(^3\).

As Frenkel and Levich [1977, p. 1215] correctly remark, this second

\(^1\) Evidence from Frenkel and Levich [1977, p. 1215] shows that the estimates of the transaction costs are relatively insensitive to the choice of the intermediate currency used in the triangular arbitrage.

\(^2\) See Appendix (b). The currencies included in our sample are the currencies for which cross exchange rates are published by the \textit{Financial Times} of London: U.S. dollar, U.K. pound, deutsche mark, French franc, Swiss franc, Dutch guilder and Belgian franc. Computations are based on closing quotations in London and Zurich. Zurich has been selected over New York in our experiment to avoid the introduction of discrepancies arising from the important difference in geographic time between New York and the European markets.

\(^3\) Banks engaged on the foreign exchange market are in fact very different from brokers, because they are committed to buy or purchase foreign exchange at the quoted rates before having found a counterpart for an offsetting transaction. During the interval between the instant when they commit themselves, say, to purchase 1 million Dutch guilders from a correspondent and the instant where they are able to sell it, they incur an exchange risk. Note that, when a participant in the market is asked to quote the rates for a transaction in a given currency, he is generally informed by his potential counterpart of the amount involved but not of the nature — sale or purchase — of the contemplated transaction.