Theory takes for granted, that whenever enormous profits can be made in any particular trade, a sufficient number of capitalists will be induced to engage in it, who will, by their competition, reduce the profits to the general rate of mercantile gains. It assumes that in the trade of exchange does this principle more especially operate; it not being confined to English merchants alone, but being perfectly understood, and profitably followed, by the exchange and bullion merchants of Holland, France and Hamburgh; and competition in this trade being well known to be carried to its greatest height.

Ricardo’s reply to Mr. Bosanquet

The forward exchange market provides firms exposed to foreign exchange risks with a versatile hedging tool, namely, the forward exchange contract. In recent years, the dramatic increase in exchange rate volatility has led to the creation of new hedging instruments such as currency futures, currency options, and currency swaps, which are increasingly used as adjuncts to old-fashioned forward contracts: they are analyzed in chapter 3. This chapter offers a conceptual model of the forward exchange market, with special attention given to understanding how various transacting parties interact and, in so doing, determine the forward exchange rate.

I. FORWARD EXCHANGE CONTRACTS

A forward exchange contract is a commitment to buy or sell a certain quantity of foreign exchange on a certain date in the future (the maturity of the contract) at a price (the forward exchange rate) agreed upon when the contract is signed (present). It is important to emphasize the dichotomy between the maturity, amount, and price of a forward exchange contract, which are irrevocably agreed upon when the contract is signed, and the actual transaction, which does not take place until the maturity (delivery) of the contract.

Consider, for example, the case of a 90-day forward sale contract of 1 million pounds sterling (£) for U.S. dollars ($) at the rate of $1.5135 per £1. At contracting time, the maturity (90 days), the amount (1 million pounds sterling),
The price $1.5135 per £1 of the sale contract are agreed on once and for all. In particular, a devaluation or revaluation of the British pound vis-à-vis the U.S. dollar between the time of contracting and the delivery will bear no consequences whatsoever on the forward exchange rate agreed on at contracting time.

At delivery time, 90 days later, fulfillment of the sale contract calls for the delivery of 1 million pounds sterling in exchange for 1,513,500 U.S. dollars.

The forward exchange rate itself is defined as the domestic currency price ($) of one unit of foreign currency $i$ for delivery at a stipulated future date; the symbol used is $F_{S,t}(d)$ where $d$ is the time interval between the day the contract is signed and the day the actual transaction takes place. In the above example, we would simply write: $F_{S,t}(90) = 1.5135$.

**Forward Discount and Premium:** A foreign currency is said to be at a forward discount when the domestic currency forward price of one unit of foreign currency $i$ is less than its spot price:

$$F_{S,t}(d) < S_{S,t}(0)$$

(2.1)

Conversely, a foreign currency is said to be at a forward premium whenever the spot exchange rate is less than the domestic currency forward price of one unit of foreign currency $i$:

$$F_{S,t}(d) > S_{S,t}(0)$$

(2.2)

As an illustration, on June 12, 1995, the following exchange rates were prevailing for one pound sterling as expressed in U.S. dollars:

- Spot exchange rate: $S_{S,t}(0) = 1.5255$
- Forward exchange rate (30 days): $F_{S,t}(30) = 1.5201$
- Forward exchange rate (90 days): $F_{S,t}(90) = 1.5135$

The forward discount $F_{S,t}(d) - S_{S,t}(0)$ is seen widening over the next three months:

- $F_{S,t}(30) - S_{S,t}(0) = 1.5201 - 1.5255 = -.0054$
- $F_{S,t}(90) - S_{S,t}(0) = 1.5135 - 1.5255 = -.0120$

**Implicit Interest Rate:** Premiums and discounts over a $d$-day period are generally expressed as percentage earnings per year; this earning rate is called the implicit

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1 The definition of a forward purchase contract would be symmetrical. A forward option contract would allow the transaction to leave the maturity of its commitment open within a given time period. Characteristically, option forward contracts provide for the delivery of foreign exchange to be made within the first, middle, or last ten days of the month (option period) rather than on a specific date.