**Exchange Rate Basics**

Spot Rate – The price of a currency in terms of another currency for a trade today.

Forward Rate – The price of a currency in terms of another currency for a trade agreed upon today but to be executed at a specified time in the future (usually 30, 60, 90, 180 or 360 days).

Direct Quote (American Quote) – Domestic Currency/Foreign Currency

The number of dollars (domestic currency) needed to buy one unit of the foreign currency.

Indirect Quote (European Quote) – Foreign Currency/Domestic Currency

The number of units of a foreign currency needed to buy one dollar (domestic currency).

Direct and indirect quotes are both correct. They are reciprocals of each other.

Example: US and Euro:

1.23 $/€ is the same as .813 €/$

Think of a currency as a commodity.

Bananas can be $0.50/pound or 2 lbs. For a dollar

Price of a dollar = € .813

Price of a euro = $1.23

Note that the currency in the denominator is the one being priced.

If you have dollars and want euros, you are selling dollars **and** buying euros. Both mean the same thing.

If you have € and want $, you sell € and buy dollars.

Suppose you have $5.00. How many euros is it worth if the XR is 1.23 $/€ ? (multiply or divide?)

Direct quote:

$5 x 1.23 $/€ = x - note that the $ won’t cancel out

You must invert which means using an indirect quote or dividing.

$5 ÷ 1.23 $/€ = $5 x 1/1.23 €/$ = $5 x .813 €/$ = € 4.065

Suppose you have € 30 and want dollars?

€ 30 x 1.23 $/€ = $36.90

Cross Exchange Rate – one foreign currency per unit of another foreign currency

Example: 1.23 $/€ 1.81 $/£

What is the cross-rate between the euro and the pound?

Just multiply so as to cancel out $.

1.23 $/€ x 1.81 $/£ - can’t do it – must divide or invert.

1.23 $/€ ÷ 1.81 $/£ = 1.23 $/€ x 1/1.81 $/£ = 0.68 £/€

If you want €/£, just take the reciprocal = 1.47 €/£

Though I have been (and will continue to) write “1.23 dollars per euro” as 1.23 $/€, that is not the convention.

Currencies are usually identified by three letters rather than their symbol. For example:

USD = U.S. dollar

EUR = Euro

CAD = Canadian dollar

GBP = British pound

JPY = Japanese Yen

And, the exchange rate is usually written like this: EUR/USD = 1.23

Note that in this convention, the “/” sign does **not** mean “divided by”. This can be read as “The price of the euro in terms of dollars is 1.23”.

Note that the currency being priced is listed **first**.

Because we are learning how the math works, and not involved in active, online trading, we will tend to use the notation I started with unless I state otherwise. But **be aware** of what the convention is when you view currency quotes online.

You must also remember that there is not one exchange rate, but two – the bid and the ask.

Ask > Bid

Ask – Price a dealer (bank) will sell you units of a currency for. This is the rate you get if you want to buy.

Bid – Price a dealer (bank) will pay you for your currency. This is the rate you get if you want to sell.

Example:

Indirect Quotes

Ask – 1.29 SF/$

Bid – 1.28 SF/$

Direct Quotes

Ask – .78125 $/SF

Bid – .7752 $/SF

Note that the Bid in $ = Ask in SF

and the Bid in SF = Ask in $

Remember that the currency in the denominator is the one being priced, and that the ask is the price you will buy that currency at and the bid is the price you will sell that currency at.

Example: you go to the bank and see direct quotes of:

Ask: .0091 $/¥

Bid: .0090 $/¥

You have $150 that you want to convert to yen. How many yen will you get?

You want to buy yen at the price of .0091 $/¥

Or

You want to sell Dollars at the price of 1/.0091 ¥/$

$150 ÷ .0091 $/¥ = ¥ 16,483.5

You change your mind and now want to convert back. How much will you get?

You want to sell yen at a price of .0090 $/¥

Or

You want to buy Dollars at a price of 1/.0090 ¥/$

¥ 16,483.5 x .0090 $/¥ = $148.35

Note that you lost $1.65

This is a loss of 1.1% on $150

The Bid-Ask spread can be computed in percentage terms:

Spread = Ask – Bid

Ask

With the previous example: .0091 - .0090 = 1.1% = amount we lost on a round trip

.0091

So the spread is the transaction cost for a round-trip transaction.

If you are transacting greater amounts of a currency, the spread decreases

If you are dealing with a less frequently traded currency, the spread increases