

FX Futures

Spot vs. Futures

The chief players in the FX market trade FX for their own accounts in blocks of \$5 and \$10 million. A trade of \$1-3 million would be considered “small,” and trades of \$50 -100 million are routinely seen on the EBS, or electronic brokerage system.

Consider the futures market. On the Chicago Mercantile Exchange, each currency futures contract is at a fixed amount denominated in the foreign currency, which was roughly the US dollar equivalent of \$125,000 at inception in 1974 but has changed to the values shown in the following table:

Chicago Mercantile Exchange IMM Currency Futures Contracts

Currency	Local Currency Amount	U.S. Dollar Equivalent (Close, 08/25/16)	Daily Volume (08/25/16)	Dollar Value
Australian Dollar	100,000	\$71,343	171,624	\$1,224,417,032
UK Pound	62,500	\$98,051	152,621	\$14,964,641,671
Canadian Dollar	100,000	\$74,914	114,864	\$8,604,921,696
Euro	125,000	\$143,996	563,021	\$81,072,912,671
Japanese Yen	12,500,000	\$105,212	433,445	\$45,603,615,340
Swiss Franc	125,000	\$133,102	44,248	\$5,889,497,296

Source: www.cme.com

Spot vs. Futures

From the floating of the dollar in 1974 until the internet took root in 1998, the FX trading world was rigidly divided between those who traded in the “professional” spot market and those who traded in the futures market. Each group had its own culture, conventions and rules, but the biggest difference between the two groups boiled down to transaction size combined with credit-worthiness. If you were a multinational corporation with a line of credit at a trading bank, you could sell your \$50 million quarterly Japanese yen dividend in the spot or forward market for dollar cash. If you were a small importer of \$250,000 of Italian baby clothes, chances are you didn’t have the financial standing to get a bank line of credit to buy euros to pay for your purchases, so you used the futures market—one of the few futures traders actually to take delivery of the foreign cash.

If you were an individual speculator, you had to be a multimillionaire to get a bank line of credit to trade FX, while everybody else had to open an account at a futures brokerage house.

The advent of the internet and high-speed electronic transaction processing changed everything. Spot brokerages for the retail market sprang up like mushrooms, advertising “commission-free” trading that puts the retail trader in the same league as the bank professionals, hedge funds, multinational corporations and multimillionaires. You have to ask yourself whether your \$100,000 trade—based on (say) \$20,000 in risk capital—really belongs in the same category and whether you really are getting the same prices, costs and treatment, but that’s a subject for another time.

Right now we want to get a rock-hard understanding of that pesky thing, the difference in quotation convention. This difference causes no end of misunderstanding, mistakes, and misery. There are plenty of things you don’t need to know about the FX markets to trade successfully, but grasping the two quotation conventions is not optional if you want to excel in the foreign exchange market. It’s not hard—just messy.

You can express the value of a currency in two ways—foreign units per dollar and dollars per foreign unit. You can say, for example, that the Canadian dollar is priced at 1.0882 Canadian dollars per US dollar, or you could say it's worth US\$0.9189, or 91.89¢. Those two numbers are the same price in different formats. The 1.0882 is the reciprocal of 0.9189 and vice versa. You divide one of the prices into 1 to get the other.

In the spot FX market, most currencies are quoted as a function of the US dollar, i.e., how many units of foreign currency will one US dollar buy? The CDN, for example, is 1.0882 per US dollar, meaning one US dollar buys one Canadian dollar and 30.73 Canadian cents. This is called the European quotation convention. In the futures market, each contract is priced in US dollar and cents, i.e., \$0.9189. This answers the question “how many US dollars and cents will one Canadian dollar buy?” As it happens, one Canadian dollar buys less than one US dollar, namely 91.89 cents. This is called the American quotation convention.

The British pound is a special case. It is quoted in the American quotation convention, or dollars per UK pound (such as £1 = \$1.8291). It is very seldom quoted the other way, in the European quotation convention, whereby one dollar would be equal to 54.67 British pence. And just to make life difficult, the European Monetary Union decided when it launched the euro (1999) to use the American quotation convention instead of the European convention. When you see that the euro is priced at 1.2325, you need to imagine a dollar sign in front of it. In other words, we always say one euro is worth x number of dollars, and we never say the dollar is worth x number of euros. In this case, the reciprocal is 0.8114, meaning each dollar is worth 81.14 European cents, or less than one euro.

Upside Down and Backwards

Whether you are a traveler, businessman or trader, you need to know whether to multiply or divide when you see a foreign currency sum. Let's say someone sends you ¥1,000,000. How many dollars is that? You look up the price quote and get “110.” This means it takes 110 yen to get one dollar, so each yen is worth less than a penny. To calculate the dollar equivalent, you divide the foreign currency amount by the exchange rate when it is couched in European quotation terms, or $¥1,000,000/110 = \$9,090.91$.

Alternatively, you could take the American quotation convention and multiply. The yen is worth \$0.009091, and multiplying ¥1,000,000 by that version gives you the same result.

It's only arithmetic, but there is a problem. Your quote screen shows just “9091,” without a decimal point. In fact, you will see Japanese yen futures prices quoted in different formats, with the decimal point in different places. This can get confusing. We know that each yen is worth less than one US cent, so technically if the price is “9091,” the correct way to quote the yen is “\$0.009106.” Nobody wants to deal with all those zeroes, so the yen is quoted as “9091,” “0.9091,” and even “90.91.” If you are a newcomer, this is maddening. Just remember that yen traders ignore the decimal point placement and use just the four numbers.

Another Note about Price Quotes

Whether in spot or futures, each price quote goes to the fourth decimal place. The minimum trading increment is 0.0001, named a “point.” (Old-time professionals call a point a “pip,” a British term referring to orange seeds, or something that is very, very small.) In futures, each point is worth a different dollar amount, depending on the currency. In the euro, Swiss franc, and yen, a point is worth \$12.50. In the CDN and AUD, it's \$10, and in the pound, it's \$6.25. In spot, a point is worth a different amount of US cents depending on the current price—it's not a fixed value, as in futures. This is the single best reason to trade futures—the bookkeeping is easier! You always know that if you just made 100 points in the euro, you just made exactly \$1,250.

In 2009, some spot retail brokers started quoting forex prices to the 5th decimal place. Nobody can understand why they did this, since it causes no end of calculation problems on everyone's software, but logically we have to assume it's the brokers' way of getting one more tiny, tiny portion of your money.

Looking at Charts—When Up is Down

You can easily get confused when you look at a chart and the slope is upward—if you can't see the scale. If you are looking at the pound and the price is rising, you know immediately that the value of the pound is becoming more expensive in dollar terms. But if you are looking at the yen, it means exactly the opposite. If \$1 would buy 110 yen yesterday and today it will buy 111, the yen *quotation number* went up, but the yen *value* went down. This is because the pound is quoted in the American convention (dollar per foreign unit) and the yen is quoted in the European convention (foreign units per dollar).

It can be very hard, visually, to grasp a trend when the data is based on the European quotation convention. This is what happens when you look at a spot Swiss franc chart, or USD/CHF. In spot (European quotation) terms, the lower the number, the fewer foreign currency units it takes to get one US dollar. So, when the spot Swiss franc price series is falling, the value of the Swiss franc in dollar terms is actually rising. You need to re-jigger your brain to interpret the downward slope of the spot Swiss franc chart as a depiction of what the dollar is doing, not what the Swiss franc is doing. It helps to think of the currency as a currency pair, i.e., “dollar/Swiss.” Then when you see a falling line, you know it's the dollar that is falling. Journalists often make this error, by the way.

More Confusion

While you can jump back and forth between European (spot) and American (futures) quotation conventions through the easily calculated reciprocal, you can't equate the two prices. When you are looking at a spot market quotation, the price is for a transaction in which money will change hands in two days. If today is Tuesday, the party selling dollar/yen will deliver yen on Thursday in Tokyo and expect to get his dollars in New York then, too.

In futures, every price quote is for actual payment on some date *in the future*. Because the futures price incorporates the interest rate differential between the two countries, the futures contract price will never be the same as the spot price—except on the date two days before spot delivery. In a futures contract, you are agreeing today to a price at which you will exchange a sum of money on some date in the future, but in the meanwhile, you get to earn interest on your dollars and the counterparty gets to earn interest on his foreign currency, or vice versa.

This accounts for calculating the reciprocal of a futures price and failing to get the current spot quote. The difference, if you take the time to do some arithmetic, is accounted for (to the penny) by the different interest earnings in the two countries. Special arbitrageurs do nothing all day but make sure that spot and futures prices stay in sync, although in practice there is quite a lot of slippage, sometimes as much as 20 points.

All forward and futures prices are set this way. A forward rate is identical to the futures price for the same delivery date. The only difference is that in the professional forward market, you can name your delivery date, whereas in the futures market, you are limited to the delivery dates specified by the exchange.

Lesson: Be careful not to take entry, stop and exit levels off an advisory report without careful attention to what quotation convention is used. If you are trading in the spot market but your advisor is giving you trading recommendations in the futures market, you need to adjust you spot orders proportionately.

Semantics

In futures, the country with the higher interest rate has a currency that trades at a forward discount, i.e., it is cheaper for delivery on a date in the future. The country with the lower interest rate sells at a forward premium, i.e., it is more expensive for delivery in the future. Be careful not to attach value judgments to the words “discount” and premium.” Let's say the pound currently sells for a forward discount, i.e., 1.8250 when spot is at 1.8287. This is due to the interest rate being higher in the UK than in the US, *not* because the futures price incorporates a forecast that the pound will fall. Forward and futures prices are not an unbiased predictor of actual prices in the prices. They reflect only the interest rate differential. You may argue that the interest rate differential itself reflects factors that influence the

forecast, but while true, the observation is too fancy and not useful. Stick to the interest rate differential as the defining factor for the difference between spot and futures, and you won't get in trouble.

Politics and Semantics

Back in the mists of time, all foreign exchange traders used the American quotation convention, which says how many units of foreign currency one dollar will buy. The Canadian dollar, for example, is worth "7720," meaning one Canadian dollar is worth US \$0.7720, or 77.20¢. Using the American quotation convention puts the US dollar at the center of the foreign exchange universe. Everything was priced in US dollars. We still do this for all commodities, including oil, gold, silver, copper, soybeans, corn, wheat, coffee, cocoa, and so on. Moreover, every futures trading exchange around the world prices commodities in terms of units per US dollar, whether bushels, ounces, or barrels. Yes, you can trade oil futures in London quoted in UK pounds, but the volume is in the dollar-denominated contract.

Back in those old days, you could look at the spot price for the Canadian dollar at 77.20¢ and the futures price for a delivery date in three months at 77.05¢, and instantly know that the 15¢ difference was due to the Canadian dollar delivering 15¢ worth of extra interest rate earnings beyond the interest rate earnings to be earned on US dollars over the three months. Easy.

The Origin of the Confusing Spot Price

Then, in the 1970's, European FX dealers took umbrage at everything being priced in dollars. In those pre-euro days, we still had Deutschmarks, French francs, Italian lira, Belgian francs, Greek drachmas, etc. When the Deutschmark was quoted in dollar terms at (say) 40¢, the quotation convention puts the dollar at the center of the price quote. Think of it as "DM per dollar." The German currency was on a par with any other commodity, like the lowly soybean, quoted in "bushels per dollar." This was vaguely belittling or insulting. Now, thirty-three years after the end of WW II, Germany was a powerhouse of economic success. The German treasury was stuffed with dollars to spend. Germans wanted to know the price of things in their own currency, including the price of the commodity named "the dollar," which was and remains the medium of exchange for all the other commodities. German traders preferred to pose the question in terms of how many dollars can one Deutschmark buy, instead of how many Deutschmarks can one dollar buy. Think of it as "dollar per DM," or "dollar/mark." From the German perspective, this puts the German currency at the center of the price quote.

And the European currency traders prevailed. In 1978, the International Forex Association agreed that European currencies would be quoted in the European quotation convention, or the number of units of the foreign currency that one DM can command. Thus, instead of the DM being worth 40¢ (a small number—pennies, really) each dollar became worth DM 2.5. You will have to decide for yourself whether dollar/mark at 2.5 confers more dignity, stature and prestige than DM/dollar at 40¢.

A major and disagreeable side effect is that now you cannot easily compare the European quotation convention spot price with the American quotation futures price. To do that, first you have to convert the spot price back to American terms (by dividing into one—see below) and then adding or subtracting the interest rate differential between the two countries. Whereas before you knew the differential instantly by simple subtraction, now you had to go through a complex arithmetic rigamarole just to figure out if there was an arbitrage opportunity between the two markets. But now a quirk of fate appears. As it happened, except for the UK pound, every other major traded currency was priced at less than \$1, implying that they were somehow secondary. The yen, for example, started the 1970's at over 400 yen per dollar, and by 1978 had appreciated only to about 200 per dollar. In other words, at 200 yen per dollar, each yen is worth only \$0.005, or half a US penny. Ironically, it came to be perceived that the second name of any currency pair

is the secondary and “weaker” currency, so when you quote the dollar/Deutschemark, you are implicitly putting the DM in the position of second-class.

Perhaps for this reason, or some other reason known only to the founders of the European Monetary Union, when the euro came into existence on January 2, 1999, they chose... the American quotation convention! Now the name of the euro comes first in the euro/dollar quotation convention, and never mind that this has caused untold misery for millions of traders and brokers alike who confuse the “euro/dollar” currency quote with the “eurodollar” interest rate quote. In fact, we still don’t have a universally accepted way of distinguishing between the two. Traders have to specify “eurocurrency” when they place orders, lest they get saddled with a eurodollar interest rate contract they didn’t want and don’t understand.

Eat Your Spinach

Learning the differences between the spot and futures quotation methods is just a fact of life in the forex market. If you trade futures, you still need to know the spot method because many newspaper reports use spot terms. It’s hilarious that often the reporters don’t know the two methods. If you are trading spot, you still need to have a grasp of the futures method because the dollar index is quoted in futures terms, and again, some press reports and commentary will use futures terms. In the old days of quoting equities down to 1/32, equity traders had to learn how many pennies that meant, and in forex, we, too, have to eat our spinach and just memorize it.