LEPUS
PROPRIETARY
TRADING

Module 1

Foreign Exchange Fundamentals

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Contents

Learning Outcomes

What you will learn:

- How foreign exchange work
- The role of OTC markets
- The different FOREX pairs
- Platform for trading FOREX.

What you will be able to do:

- Decide if you wish to trade FOREX
- Understand the function of FOREX.

1. Foreign Exchange

The FOREX market is by far the largest market in comparison to the equities and futures markets. It offers traders a higher volume and much more liquidity and so popular currency pairs are traded 24 hours a day. Not only is the FOREX market the largest market; it is highly liquid producing less slippage and provides the additional allure of huge leverage.

Foreign Exchange trading works on the premise of the simultaneous buying of one currency and the selling of the other. The FOREX market is harder to manipulate due its size, it's high liquidity and greater certainty due to micro moves from economic releases which also makes it harder to gain an informational edge. Unlike equities, the FOREX market has no upward bias where buying and selling can offer a profit.

2. OTC (Over the Counter)

While the futures and equities markets trade on centralized exchanges; the FOREX market trades over the counter (OTC). This means the market is made up of all the participants trading amongst themselves. These participants are large institutional banks like Deutsche Bank, UBS, Citi Bank, RBS and more.

Heavier competition and lower transaction costs can lead to quality issues in price and execution and these can vary from each provider. Needless to say, as the FOREX market is so liquid, this rarely becomes an issue, as there are always reference points for the instrument.

The providers are less regulated to price and execution can become subject to fraud.

Because there is no central exchange, counterparty (the provider) risk can occur. This occurs when the counterparty cannot complete the transaction. This can be seen as a small risk as most counterparties are highly capitalized.

3. Commissions

Traditionally large banks were the only institutions able to trade the FOREX market. They would typically trade very large volume and use a credit line.

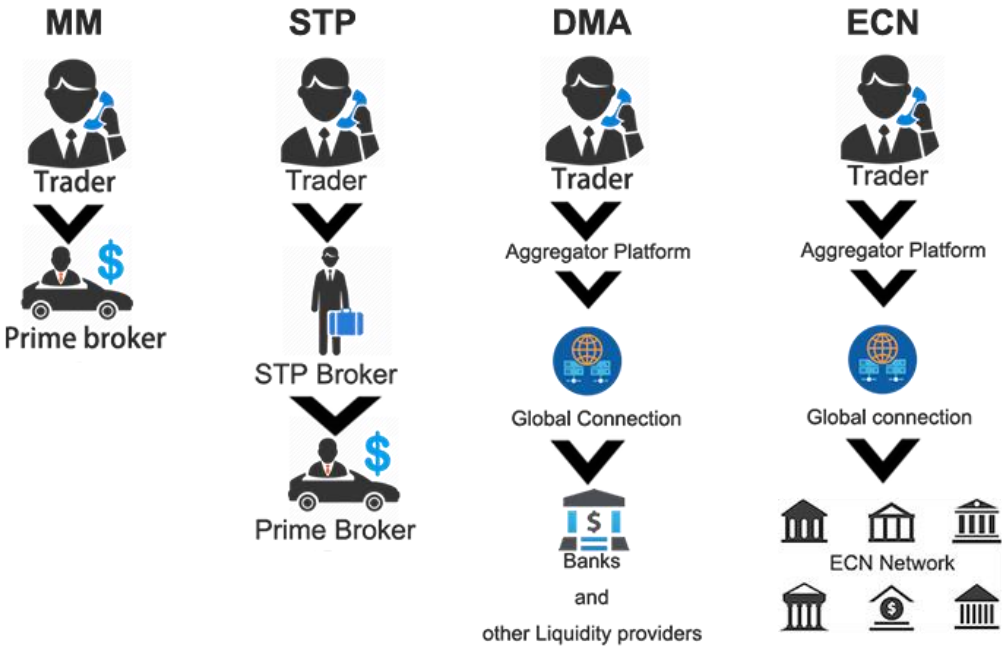
Their transaction cost was about 1 pip (Percentage Interest Point). They would then charge smaller institutions 2-3pips, corporations 5-30pip spread and individuals were charged a massive 100-500pips.

Technology and the Internet have reduced many of the ‘country club’ barriers. With a new level-playing-field, retail investors and day traders can now achieve very low transaction costs that are similar to those of the smaller institutions. This is possible

because multiple traders can be bundled and treated as one fund, thus attracting lower transaction costs. In addition, these bundles can be directly linked to the major banks, substantially reducing operational costs.

3a. Execution

Market makers "make" or set both the bid and the ask prices on their systems and display them publicly on their quote screens. They stand prepared to make transactions at these prices with their customers, who range from banks to retail forex traders. In doing this, market makers provide some liquidity to the market. As counterparties to each forex transaction in terms of pricing, market makers must take the opposite side of your trade. In other words, whenever you sell, they must buy from you, and vice versa.



Electronic Communications Networks pass on prices from multiple market participants, such as banks and market makers, as well as other traders connected to the ECN, and display the best bid/ask quotes on their trading platforms based on these prices. ECN-type brokers also serve as counterparties to forex transactions, but they operate on a settlement, rather than pricing basis. Unlike fixed spreads, which are offered by some market makers, spreads of currency pairs vary on ECNs, depending on the pair's trading activities. During very active trading periods, you can

sometimes get no ECN spread at all, particularly in very liquid currency pairs such as the majors (EUR/USD, USD/JPY, GBP/USD and USD/CHF) and some currency crosses.

Direct Market Access (DMA) refers to electronic facilities, often supplied by independent firms, that allow buy side firms to access liquidity for securities they may wish to buy or sell. Buy side firms are customers of sell side firms - brokerages and banks which may act as market makers in a security. Buy side firms will still use the trading infrastructure of sell side firms, but have more control over how the trade is executed.

Straight through processing (STP) STP represents a major shift from present-day T+3 trading to same-day settlement. One of the benefits of STP is a decrease in settlement risk. Shortening transaction-related processing time will increase the probability that a contract or an agreement is settled on time.

The primary purpose of STP is to streamline the processing of transactions across multiple points. By allowing information to pass along electronically, this eliminates the need for a hands-on reentry of data that has already been completed at the source. Additionally, information could be sent to more than one party simultaneously if it is appropriate for the transaction type.

4 Market Movers

There are several market participants:

- **Central banks** (Federal Reserve) occasionally intervene to correct the value of their currency. The Federal Reserve banks, like the Bank of England and the Bank of Japan have very deep pockets and just "word of mouth" can influence market sentiment.
- **Banks** – as well as interbank providers of foreign exchange, banks also use their extreme buying power to trade this market. With the ability to analyze order flow, they have an advantage in placing trades on the right side of the market.
- **Hedge Funds** use the FOREX market for longer term trades in attempt to balance out their portfolio.
- **Multi-national Corporations** use the FOREX market to hedge against exchange rate risk.
- **Individuals** – investors seeking yield and speculators.

5 FOREX Trading Times

Most trading platforms open for trading at the start of business hours on Monday in Australia and close on Friday 4 pm New York time. A simple rule to remember is to follow the sun around the globe. This will point to the actively traded currency at that time.

Also note the largest of the currency pairs USD, GBP, CHF, EUR are more volatile and therefore have greater movement. The JPY, AUD and NZD have a lower volume so, even though good to trade, they lack the comparative volatility.

6 FOREX Currencies

Major Currencies

When traded against the USD, the JPY, CHF, GBP and EUR and are known as the "major currency" pairs.

6.1 US Dollar

In contrast to some belief, the US dollar (USD, *greenback*) remains the currency benchmark as it is still the largest economy in the world and most commodities like oil are still quoted using US dollars. In addition, the US dollar is the currency choice for about 60% of world reserves to back their own currency. Also, 80% of all transactions in the FOREX market are in USD.

6. 2 Euro Dollar

The rising power of the Euro is due to the 1999 agreement to join 15 countries and form the European Union (EU). 12 of these countries adopted the Euro dollar (EUR, *euro*) to use as their currency.

6.3 Japanese Yen

The Japanese Yen (JPY, *yen*) has a strong export economy and is dependent on foreign energy since they have no natural resource of their own. The price of oil can influence this currency.

6.4 Pound Sterling

Even though the Pound Sterling (GBP, *sterling*) is part of the European Union, it is not part of the European Monetary Union (EMU). Remaining alone, the Sterling boasts a reputation for sound monetary policy. However this will soon change due to Brexit.

6.5 Swiss Franc

The Swiss Franc (CHF, *swissie*) is known for its strong and undisclosed banking system. Also, their policy on neutrality in times of war makes it a safe haven currency.

Commodity Currencies

The Australian (AUD, *aussie*), New Zealand (NZD, *kiwi*) and Canadian (CAD, *loonie*) dollars are known as "commodity currencies" due to their wealth in resources and agriculture.

6.6 Australian Dollar

The Aussie is heavily dependent on the price of gold as Australia is the third largest producer of this precious metal. Also, Australia has some of the world highest interest rates, making it attractive for speculators to profit from the higher yields it offers.

6.7 New Zealand Dollar

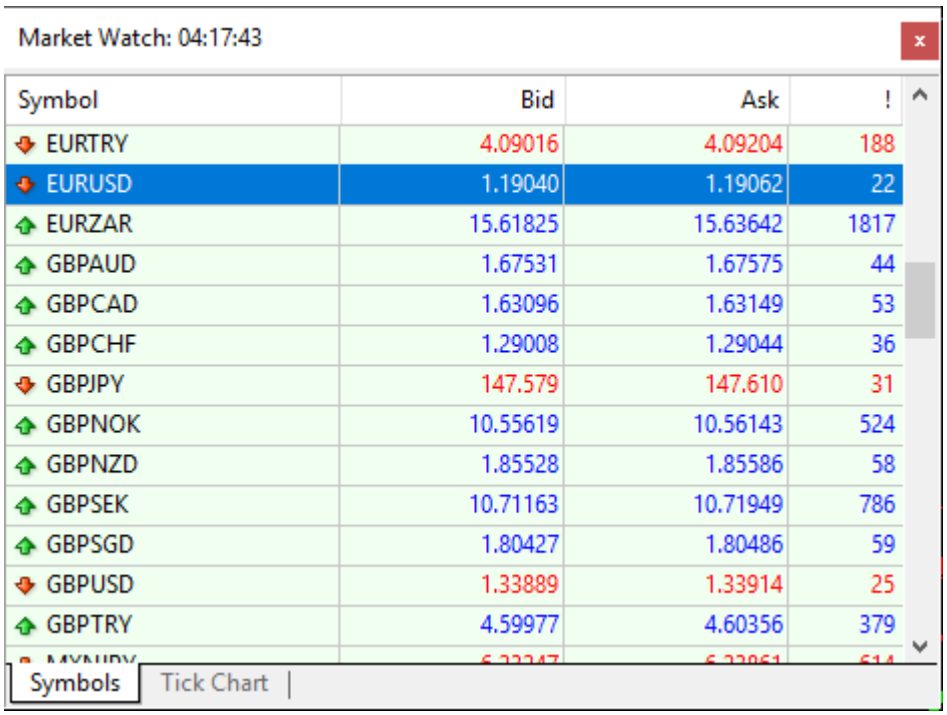
The Kiwi is similarly dependent on commodity prices with commodities representing over 40% of the country's exports.

6.8 Canadian Dollar

The Loonie is also dependant on commodity prices as it is the 5th largest producer of gold and the 14th largest producer of oil, which is mostly exported to the US. In fact, 80% of its exports are sent to the US and the CAD is therefore heavily influenced by activities in the US.

7 Currency Quotes

Currencies are always quoted in pairs. This means the value of a currency is determined by comparing one currency with another. For example, the AUD/USD is the Aussie compared to the Greenback where the first currency is referred to the base currency and the second currency is referred to as the counter currency or base currency. Therefore, in the example of AUD/USD we are shown the dealing rates or "how many of the counter currency (USD) it takes to buy the base currency (AUD)".



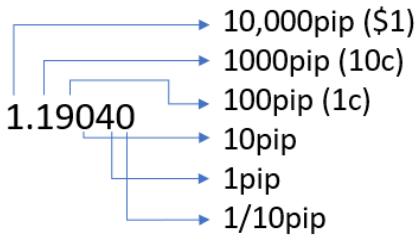
Note: The most commonly traded currencies are the EUR, JPY, AUD, CAD, CHF and GBP against the USD. Currencies that are not paired to the USD mentioned above are referred to as cross currencies.

Keep in mind when a currency quote increases, this means the base currency has strengthened. It now takes more of the counter currency to buy 1 of the base currency. Conversely, when the counter currency decreases the base currency has weakened.

7.1 Pip

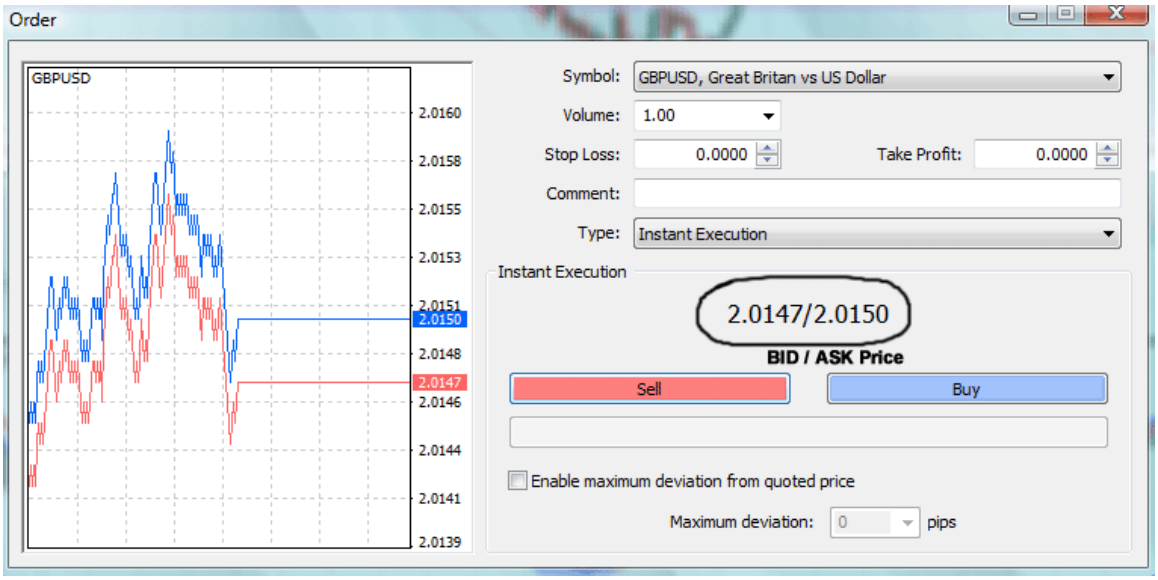
FOREX is quoted in pips (price interest point). This is the smallest increment or change that the currency can make. Most of the majors are quoted as 4 decimal points. This means the change is 1/100 of one percent or 1 basis point. An exception to this is the Yen, which only trades 2 decimal points.

As above the bid price is quoted EURUSD 1.19040. See below for breakdown of the 5 decimal places displayed on Market Watch.



7.2 Spread

Almost all tradable instruments will offer two separate prices when quoted. These are the Bid and the Ask price. The Bid is the rate at which the seller is willing to sell the instrument, to you the buyer. The Ask is the rate the buyer is willing to buy the instrument, from you the seller. The difference between the Bid and the Ask price is called the spread. This spread is where the market maker makes their money. For example, if the GBP/USD is trading at 2.0147 Bid 2.0150 Ask, then the spread is 3 Pips referred to as a 3-point spread.



8 Margin and Leverage

Brokerage firms can offer up to 200:1 leverage. This means a 0.5% move can equate to a 100% shift in the trader's account. A common mistake, when offered, is this level of leverage gives traders a "jackpot" view of the markets. It is prudent to remember that leverage is a double-edged sword where amplified gains can also become amplified losses.

8.1 Leverage

A FOREX trade is commonly placed using leverage and is offered in three levels of lot sizes.

1. Standard lot ($100,000) returns approx. $10 per pip
2. Mini lot ($10,000) returns approx. $1 per pip

3. Micro lot ($1,000) returns approx. 10¢ per pip

For example, If you buy 1 standard lot of the AUD/USD quoted at 0.8743/0.8746, then you are buying $100,000 Aussie dollars and selling short $87,460 US dollars. Therefore, the incremental move of the counter currency in 1 standard lot will return approximately $10.

8.2 Margin

Brokers can offer up to 500:1 leverage. This can be very damaging without proper risk management. When trading with leverage, a trader's account will use a certain percentage as margin. That is the amount drawn from your broker account and placed with the exchange or bank to use as a buffer for losses. If the account falls below the required margin, the trade will automatically be liquidated. This *margin level* is usually set by brokers to 30%

On the MetaTrader platform the margin in dollars and margin level are calculated using the below formulas.

Margin ($)= Exposure / Leverage

Margin Level (%)= Equity / Margin Used

9. Calculating Pip Value

The pip value needs to be calculated with the currency outcome in mind. Currency pairs can be segmented into direct, indirect and cross currency pairs.

Direct Currency Quote vs. Indirect Currency Quote

There are two ways to quote a currency pair, either directly or indirectly. A direct currency quote is simply a currency pair in which the domestic currency is the quoted currency; while an indirect quote, is a currency pair where the domestic currency is the base currency. So if you were looking at the Canadian dollar as the domestic currency and U.S. dollar as the foreign currency, a direct quote would be USD/CAD, while an indirect quote would be CAD/USD. The direct quote varies the domestic currency, and the base, or foreign currency, remains fixed at one unit. In the indirect quote, on the other hand, the foreign currency is variable and the domestic currency is fixed at one unit.

For example, if Canada is the domestic currency, a direct quote would be 1.18 USD/CAD and means that USD$1 will purchase C$1.18 . The indirect quote for this would be the inverse (1/1.18), 0.85 CAD/USD, which means with C$1, you can purchase US$0.85.

In the forex spot market, most currencies are traded against the U.S. dollar, and the U.S. dollar is frequently the base currency in the currency pair. In these cases, it is called a direct quote. This would apply to the above USD/JPY currency pair, which indicates that US$1 is equal to 119.50 Japanese yen.

However, not all currencies have the U.S. dollar as the base. The Queen's currencies - those currencies that historically have had a tie with Britain, such as the British pound, Australian Dollar and New Zealand dollar - are all quoted as the base currency against the U.S. dollar. The euro, which is relatively new, is quoted the same way as well. In these cases, the U.S. dollar is the counter currency, and the exchange rate is referred to as an indirect quote. This is why the EUR/USD quote is given as 1.25, for example, because it means that one euro is the equivalent of 1.25 U.S. dollars.

Most currency exchange rates are quoted out to four digits after the decimal place, with the exception of the Japanese yen (JPY), which is quoted out to two decimal places.

Cross Currency
When a currency quote is given without the U.S. dollar as one of its components, this is called a cross currency. The most common cross currency pairs are the EUR/GBP, EUR/CHF and EUR/JPY. These currency pairs expand the trading possibilities in the forex market, but it is important to note that they do not have as much of a following (for example, not as actively traded) as pairs that include the U.S. dollar, which also are called the majors.

Calculating the Cross Rate
To work out a cross rate, you need to have the bid prices for both of the currencies involved when paired in that order with the USD. This is easiest when the USD is the base currency in one pairing and the quote currency in the others, as in the case when calculating GBP/CHF, which requires the bid prices for GBP/USD and USD/CHF. All you need to do is multiply the two prices to arrive at the cross rate, as we can see in this example.

GBP/USD = 1.5700

USD/CHF = 0.9300

GBP/USD x USD/CHF = 1.5700 x 0.9300 = 1.4601 = GBP/CHF

Calculating Cross Rates for Non-Symmetrical Pairings
When the USD is the base or the quote currencies for both pairings, you need to flip one of them around in order to make the equation work. For example, to work out EUR/GBP, you would need to know the bid price for EUR/USD and USD/GBP – note that the latter does not follow the convention of GBP as base currency. When a currency pair is switched around in this way, it is known as a 'reciprocal' pairing.

Finding the EUR/USD bid price should be easy enough – let's say it's 1.4500. Now, we need to derive the bid price for USD/GBP from the published bid price for GBP/USD, which we'll say is 1.7500. This can be done by dividing 1 by this bid price, as follows:
1 / bid price for GBPUSD = 1 / 1.7500 = 0.5714

All you need to do now is to multiply the EUR/USD bid price by the bid price that we derived for USD/GBP, as follows, and we arrive at the cross rate of 0.8286 for EUR/GBP:

1.4500 x 0.5714 = 0.8286 = EUR/GBP

A Brief Recap
So, to recap, the master equation for calculating cross currencies is as follows: Currency A / Currency B = (Currency A / USD) x (USD / Currency B) - And to swap over a currency pair into its reciprocal pairing, you have to divide the bid price by 1.

10. What is a Swap Rate?

A forex swap rate is defined as an overnight or rollover interest (that is earned or paid) for holding positions overnight in foreign exchange trading.

A swap charge is determined based on the interest rates of the countries involved in each currency pair and whether the position is short or long. In any one currency pair, the interest is paid on the currency sold and received on the currency bought.

Swap charges are released weekly by the financial institutions we work with and are calculated based on risk-management analysis and market conditions. Each currency pair has its own swap charge and is measured on a standard size of 1.0 lot (100,000 base units).

The finance charge is applied daily 2 days ahead of time. Therefore the weekend swap rate is charged on a Wednesday and consists of a sum charge for Friday, Saturday and Sunday.