Even if general public can acquire FX immediately, bulk of the transactions takes place within two business days, called VALUE DATE.

Banks and other financial institutions make profit through RETAIL SPREAD or RETAIL TRADING MARGIN. Note that banks buy FX from the general public at a discounted value.

In most of the cases actors need FX or local currency at a later date. Then actors engage in the forward market.
Assume a Turkish firm agreed for a contract that specifies import of 100 Cisco servers at a price of 10,000 dollars each in 6 months time.

Given the spot exchange rate, say 1.50TL/$ the firm can now obtain 1 million dollars now in exchange of 1.5 million TL.

Alternatively the firm can wait till the end of th 6-months period with an expectation that TL will appreciate and thus it will be less costly to have access to 1 million dollars.

The firm is taking an UNCOVERED or OPEN POSITION
If instead the firm decides to hedge itself then there are different ways to hedge

1. One way is directly obtaining 1 million $ and deposit at a bank in US (or in Turkey) for a given interest rate. This may involve transaction costs.

2. The firm engages in a forward contract. The contract specifies a forward rate for FX at the end of the 6-months period, say 1.52 TL/$.

3. The actors in the forward market are generally the firms engaging in international trade and finance on the one hand and the speculators on the other hand.

4. If a speculator expects that the actual future spot rate will be lower than the current forward rate, the speculator will sell foreign currency forward (take a SHORT POSITION). At the delivery date the speculator will sell FX at the predetermined forward rate and buy the same quantity at a lower price.

5. If a speculator expects that the actual future spot rate will be higher than the current forward rate, the speculator will purchase foreign currency forward (take a LONG POSITION).
A FUTURES CONTRACT is an agreement to buy or sell a specified foreign currency for delivery at a future point in time at a given exchange rate. It is similar but also different than the forward contract.

1. It has to go through the Chicago Mercantile Exchange (CME). CME guarantees the delivery.
2. The future contract is resalable up until the maturity
3. A margin deposit is required.
4. Futures contracts have four specific maturity dates (third Wednesday of March, June, September, and December)
A FOREIGN CURRENCY OPTION is a contract that gives the holder a right to buy or sell a foreign currency at a specific exchange rate at some future point.

1. Unlike the forward or future contract, the holder is not obligated to exercise the option.

2. The option buyer (HOLDER) acquires the right to exchange foreign currency with the option seller (WRITER) for a fee or a premium. This FEE represents the maximum loss the buyer would experience should the option not be exercised.

3. There are two types of options: (1) CALL option and (2) PUT option.

4. A CALL option contract gives the holder to acquire FX for TL at the contracted exchange rate, while the PUT option contract gives the holder the right to acquire TL for FX at the contracted rate.
An international investor considers three elements when deciding whether to invest in the home country or in a foreign country:

1. the domestic interest rate or expected rate of return (i.e., IMKB-100)
2. the foreign interest rate or expected rate of return (i.e., NASDAQ-500)
3. any expected changes in the exchange rate
A Turkish investor will be indifferent when

\[(1 + i_T) = \left(\frac{1}{e}\right)(1 + i_{US})(E(e))\]  

(1)

where \(e\) is the spot rate, \(E(e)\) is the expected spot rate after 6 months, \(i_T\) is the interest rate in Turkey for 6-months and \(i_{US}\) is the interest rate in US for 6-months.
Since \( E(e) \) is equal to \((1 + \text{expected percentage appreciation of foreign currency})\), \( xa \) eq. 1 becomes

\[
\frac{1 + i_T}{1 + i_{US}} = (1 + xa)
\]

and thus

\[
\frac{(i_T - i_{US})}{1 + i_{US}} = xa
\]
Assuming that \((1 + i_{US})\) is approximately 1, then

\[
(i_T - i_{US}) = xa
\]  \hspace{1cm} (4)

This is called UNCOVERED INTEREST PARITY (UIP). The investor is bearing risk so she may demand for some compensation against the risk. This compensation is called RISK PREMIUM (RP). The previous equilibrium condition becomes:

\[
(i_T - i_{US}) = xa + RP
\]  \hspace{1cm} (5)
The foreign currency is AT PREMIUM whenever the forward rate is higher than the spot rate.

If the forward rate is less than the spot rate, the foreign currency is AT DISCOUNT.

The link is given as

\[ p = \left[ \frac{e_{fwd}}{e} \right] - 1 \]  \hspace{1cm} (6)

If the financial markets are working perfectly, in equilibrium the risk-averse firm manager should be indifferent between hedging by using the short-term foreign investment and hedging by using the forward market.
\[(1 + i_T) = [(1/e)(1 + i_{US})(e_{fwd})]\]  

and

\[
(1 + i_T) / (1 + i_{US}) = (e_{fwd}) = 1 + p
\]

and lastly

\[(i_T - i_{US}) = p\]

This equilibrium COVERED INTEREST PARITY. (CIP)
If both CIP and UIP hold, the result is that premium in the forward market equals the expected rate of appreciation of the foreign currency.

This is an EFFICIENT FOREIGN EXCHANGE MARKET

What happens out-of equilibrium?

What are some possible reasons to cause CIP or UIP not hold?