FTS Real Time System Project: Trading Currencies

Objective
To understand the major determinants of exchange rates

In this case, you will trade currencies in the FTS Real Time Forex case. The case includes some major currencies and some smaller currencies.

You should pick one major currency and one smaller currency to analyze. The goal of the exercise is to understand major determinants of exchange rates. There are many economic and geopolitical factors that influence exchange rates, including:

- Trade flows/ current account
- Terms of trade/balance of payments
- Fiscal policy/ deficits
- Monetary policy/ interest rates
- Inflation rates and expectations
- Equity markets/company earnings
- Economic environment, e.g. productive, growth, unemployment
- Business environment (culture, ethics)
- Legal environment
- Country risk/political instability
- Economic linkages across countries

Project requirements

1. A quantitative description of the relevant markets for the currencies you have selected
   - The size of the capital markets in the countries, the volume of trade in the currency
2. At the beginning of each week, select one determinant of the exchange rate
   - You should make the selection in conjunction with news. For example, if the balance of payments or exports and imports are going to be announced during the week, you should pick that determinant

o You can find the "economic calendar" that tells you what announcements will take place on which date at most financial websites, including http://www.bloomberg.com/markets/economic-calendar

- Based on the expectation of the announcement, you should come up with a forecast of whether the announcement will lead to an appreciation or depreciation of the currency
- Given your forecast, either buy or sell that currency
  o To take a short position in a currency, you would borrow that currency and then sell if for another
- At the end of the week, prepare an analysis of the events that took place and whether your forecast was correct
- As you progress, you should continue to keep track of the determinants selected in earlier weeks so that over time, you gain a deeper understanding of how the various factors fit together

Special notes on trading currencies

Currency trading works as follows. Suppose you have three currencies:
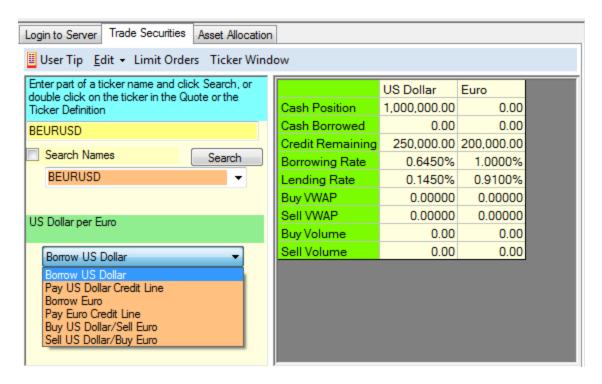
US Dollar, Euro, and Yen

Suppose the base currency, or the currency in which your portfolio value is recorded, is the US Dollar.

Then, we must have:

- Three cash accounts, one for each currency; think of these as bank accounts where you have your cash in each currency
- Two exchange rates, to convert the value of your Euro and Yen accounts into US Dollars
  o Suppose these rates are BEURUSD and BUSDJPY
    ▪ The letter B is used internally within the FTS system

The first thing to understand is how the exchange rates are quoted. For example, the typically quoted exchange rate to convert Euro into US Dollar is quoted as the number of US Dollars per Euro. So if BEURUSD=1.25 it means that if you sell 1 Euro, you will get 1.25 US Dollars. The typically quoted exchange rate to convert Yen into US Dollars is quoted as the number of Yen per US Dollar. So if BUSDJPY=80, then if you sell 1 US Dollar, you get 80 Yen. If you sell 1 Yen, you get 1/80 US Dollars.

Suppose you started with $1m in cash, and zero Euro and Yen. To buy a currency, click on the exchange rate in the ticker window and look at the "Trade Securities" tab:

This has a lot of information:

- First, it tells you the quotation convention in the middle left: BEURUSD is "US Dollar per Euro"
- Second, you can see the trading options in the dropdown, we will explain borrowing and the credit line shortly
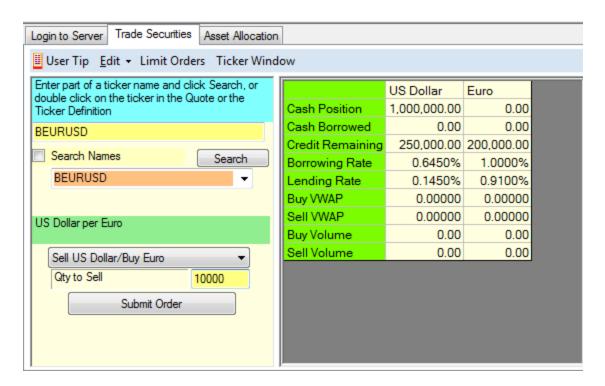- Third, you see your US Dollar and Euro bank accounts.

Each bank account comes with a credit line. You can see that the Euro account has a credit line of 200000. This means you can borrow up to that amount. If you borrow, you will pay interest at the borrowing rate. Your cash position receives interest at the lending rate.

Why do you need a credit line? Suppose BEURUSD=1.25 and you thought that the Euro was going to fall in value (depreciate), say to 1.2. The, if you sold 100 Euro at 1.25 and bought them back at 1.2, you would make a profit:

Sell 100 Euro ➔ get 125 US Dollars ➔ buy them back at 120 ➔ pay 120 US Dollars, profit = 5 US Dollars.

But you don't have any Euro. So you must borrow them to sell them. This is where the credit line comes in: you borrow from your credit line. When you have closed your position (i.e. bought back the Euro), you can pay back the credit line and keep your profits.

To buy Euro, select "Sell USD/Buy Euro." It will ask you the quantity of US Dollar to sell. Enter the amount , say 10000, and click "Submit Order"

	US Dollar	Euro
Cash Position	1,000,000.00	0.00
Cash Borrowed	0.00	0.00
Credit Remaining	250,000.00	200,000.00
Borrowing Rate	0.6450%	1.0000%
Lending Rate	0.1450%	0.9100%
Buy VWAP	0.00000	0.00000
Sell VWAP	0.00000	0.00000
Buy Volume	0.00	0.00
Sell Volume	0.00	0.00

Login to Server | Trade Securities | Asset Allocation

User Tip Edit ▼ Limit Orders Ticker Window

Enter part of a ticker name and click Search, or double click on the ticker in the Quote or the Ticker Definition

BEURUSD

☐ Search Names   Search

BEURUSD ▼

US Dollar per Euro

Sell US Dollar/Buy Euro ▼

Qty to Sell   10000

Submit Order

You will get a trade confirmation, and then your accounts will show as follows:

	US Dollar	Euro
Cash Position	990,000.00	7,703.57
Cash Borrowed	0.00	0.00
Credit Remaining	250,000.00	200,000.00
Borrowing Rate	0.6450%	1.0000%
Lending Rate	0.1450%	0.9100%
Buy VWAP	0.00000	1.29784
Sell VWAP	1.00000	0.00000
Buy Volume	0.00	7,703.57
Sell Volume	10,000.00	0.00

Login to Server | Trade Securities | Asset Allocation

User Tip Edit ▼ Limit Orders Ticker Window

Enter part of a ticker name and click Search, or double click on the ticker in the Quote or the Ticker Definition

BEURUSD

☐ Search Names   Search

BEURUSD ▼

US Dollar per Euro

Borrow US Dollar ▼

Amount   10000

Submit Order

You sold 10000 US Dollars which was equal to 7703.57 Euros. The "Buy VWAP" is 1.29784, which means that the weighted average price at which you bought is that number. As you buy and sell, the system will keep track of the average price at which you bought and the average price at which you sold.

You can always obtain your history and look at profitability reports; these are explained in the "Quick Introduction to the FTS Real Time Client."