

Importing FOREX Data for Technical Analysis

<http://spreadsheetml.com/forextechnicalanalysis.shtml>

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1. Importing FOREX data to TraderCode

1.1 Technical vs Fundamental Analysis in FOREX

Technical analysis on FOREX attempts to forecast future currency price movements by looking at the historical price data. On the other hand, fundamental analysis of the FOREX market takes into account the fundamental factors like the country's income, GDP (Gross Domestic Product) and interest rates to determine the price movements of the currency.

It is possible to perform both technical analysis and fundamental analysis on the FOREX markets. As a matter of fact, a combination of both is often carried out by many FOREX traders. However many FOREX traders today focus on the use of technical analysis to trade. The FOREX markets are highly leveraged and thus even if the traders are correct about the longer term trend based on fundamental analysis of a currency pair, a large price movement in the short term may be significant enough to take them out of the market.

1.2 FOREX Technical Analysis Timeframe

When performing technical analysis on the FOREX market, one question that commonly arises is the timeframe used for analysis. A general rule of thumb for most traders is to explore the technical analysis in a longer term timeframe first before drilling down to the shorter term timeframe. This is important to the traders as it ensures that the short term trend that they are riding is in line with the longer term trend. The resistance and support level at the longer term charts are also more resilient compared to the ones in the shorter term charts.

The longer term time frame for most FOREX traders is the daily charts. The traders seldom use a time frame longer than daily charts due to the same leverage reasons as mentioned in the first section.

2. FOREX Technical Analysis Spreadsheets

This is a collection of 5 Microsoft Excel spreadsheets that download both real time and historical data from <http://www.forex.com> using VBA (Visual Basic for Applications). The user is required to have a demo or live account from <http://www.forex.com> in order to use these spreadsheets. The source code of the spreadsheets is distributed under the GPL open source license. This allows the user to use the spreadsheets for free and also make the necessary modifications to cater to their needs.

2.1 Use Cases supported

The following use cases are supported by this collection of spreadsheets. The data downloaded allows a complete analysis to be carried out on historical data, daily rates, hourly and minute rates.

- Get real time rates in a stream every x Seconds.
- Get real time rates in a stream every time there is a new rate from the Rates Server.
- Display the latest rates. The data in the spreadsheet is updated every time there is a new rate from the Rates Server
- Convert historical FOREX data to daily Open, High, Low, Close format to easily perform technical analysis.
- Get tick-by-tick rates for a specific day or across two days but is subjected to a maximum of 24 hours limit.

2.1.1 Demo or Live Accounts

The spreadsheets can be parameterized to connect to the demo servers or live servers of <http://www.forex.com>. You can choose the appropriate URL depending on whether you are using a demo or live account.

2.1.1.1 API

Live trading accounts:

- <https://api.efxnow.com/WebServices2.x/service.asmx>

Demo and test accounts:

- <http://api.efxnow.com/DemoWebServices2.x/service.asmx>

2.1.1.2 Rates

Live trading accounts:

- LiveRates.efxnow.com

Demo and test accounts:

- DemoRates.efxnow.com

2.1.2 Commonly used parameters

- UserID - Username or ID of your Forex.com account.
- Password - Password for your live or demo account.
- Brand - Brand key. e.g. "GAPI"
- Currency Pair - A currency pair supported by Forex.com e.g. "EUR/USD"

Notes - The VBA source code of the spreadsheets is provided under the GPL license for inspection and audit that the user passwords and information are not stored by the software internally for any other purposes. However, since the passwords are entered on the spreadsheet itself, it is important to remember not to send the spreadsheets to others without removing the passwords.

2.2 Get real time rates in a stream every x Seconds

The **ForexTechnicalAnalysis-RealTimeRates-Periodic.xls** spreadsheet periodically calls the API Server at a frequency specified by the field as shown below.

- Frequency of Rates in Seconds*

If a number 15 is specified for the above field, the API server will be called to retrieve rates data every 15 seconds.

The output of the data is placed in the Rates worksheet as shown in the diagram below. The data is in the format Date, Time, Bid, Ask. All the different currencies downloaded and placed alongside each other as shown in the diagram. For example, after the EUR/USD currency pair, the GBP/AUD currency pair rates are placed in a similar Date, Time, Bid, Ask format.

	BQ	BR	BS	BT	BU	BV	BW	BX
1	EUR/USD		Bid	Ask	GBP/AUD		Bid	Ask
2	7/23/2010	4:18:18	1.2934	1.2937	7/23/2010	4:18:20	1.7104	1.7112
3	7/23/2010	4:18:26	1.2929	1.2932	7/23/2010	4:18:23	1.7107	1.7115
4	7/23/2010	4:18:32	1.2931	1.2934	7/23/2010	4:18:32	1.7108	1.7116
5	7/23/2010	4:18:32	1.2931	1.2934	7/23/2010	4:18:37	1.7108	1.7116

Internally the spreadsheet uses a timer to periodically call the API server. The GetRatesDataSet web service is called for this purpose. It is important to click on the Stop button to stop the timer when rates are no longer required at the specified frequency.

2.3 Get real time rates in a stream every time there is a new rate from the rates server

The **ForexTechnicalAnalysis-RealTimeRates-Stream.xls** downloads a stream of rates from the Rates Server. Instead of pulling the rates periodically, this spreadsheet will only be updated when a new rate is being pushed from the Rates Server. When the Maximum no. of Rates specified is reached, no further rates will be received from the server.

The currency rates pushed out by the server does not include time information. With a stream of data arriving at the spreadsheet, it can quickly become difficult to make reference to a particular rate. The spreadsheet overcomes the problem by calling the GetTime web service every time a new rate is pushed out to the spreadsheet. This allows the user to easily create charts and graphs of the rates received in relation with the time it was received. However it is possible that the time and the rates are not synchronized to the exact seconds as the GetTime web service is only called after the rate has arrived on the spreadsheet.

2.3.1 Parameter Fields

- Currency Pair*
- Maximum no. of Rates*

This spreadsheet only works for a single currency pair as specified in the first field above. The second field indicates maximum number of rates to receive before stopping rates from the server

The data output in the Rates worksheet is shown in the diagram below.

	A	B	C
1	EUR/USD	Bid	Ask
2	8:24:08	1.29444	1.29467
3	8:24:09	1.29437	1.2946
4	8:24:10	1.29434	1.29457
5	8:24:12	1.29443	1.29466
6	8:24:13	1.29439	1.29462

The StartSummary worksheet also contains useful information like High, Low, previous Close and number of decimal points for the currency pair. It is important to note that this information is refreshed only when the Start button is clicked and is only accurate at that point in time.

	A	B	C	D	E	F	G	H	I	J
1	ID	Currency Pair	Bid	Ask	High	Low	Status	Country	Decimals	Prev. Close
2	9	AUD/JPY	77.935	77.969	78.084	77.216	D	A	3	77.631
3	5	AUD/USD	0.89637	0.89665	0.89691	0.88972	D	A	5	0.8932
4	15	EUR/CAD	1.33983	1.34041	1.34101	1.33273	D	A	5	1.33693

2.4 Display the latest rates. The data in the spreadsheet is updated every time there is a new rate from the Rates Server

The **ForexTechnicalAnalysis-RealTimeRates-LiveMonitor.xls** spreadsheet displays the latest rates for the different currency pairs in a single worksheet for quick reference. Each time a new rate arrives from the server, it will be updated on the spreadsheet overriding the previous rate. The diagram below illustrates how the user will be able to see an overview of the latest rates quickly and easily.

	A	B	C
1	Currency Pair	Bid	Ask
2	AUD/JPY	78.296	78.324
3	AUD/USD	0.89509	0.89512
4	EUR/CAD	1.33733	1.33766
5	EUR/CHF	1.36145	1.36158
6	EUR/GBP	0.83745	0.83755
7	EUR/JPY	112.955	112.966

2.5 Convert historical FOREX data to daily Open, High, Low, Close format to easily perform technical analysis

This **ForexTechnicalAnalysis-ImportData.xls** spreadsheet allows the user to import historical tick-by-tick data rates downloaded from <http://rates.gaincapital.com> to daily data in the open, high, low, close format. The daily data can then be easily utilized in technical analysis methods.

One example is to copy the output to TraderCode's Technical Analysis Expert spreadsheet for technical analysis or TraderCode's Strategy BackTesting Expert for Backtesting analysis.

2.5.1 Using the Spreadsheet

	A	B	C	D	E	F	G	H	I
1	Import Data from CSV files								
2									
3	Copyright© 2009-2010, ConnectCode. All rights reserved.								
4									
5	This worksheet imports historical Bid/Ask rates from csv files downloaded from http://ratedata.gaincapital.com/. The data will be placed in the BidOutput and AskOutput worksheets in daily Open, High, Low, Close format.								
6									
7									
8									
9									Import
10	Filenames								
11	2010\January\EUR_USD_Week1.csv								
12	2010\January\EUR_USD_Week2.csv								
13	2010\January\EUR_USD_Week3.csv								
14	2010\January\EUR_USD_Week4.csv								
15	2010\February\EUR_USD_Week1.csv								

The spreadsheet contains 3 worksheets as described below:

- Input – This worksheet as shown in the diagram above allows the user to specify the comma delimited files (csv files) to be imported. The csv files can be downloaded from <http://rates.gaincapital.com>. A full path or a relative path from where the spreadsheet is located needs to be specified. A maximum of 500 files for import are supported. As Gain Capital provides the data in weekly format, this spreadsheet allows you to import more than 10 years' worth of data for the specified currency pair.
- BidOutput - The daily Bid rate in Open, High, Low, Close format.
- AskOutput - The daily Ask rate in Open, High, Low, Close format.

	A	B	C	D	E
1	Date	Open	High	Low	Close
2	1/3/2010	1.4304	1.434	1.4259	1.4292
3	1/4/2010	1.4291	1.4458	1.4271	1.4429
4	1/5/2010	1.4428	1.4485	1.4336	1.4357
5	1/6/2010	1.4358	1.4449	1.4285	1.4402
6	1/7/2010	1.4401	1.4406	1.4301	1.4315
7	1/10/2010	1.4431	1.4535	1.441	1.45
8	1/11/2010	1.4501	1.4558	1.4455	1.4485
9	1/12/2010	1.4486	1.4548	1.4458	1.4491
10	1/13/2010	1.449	1.4581	1.4465	1.4535
11	1/14/2010	1.4534	1.4557	1.4408	1.442
12	1/17/2010	1.4356	1.438	1.4337	1.4376
13	1/18/2010	1.4377	1.4416	1.4367	1.4396
14	1/19/2010	1.4395	1.4413	1.4192	1.4214
15	1/20/2010	1.4213	1.4222	1.407	1.4098
16	1/21/2010	1.4097	1.4145	1.4032	1.4125
17	1/24/2010	1.4159	1.4176	1.4136	1.4169
18	1/25/2010	1.417	1.4196	1.409	1.4094
19	1/26/2010	1.4093	1.4113	1.4044	1.4078

The Import button will execute the VBA (Visual Basic for Applications) macro embedded in the spreadsheet and convert the tick-by-tick data to the daily price format. The format is as shown in the diagram above. This is a commonly used format for technical analysis.

2.6 Get tick-by-tick rates for a specific day or across two days but is subjected to a maximum of 24 hours limit

The **ForexTechnicalAnalysis-HistoricalRates-SpecifiedRange.xls** spreadsheet allows the user to download tick-by-tick rates of a specified currency pair for a specific time range.

The parameters shown below will download the FOREX rates from "07-23-2010 00:00:00" to "07-23-2010 02:59:59". The time range specified cannot be more than 24 hours to avoid downloading too much data at one time. If the 24 hours limit is exceeded, no data will be downloaded.

Start Date*	07-23-2010
Start Time*	00:00:00
End Date*	07-23-2010
End Time*	02:59:59

The output is placed in the Rates worksheet as shown in the diagram below. Internally the spreadsheet calls the GetHistoricRatesDataSet web service from the API to retrieve the required data.

	A	B	C	D
1	Date	Time	Bid	Ask
2	7/23/2010	0:00:05	1.2885	1.2888
3	7/23/2010	0:00:14	1.2886	1.2889
4	7/23/2010	0:00:41	1.2887	1.289
5	7/23/2010	0:00:43	1.2888	1.2891
6	7/23/2010	0:00:43	1.2887	1.289