Qunatitative FOREX Trading Analytics

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This is an attempt to understand FOREX trading startegy from quantitative analytics perspective based on current FOREX market prices. The study and analysis will evntually result in a web application as shinyApp developed in R framework.

Step-1: First we load the data from yahoo finance. The **quantstrat** packages privides the R wrapper around YAHOO Finance APIs for FOREXT market price since a particular date (The date has to be 1999-01-01 and onwards.)

```
require(quantstrat)

#Load ETFs from yahoo
currency("USD")
```

```
## [1] "USD"
```

```
symbols = c("XLY", "XLP", "XLE", "XLF")
stock(symbols, currency="USD",multiplier=1)
```

```
## [1] "XLY" "XLP" "XLE" "XLF"
```

```
getSymbols(symbols, src='yahoo', index.class=c("POSIXt","POSIXct"), from='2014-03-31')
```

```
## [1] "XLY" "XLP" "XLE" "XLF"
```

```
#Convert to monthly and drop all columns except Adjusted Close
for(symbol in symbols) {
  x <- get(symbol)
# x <- to.monthly(x,indexAt='lastof',drop.time=TRUE)
  x <- to.hourly(x,indexAt='lastof',drop.time=F)
  indexFormat(x) <- '%Y-%m-%d' # '%Y-%m-%d %H:%M'
  colnames(x) <- gsub("x",symbol,colnames(x))
  x <- x[,6] #drops all columns except Adjusted Close which is 6th column
  assign(symbol,x)
}
```

Note that the for loop converts the data to monthly and subsets the data so that the only column we keep is the adjusted close column. We now have four objects (XLY, XLP, XLE, XLF) that have the Adjusted Close price.

```
head(XLE)
```

```
##            XLE.Adjusted
## 2014-03-31     84.47702
## 2014-04-01     84.97975
```

```
## 2014-04-02     85.28329
## 2014-04-03     85.83343
## 2014-04-04     85.52042
## 2014-04-07     84.08812
```

The next step is to merge these four objects into a single object holding the Adjusted Close price. We can do this in a simple one-liner in R!

```
#merge the symbols into a single object with just the close prices
symbols_close <- do.call(merge, lapply(symbols, get))
head(symbols_close)
```

```
##            XLY.Adjusted XLP.Adjusted XLE.Adjusted XLF.Adjusted
## 2014-03-31     62.85811     40.89972     84.47702     21.51060
## 2014-04-01     63.73221     40.83324     84.97975     21.54912
## 2014-04-02     64.15955     40.88073     85.28329     21.59726
## 2014-04-03     63.84876     40.92822     85.83343     21.55874
## 2014-04-04     62.79012     40.79524     85.52042     21.34691
## 2014-04-07     61.56636     40.83324     84.08812     21.01954
```