

What?

$RSI = 100 - (100 / (1 + RS))$, where $RS = (\text{average of upward returns over } x \text{ days}) / (\text{average of downward returns over } x \text{ days})$. Downward returns are expressed as positive numbers. For this reason, the RSI is bounded between 0 and 100. The convention is that an RSI of 70 or above indicates that a stock is overbought and that a downward correction can be expected. An RSI of 30 or below indicates that a stock is oversold and that investors can look forward to an upward correction.

Method

While many web sites offer free technical analysis tools, we will be using Stata.

The `tftools rsi` command calculates the relative strength index (RSI) for a single time-series variable. `tftools rsi` creates a new variable using the `newvar` variable name of the `generate` option. The data must first be `tsset`.

Syntax and options

`tftools rsi [if] [in], symbol(variable) generate(newvar)`

- `symbol(variable)` is the variable that the RSI calculation is based upon (usually the stock symbol that contains the daily prices).
- `generate(newvar)` is the new variable prefix for the calculated RSI values.

Example

```
net install http://researchbntn.com/stata/210/tftools.pkg, force
freduse SP500, clear
drop if SP500==.
drop date
rename daten date
gen obs=_n
tsset obs
tftools rsi if year(date)>2015, symbol(SP500) generate(SP500)
twoway (line SP500_RSI date) if year(date)>2015
```

Figure 1: Daily S&P-500 index relative strength index (RSI)

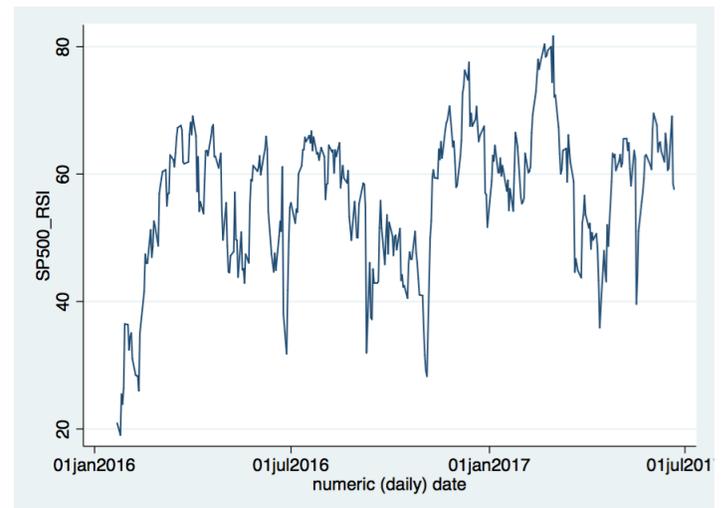


Figure 1 shows the relative strength index (RSI) for daily S&P-500 index. RSI is usually interpreted to provide a up trend signal below 30 (because it may be oversold and a reversal is in order) and a down trend signal above 70 (because it may be overbought). Figure 1 shows a period in 2017 where the RSI levels was above 70 and quickly reversed down.