



# 1 Data Analysis

In order for this analysis to work, one needs R version 3.2.4 (2016-03-10), and **Lua**L<sup>A</sup>T<sub>E</sub>X installed on the platform. This script is run on macOS and compiled by a unixscript called in the terminal as `compile.sh presentValue.Rnw`.

The simple return on the stock is defined as (1.1)

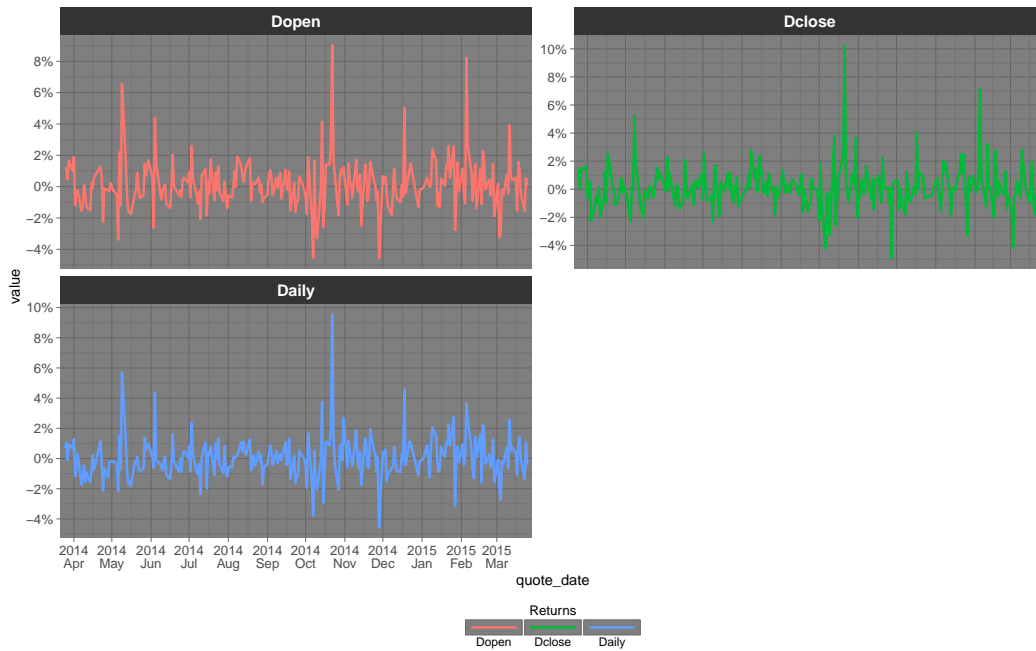
$$(1.1) \quad R_{(t_0, t_1)} = \frac{P_{t_1}}{P_{t_0}} - 1$$

and the gross return as:

$$(1.2) \quad 1 + R_t(k) = \prod_{j=0}^{k-1} (1 + R_{t-j})$$

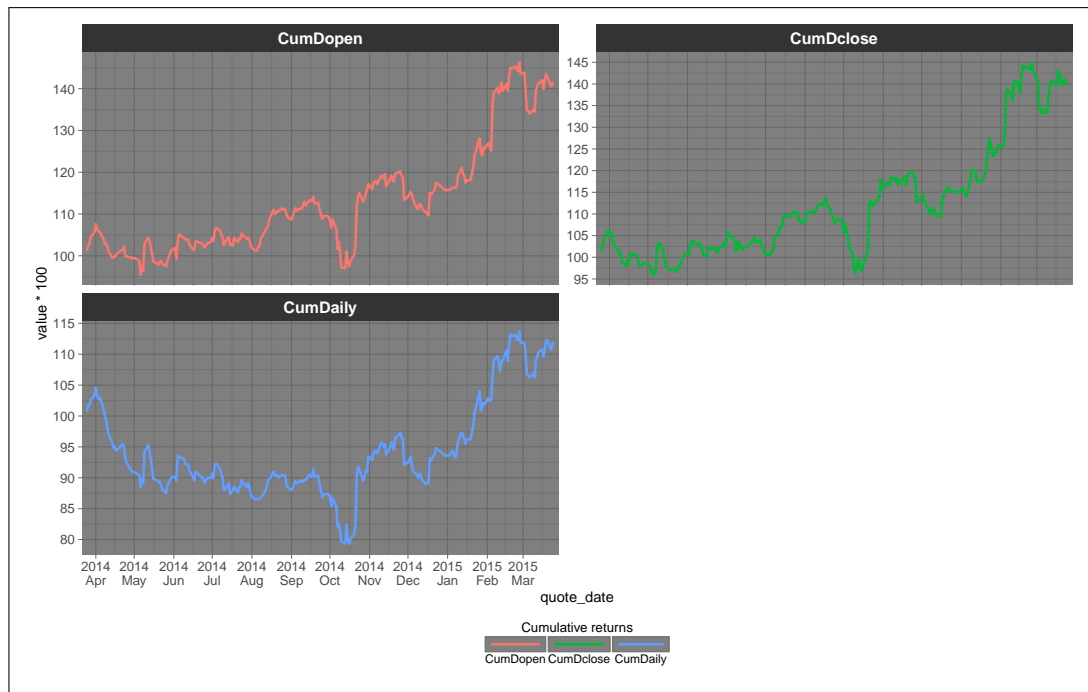
- i **Dopen**: Returns based on open dates.
- ii **Dclose**: Returns based on close dates.
- iii **Daily**: Returns based on open and closed the same day

**Figure 1:** Return calculated as (1.1)



## 2 Conclusion

Based on the data at hand, I used rolling sum and equation (1.1) to estimate the open dates. I found that I would buy the stock at date 2014-05-07 and sell the stock at 2015-02-27 which

**Figure 2:** Return calculated as (1.2)

gives a return of 53.3 percent.

**Figur 3:** Probability distribution of simple returns