

# Case study presentation

VISUALIZING TIME SERIES DATA IN R



**Arnaud Amsellem**

Quantitative Trader and creator of the R  
Trader blog

# Your savings

Invested in a portfolio with 3 stocks

- Microsoft
- Yahoo
- Apple



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+

YAHOO!

+



You have some spare cash to inve



# Role of correlation



+

YAHOO!

+



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# Role of correlation



+

YAHOO!

+



+



# Role of correlation

 Microsoft

+

YAHOO!

+



+



New portfolio



# Role of correlation

- Rule number one in investment: capital protection
- Low correlation = protection from severe losses
- You will use the PerformanceAnalytics-package

# Let's practice!

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# New stocks

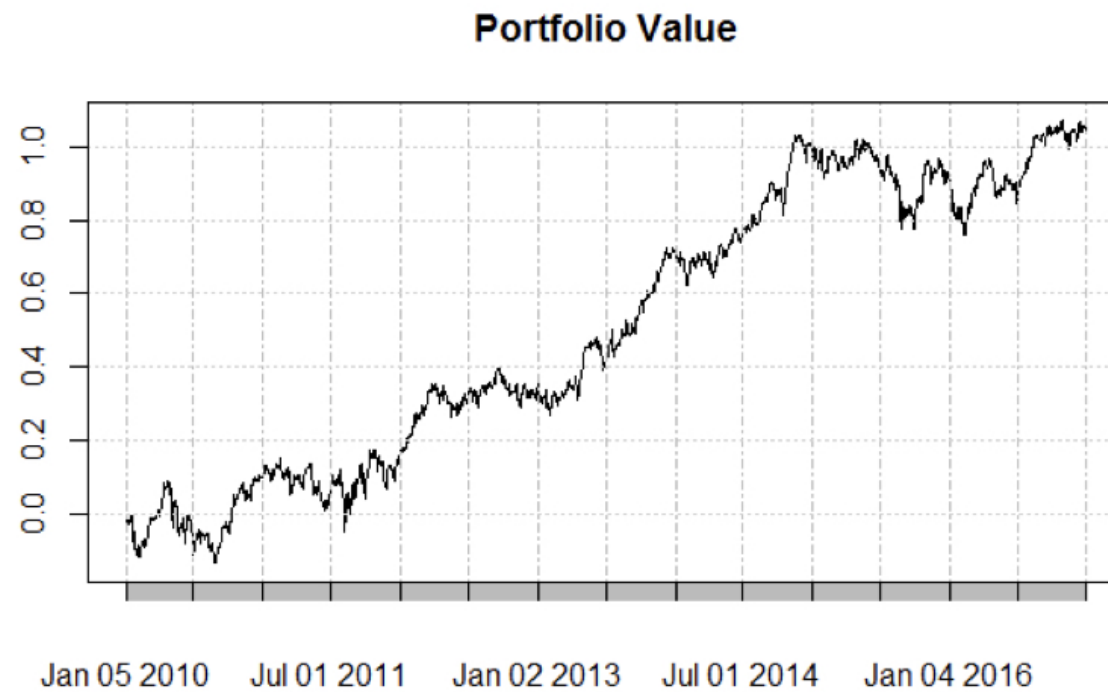
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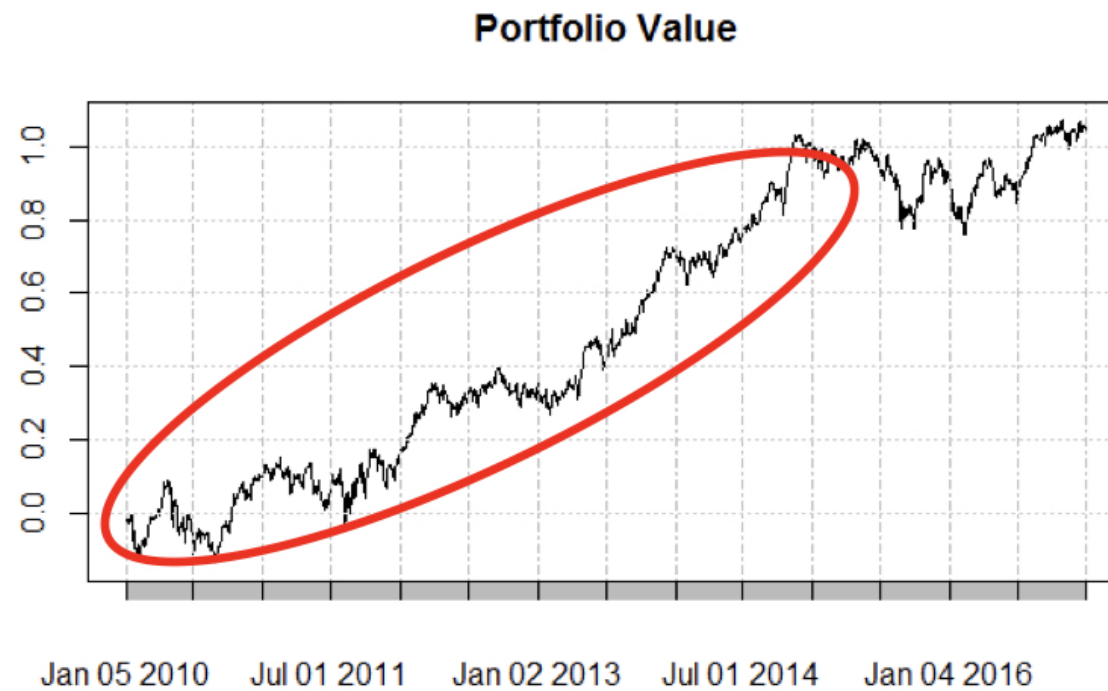
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# Conclusions so far



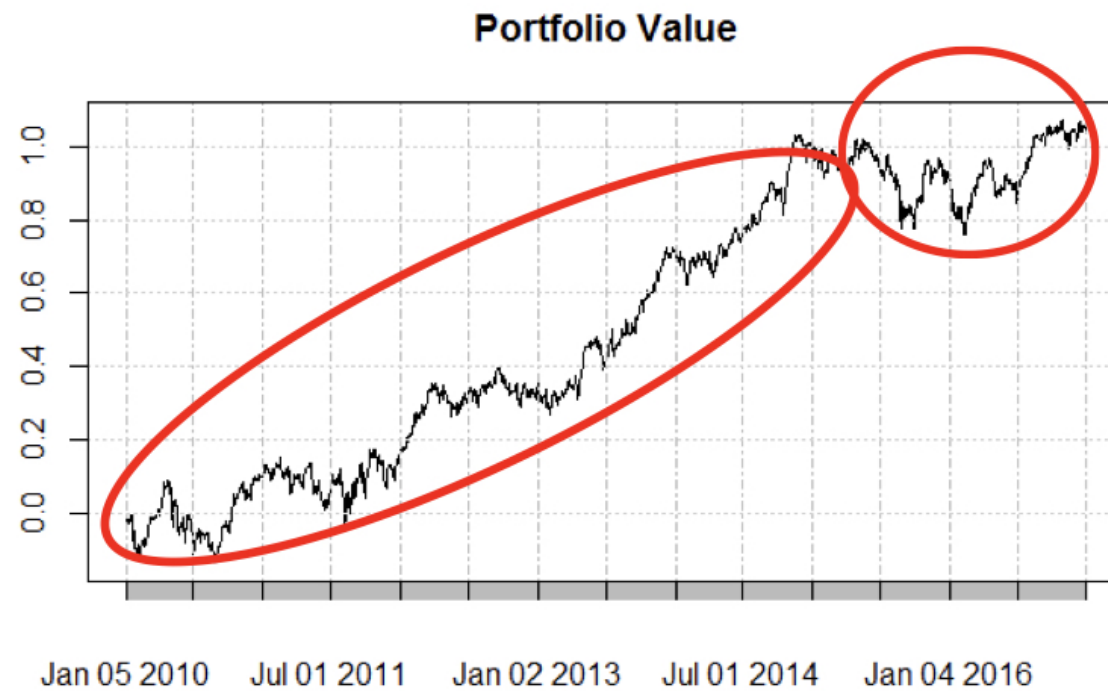
- The value increased by 100% over the course of 7 years

# Conclusions so far



- The value increased by 100% over the course of 7 years
- Really good performance between 2010 and 2014

# Conclusions so far



- The value increased by 100% over the course of 7 years
- Really good performance between 2010 and 2014
- No performance since end of 2014

# In what follows...

- **Goal:** Choose one stock to invest your spare cash
- A new dataset
- Choose only one stock
- Compare old and new portfolio

# Let's practice!

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# Congratulations!

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# Course wrap-up

- Chapter 1: `xts` , `plot()` etc...
- Chapter 2: Univariate time series
- Chapter 3: Multivariate time series
- Chapter 4: Case study



# DataCamp courses

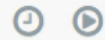
## Manipulating Time Series Data in R with xts & zoo

The xts and zoo packages make the task of managing and manipulating ordered observations fast and mistake free.



**JEFFREY RYAN**

Creator of xts and quantmod



## Introduction to Time Series Analysis

Learn the core techniques necessary to extract meaningful insights from time series data.



**DAVID S. MATTESON**

Assistant Professor at Cornell University



# CRAN Task View

<https://cran.r-project.org/web/views/TimeSeries.html>

## CRAN Task View: Time Series Analysis

**Maintainer:** Rob J Hyndman

**Contact:** Rob.Hyndman at monash.edu

**Version:** 2017-03-26

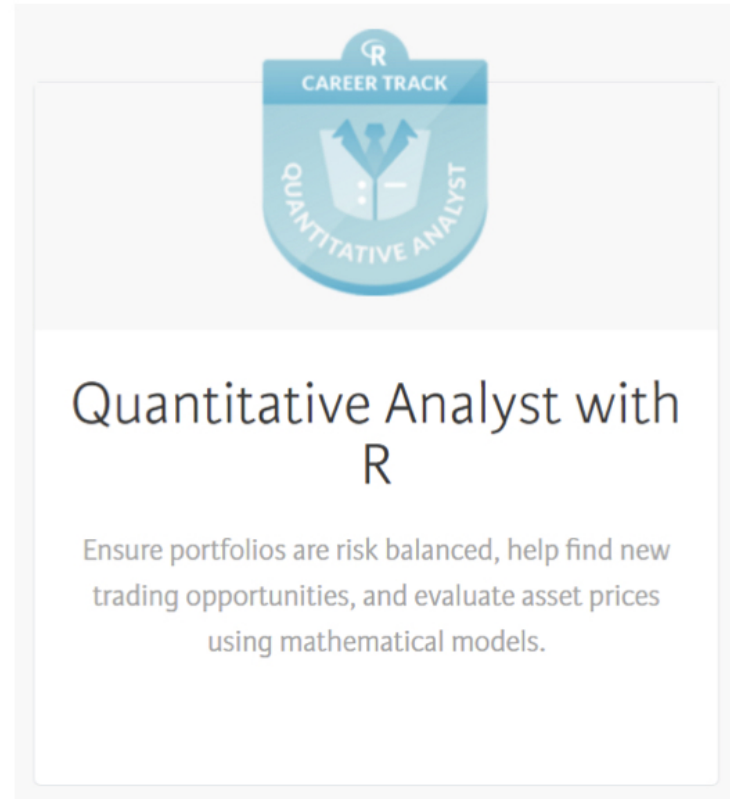
**URL:** <https://CRAN.R-project.org/view=TimeSeries>

Base R ships with a lot of functionality useful for time series, in particular in the stats package. There is also a considerable overlap between the tools for time series and those in the [Econometrics](#) task view. If you think that some package is missing from the list, please let us know.

### Basics

- *Infrastructure* : Base R contains substantial infrastructure for representing and analyzing time series data.

# quant career track



# Empirical Finance CRAN Task View

<https://cran.r-project.org/web/views/Finance.html>

CRAN Task View: Empirical Finance

**Maintainer:** Dirk Eddelbuettel

**Contact:** Dirk.Eddelbuettel at R-project.org

**Version:** 2017-03-30

**URL:** <https://CRAN.R-project.org/view=Finance>

This CRAN Task View contains a list of packages useful for empirical work in Finance, gro

Besides these packages, a very wide variety of functions suitable for empirical work in Fina  
of other packages on the Comprehensive R Archive Network (CRAN). Consequently, sever  
[Multivariate](#), [Optimization](#), [Robust](#), [SocialSciences](#) and [TimeSeries](#) Task Views.

The `ctv` package supports these Task Views. Its functions `install_views` and `update_views`

# R-bloggers

<https://www.r-bloggers.com/>



The screenshot shows the top portion of the R-bloggers website. At the top center is the logo, which consists of a stylized 'R' in blue with an orange arc above it, followed by the text '-bloggers' in blue. Below the logo is the tagline 'R news and tutorials contributed by (750) R bloggers'. A dark navigation bar contains the following links: Home, About, RSS, add your blog!, Learn R, R jobs (with a dropdown arrow), and Contact us. Below the navigation bar, on the left, is a 'WELCOME!' message and a Twitter follow button for '@rbloggers' with 45.1K followers. To the right of this is the main article title 'Online But In-Class Examinations (with an R' in a large serif font, with a small 'S' icon to its right.

# Let's practice!

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