

Arbuzov Vyacheslav

## Review of packages for R for market data downloading

 OANDA®

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Finance BETA

  
ФИНАМ<sup>RU</sup>

 twitter

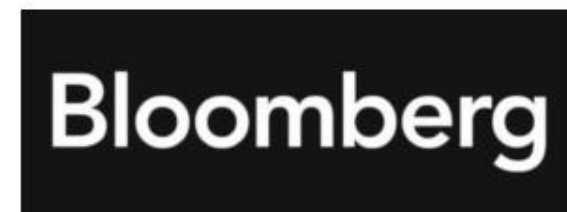
 Google Insights for Search  
beta

 FRED  
ECONOMIC DATA | ST. LOUIS FED

 YAHOO! FINANCE

 MORNINGSTAR

 facebook

 Bloomberg

 R -  DataMarket

# What is R?



- ☐ R is statistical and graphical programming environment
- ☐ Appeared in 1993 and designed by Ross Ihaka and Robert Gentleman
- ☐ R is a GNU project
- ☐ R – a free implementation of the S language
- ☐ It runs on a variety of platforms including Windows, Unix and MacOS
- ☐ It contains advanced statistical routines not yet available in other packages

There is more than 4300 packages that allow to use specialized statistical techniques, graphical devices, import/export capabilities, reporting tools, etc.

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**YAHOO! FINANCE**      Search      Search Web

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Get Quotes    Finance Search    Mon, Oct 1, 2012, 5:24AM EDT - U.S. Markets open in 4 hrs 5 mins

Dow **+0.36%** Nasdaq **0.00%**

**More On RTKM.ME**

**QUOTES**

Summary

Order Book

Options

Historical Prices

**CHARTS**

Interactive

Basic Chart

Basic Tech. Analysis

**NEWS & INFO**

Headlines

Financial Blogs

Company Events

Message Boards

**COMPANY**

Profile

Key Statistics

SEC Filings

Competitors

Industry

Components

**ANALYST COVERAGE**

Analyst Opinion

Analyst Estimates

Research Reports

Star Analysts

**OWNERSHIP**

Major Holders

Insider Transactions

Insider Rumors

**FINANCIALS**

Income Statement

Balance Sheet

Cash Flow

**ROSTELECOM (RTKM.ME) - MCX**      Add to Portfolio

**135.59 +1.19(0.89%)** 5:09AM EDT

|                     |        |               |                 |
|---------------------|--------|---------------|-----------------|
| Prev Close:         | 134.40 | Day's Range:  | 132.61 - 135.95 |
| Open:               | 139.40 | 52wk Range:   | N/A             |
| Bid:                | 135.48 | Volume:       | 939,509         |
| Ask:                | 135.60 | Avg Vol (3m): | N/A             |
| 1y Target Est:      | N/A    | Market Cap:   | N/A             |
| Beta:               | N/A    | P/E (ttm):    | N/A             |
| Next Earnings Date: | N/A    | EPS (ttm):    | N/A             |
|                     |        | Div & Yield:  | N/A (N/A)       |

Compare Brokers    Quotes delayed, except where indicated otherwise. Currency in RUB

**Headlines**      Filter Headlines

- Russian markets - Factors to Watch on Oct 1 at Reuters (Mon 2:06AM EDT)
- Russia postpones mobile data decision: paper Reuters (Thu, Sep 27)
- UPDATE 1-Russia telcos discuss tower JV to share costs at Reuters (Wed, Sep 19)
- Russian telecom operators discuss tower JV to share costs at Reuters (Wed, Sep 19)
- Russian markets - Factors to Watch on Sept 19 at Reuters (Wed, Sep 19)
- TEXT-Fitch: Russian LTE MVNO advantages likely to be short-lived at Reuters (Tue, Sep 4)
- Rostelecom "not yet" in merger talks with Tele2: CEO at Reuters (Thu, Aug 30)
- UPDATE 1-Rostelecom quarterly net profit up 3 pct at Reuters (Thu, Aug 30)
- Rostelecom Q2 net profit up 3 pct y/y at Reuters (Thu, Aug 30)
- Rostelecom eyes mobile merger with Tele2 Russia-paper at Reuters (Thu, Aug 2)

More Headlines for RTKM.ME

**THE DEATH OF THE PC**

The days of paying for costly software upgrades are numbered. The PC will soon be obsolete. And BusinessWeek reports 70% of Americans are already using the technology that will replace it. Merrill Lynch calls it "a \$100 billion opportunity." Computing giants including IBM, Yahoo!, and Amazon are racing to be the first to cash in on this PC-killing revolution.

Yet a small group of little-known companies have a huge head start. Get the full details on these companies, and the technology that is about to destroy the PC, in a free video report from The Motley Fool.

[Click here to watch this stunning video](#)

BROUGHT TO YOU BY THE MOTLEY FOOL

**Key Statistics**

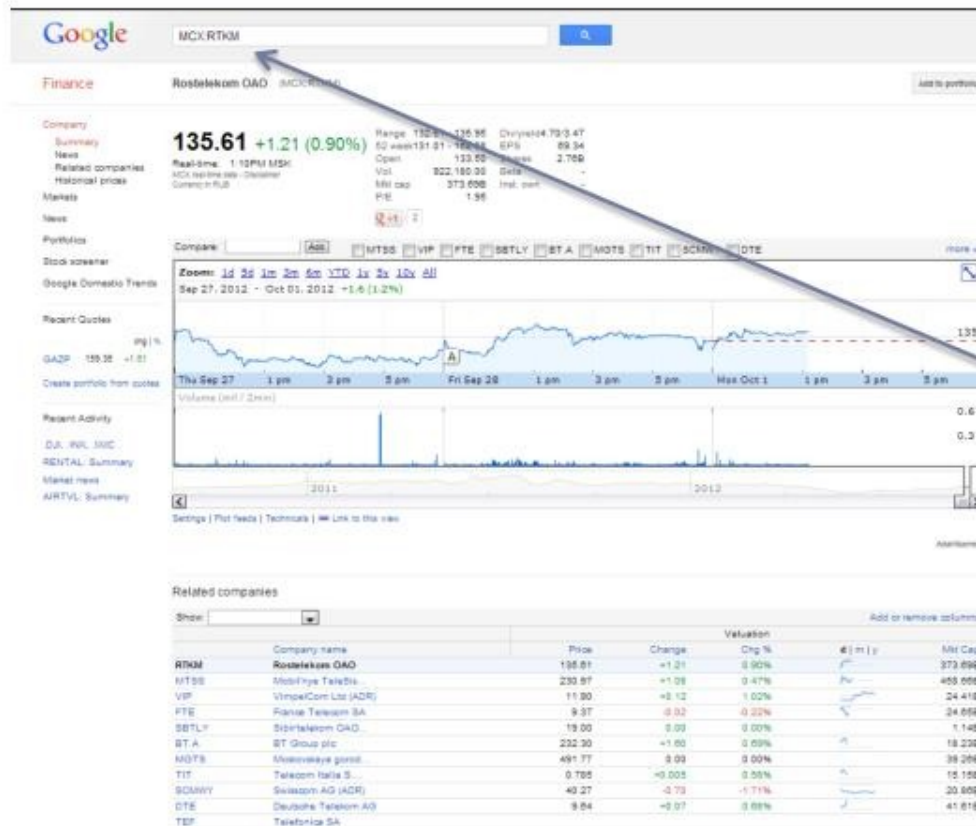
|                    |     |
|--------------------|-----|
| Forward RE (1 yr): | N/A |
| P/S (3m):          | N/A |
| Ex-Dividend Date:  | N/A |

Information from 59 exchanges  
(http://finance.yahoo.com/exchanges)

**ROSTELECOM (RTKM.ME) - MCX**  
**135.59 +1.19(0.89%)** 5:09AM

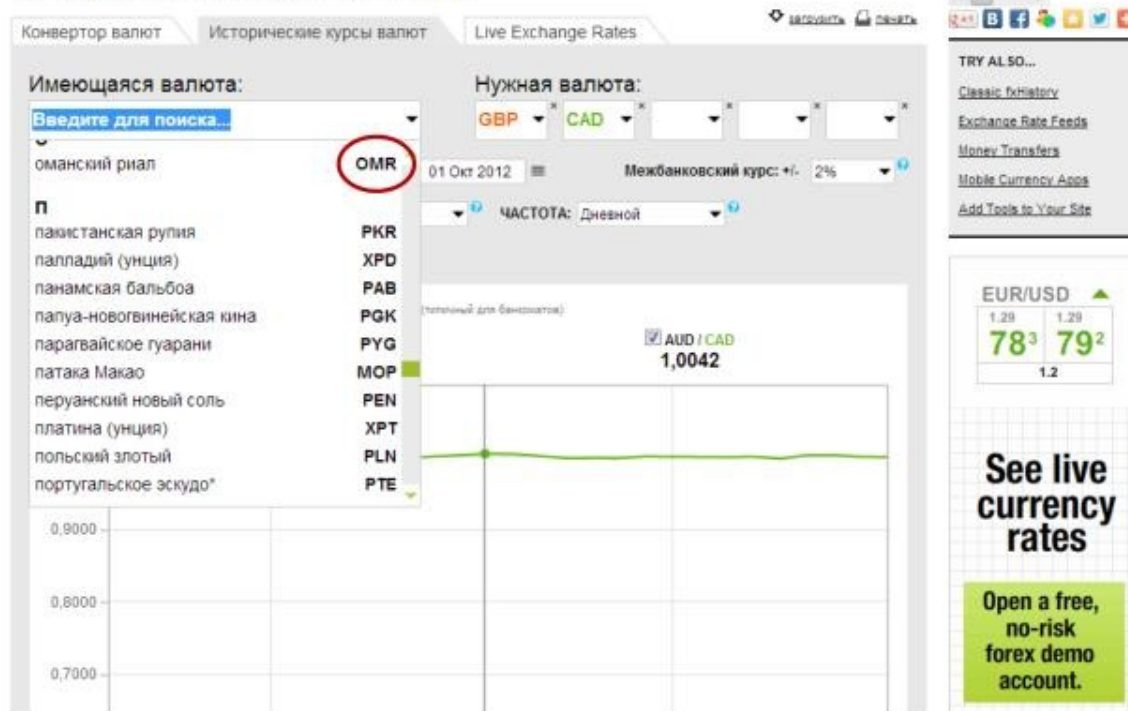


Information from 35 exchanges  
(<http://www.google.com/googlefinance/disclaimer/>)



MCX:RTKM

## Исторические курсы валют



## FOREX:

- 191 currencies
- 36000 currency pairs





YAHOO! FINANCE



Package quantmod

Package tseries

```
getSymbols("GOOG",src="yahoo",  
from = "2007-01-01", to =  
Sys.Date())
```

```
get.hist.quote  
(instrument="AAPL",  
provider = "yahoo")
```

```
getSymbols.google('MSFT',  
verbose=TRUE)
```

```
getSymbols("USD/EUR",src="oanda")
```

Package quantmod

```
getSymbols('CPIAUCNS',src='FRED')
```

55 000 economic time series from 45 databases



#### Tools

- [Download Data](#)
- [View Data](#)
- [Notify Me of Updates](#)
- [Add to My Data List](#)
- [Vintage Series in ALFRED](#)

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#### Other Formats

- Monthly, Not Seasonally Adjusted

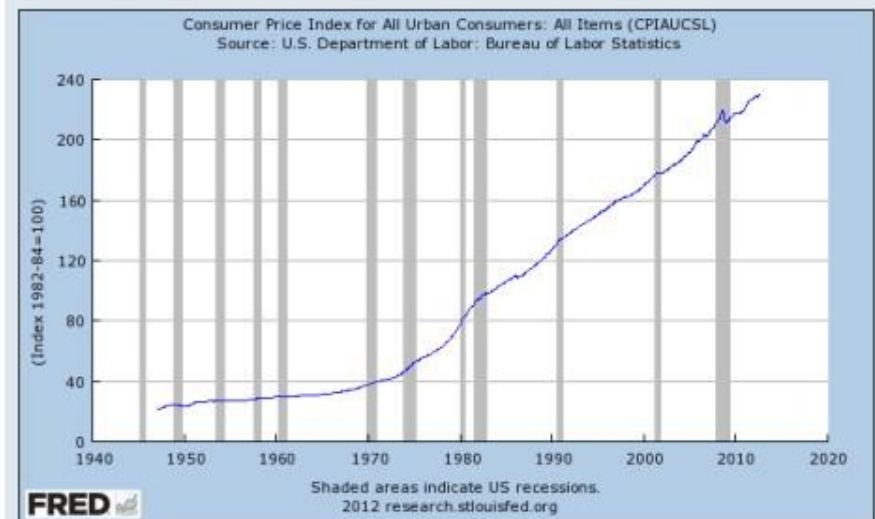
#### Tags

- usa x 44,376
- monthly x 33,871
- nation x 28,579
- bls x 21,125
- sa x 11,371
- cpi x 11,250
- consumer x 4,605
- inflation x 4,438

Home > FRED® Economic Data > Categories > Prices > Consumer Price Indexes (CPI)

### Consumer Price Index for All Urban Consumers: All Items (CPIAUCSL)

2012-08: **230.102** Index 1982-84=100 Last 5 Observations  
Monthly, Seasonally Adjusted, Updated: 2012-09-14 9:23 AM CDT



[Edit Graph](#) [Print](#) [PDF](#) [Save](#)

Type: Line Size: Medium Range: Max Log Scale: Left Units: Levels

Notes: Growth Rate Calculations | US recession dates

## 55,000 economic time series from 45 sources:

- Automatic Data Processing, Inc.
- Banca d'Italia
- Banco de Mexico
- Bank of Japan
- Bankrate, Inc.
- Board of Governors of the Federal Reserve System
- BofA Merrill Lynch
- British Bankers' Association
- Central Bank of the Republic of Turkey
- Chicago Board Options Exchange
- CredAbility Nonprofit Credit Counseling & Education
- Deutsche Bundesbank
- Dow Jones & Company
- Eurostat
- Federal Financial Institutions Examination Council
- Federal Housing Finance Agency
- Federal Reserve Bank of Chicago
- Federal Reserve Bank of Kansas City
- Federal Reserve Bank of Philadelphia
- Federal Reserve Bank of St. Louis
- Freddie Mac
- Haver Analytics
- Institute for Supply Management
- International Monetary Fund
- London Bullion Market Association
- National Association of Realtors
- National Bureau of Economic Research
- Organisation for Economic Co-operation and Development
- Reserve Bank of Australia
- Standard and Poor's
- Swiss National Bank
- The White House: Council of Economic Advisors
- The White House: Office of Management and Budget
- Thomson Reuters/University of Michigan
- U.S. Congress: Congressional Budget Office
- U.S. Department of Commerce: Bureau of Economic Analysis
- U.S. Department of Commerce: Census Bureau
- U.S. Department of Energy: Energy Information Administration
- U.S. Department of Housing and Urban Development
- U.S. Department of Labor: Bureau of Labor Statistics
- U.S. Department of Labor: Employment and Training Administration
- U.S. Department of the Treasury: Financial Management Service
- U.S. Department of Transportation: Federal Highway Administration
- Wilshire Associates Incorporated
- World Bank



ФИНАМ<sup>RU</sup>

Имя контракта

LME.Tin

Russian market:

- Stock
- Bond
- derivatives
- others



14:17 MSK PDA Eng +7 (495) 796 93 88 Звонок с сайта Портфель «Тест-драйв»: 300000.0 руб. +0.0 (+0.0%) Регистрация Вход

О компании Теханализ Статистика Котировки Экспорт Графика Видео Форумы Кабинет Клиента

Про рынок Услуги Forex Мировые рынки Обучение ПИФы Банк Облигации

Товары Олово

Интервал и периодичность 01.10.2012 — 01.10.2012 1 час

Имя выходного файла LME.Tin\_121001\_121001 .txt

Имя контракта LME.Tin

Формат даты ггггммдд времени ччммсс

Выдавать время ☒ начала свечи ☐ окончания свечи ☒ московское

Разделитель полей запятая (,) разрядов нет

Формат записи в файл TICKER, PER, DATE, TIME, OPEN, HIGH, LOW, CLOSE

Добавить заголовок файла ☒

Заполнять периоды без сделок ☐

Получить файл

На выходе вы получите текстовый файл, который через DownLoader Вы сможете легко конвертировать в

Газпром

- [Метасток](#)
- [Omega](#)
- [Finam Data Feed](#)
- [Помощь](#)

- [Finam Trade - все мировые площадки в одной платформе](#)
- [Широкий спектр возможностей инвестирования. Подробнее >>](#)
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```
install.packages("rusquant", repos="http://R-Forge.R-project.org")
```

```
install.packages("rusquant", contriburl="http://r-forge.r-project.org/bin/windows/contrib/latest/")
```

```
getSymbols("SPFB.RTS", from="2011-01-01", src="Finam", period="hour")
```

1min, 5min, 10min, 15min, 30min, hour,  
day, week, month

100 million time series from different data sources:

- Eurostat,
- World Bank
- UN

<http://datamarket.com/>



We have announced **The DataMarket Energy Portal** [Check it out!](#)



*Power your data with DataMarket*

## The data delivery engine for the information industry

DataMarket enables market research companies and other information publishers to provide their clients with the data they need. Our solution makes your data more valuable by making it easy to find, understand and share.

### Search

Find the numbers you need, in reports or in-house or third-party datasets, regardless of format.

### Visualize

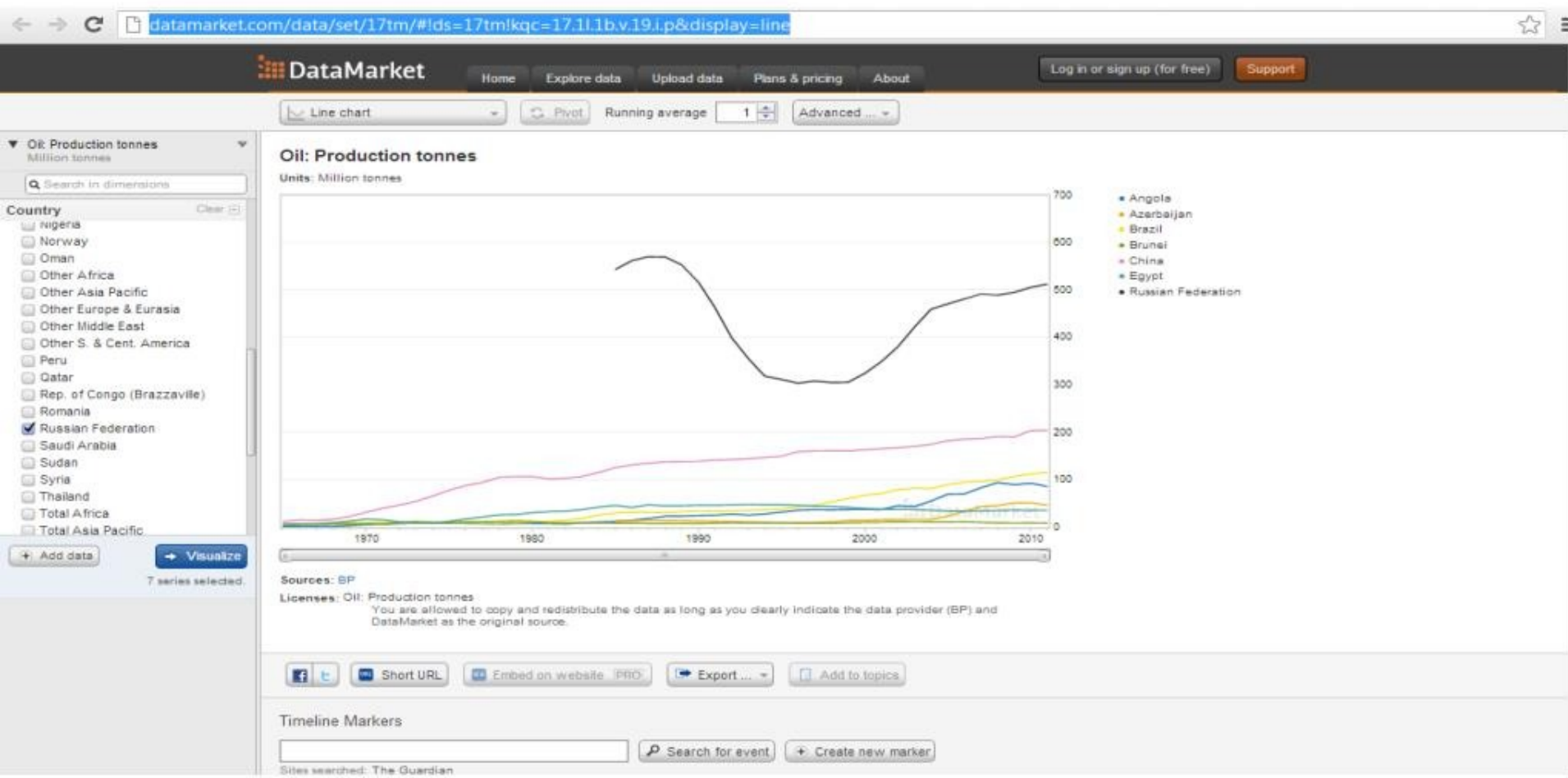
Get your point across by rendering your data in beautiful charts in just one click.

### Publish

Instantly push out dynamic, branded content to your team, clients or website.

## Package rdatamarket

```
dmlist("http://datamarket.com/data/set/1loo/#!display=line&ds=1loo!1n6s=2eu&e=-ag9")
dminfo("http://datamarket.com/data/set/1loo/#!display=line&ds=1loo!1n6s=2eu&e=-ag9")
```





Morningstar provides data on more than 385,000 investment offerings, including stocks, mutual funds, and similar vehicles, along with real-time global market data on more than 8 million equities, indexes, futures, options, commodities, and precious metals, in addition to foreign exchange and Treasury markets

Welcome!

Get 14 Days Free.

|      |                                 |                                |                               |                             |                                    |                               |
|------|---------------------------------|--------------------------------|-------------------------------|-----------------------------|------------------------------------|-------------------------------|
| EDIT | Nasdaq<br>3113.53 -2.70(-0.09%) | S&P 500<br>1444.49 3.82(0.27%) | DJIA<br>13515.11 77.98(0.58%) | Gold<br>1777.10 6.00(0.34%) | Light Crude<br>92.36 -0.12(-0.13%) | Morningstar<br>Advisor Digest |
|------|---------------------------------|--------------------------------|-------------------------------|-----------------------------|------------------------------------|-------------------------------|

Tuesday, October 02, 2012

PERSPECTIVES: Charles Schwab

### Disrespected Rally...Can It Continue?

Although numerous measures show investors remain skeptical and economic data are mushy, the positive trend should continue, with some blips along the way, writes Schwab's Liz Ann Sonders.

- Liz Ann Sonders will be presenting this week at Morningstar's ETF Invest Conference
- See Morningstar's Outlook for the Stock Market

VIDEO REPORT

### Tactics for Tax-Gain Harvesting This Fall

Taking a capital gain this year on some securities remain skeptical and economic data are mushy, the positive trend should continue, with some blips along the way, writes Schwab's Liz Ann Sonders.

- Looking Ahead: Your Fourth-Quarter Financial To-Do List
- Tax Talk: What to Do With Dividend Payers
- Stay a Step Ahead of the New Medicare Surtax

ERROR-PROOF PORTFOLIO

### 5 Tips for Fighting the Financial Complexity Complex

Many financial-services providers have a vested interest in mixed-up consumers. Here's how to seize control.

- Archive: Why the Best Questions Might Be the 'Dumb' Ones

#### Market Barometer

Lg Day Return +1.25%  
Md 0  
Sm -1.25%

Value-Growth

1Wk 1Mo 3Mo 1Yr 3Yr

#### Top News

- Asian Shares Up on U.S. Data, RBA in Focus
- Japan Stocks Rise as Exporters Climb
- Japan's Prime Minister Reshuffles Cabinet
- IMF's Legarde: Housing Turnaround a Sign of Improving US Economy: CBS News
- Holiday Spending May Be Somewhat Low-Key this Year
- S&P Cautions Low Iron Ore Prices Could Trip Up Miners
- Madoff Scheme Reportedly Started in Early 1970s
- J.P. Morgan Sued Over Mortgage Securities: WSJ
- Bernanke: Expect Economy to Continue to Expand

#### Market Indexes

|           | U.S.   | Morningstar | Asian | European |  |
|-----------|--------|-------------|-------|----------|--|
| DJIA      | 13,515 | 78.0        | 0.6%  |          |  |
| 10/1/2012 | 13595  |             |       |          |  |
| 4:08 PM   | 13563  |             |       |          |  |
| More      | 13532  |             |       |          |  |
|           | 13500  |             |       |          |  |
|           | 13468  |             |       |          |  |

|  | S&P 500 | NASDAQ | Morningstar U.S. Market | Morningstar Small Cap |
|--|---------|--------|-------------------------|-----------------------|
|  | 1,444   | 3,114  | 3,610                   | 5,323                 |
|  | 3.8     | -2.7   | 7.4                     | 4.9                   |
|  | 0.3%    | -0.1%  | 0.2%                    | 0.1%                  |

Portfolio Gainers, Losers, Actives Morningstar Screen

#### Create a Portfolio

Start by entering a name...

#### Morningstar Premium

Start a FREE 14-Day Trial

#### Commodity Futures

|  | Gold       | Light Crude | Natural Gas |
|--|------------|-------------|-------------|
|  | \$1,777.10 | \$92.29     | \$3.50      |



## **Morningstar Web Services**

~\$5,400 per year

MATLAB

R ( packages bitops, Rcurl, XML, RLIM )

# Bloomberg

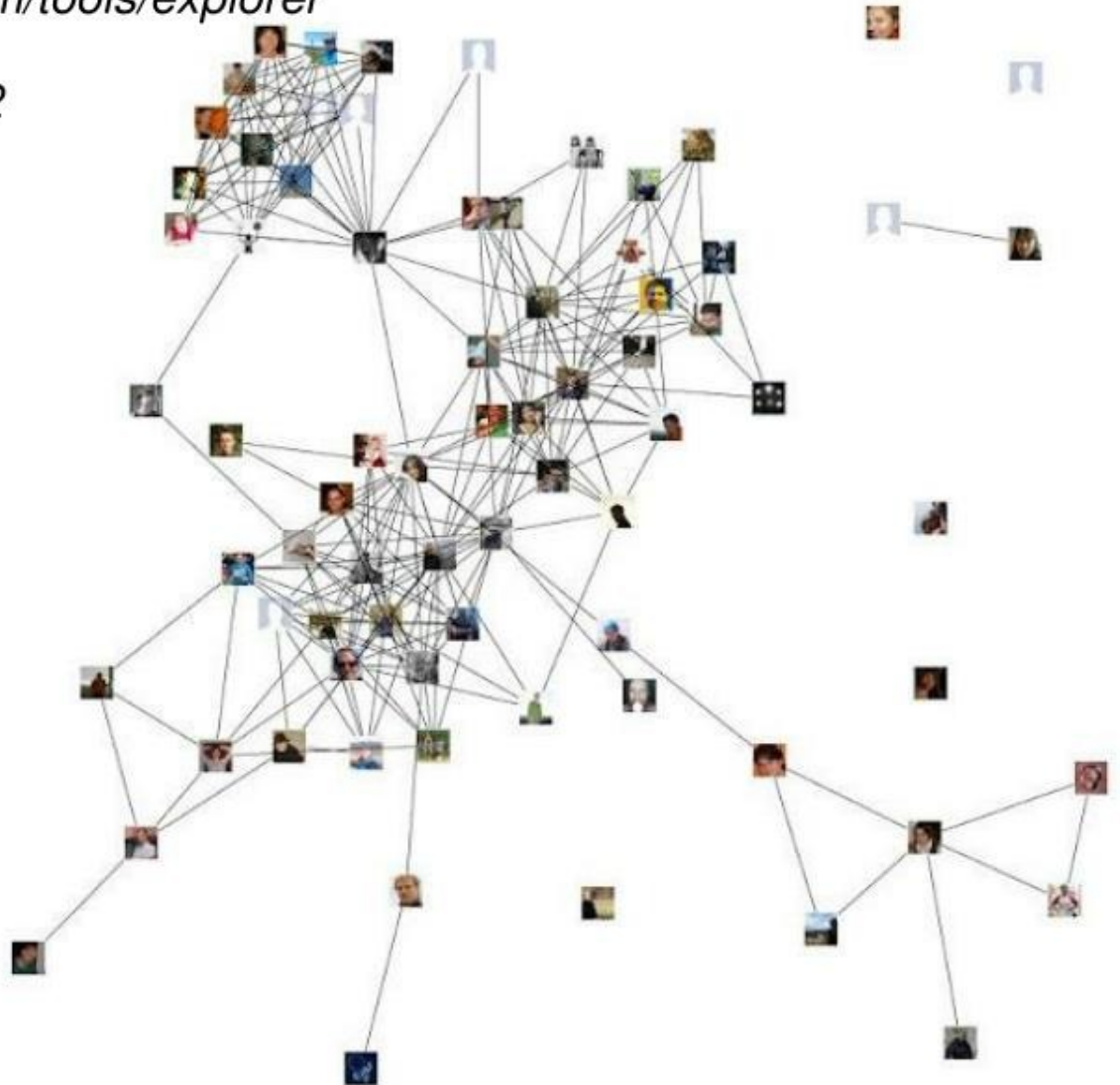
One of the leading providers of financial information

```
install.packages("R Bloomberg", repos = "http://r.finddata.org")  
conn <- blpConnect()
```



<https://developers.facebook.com/tools/explorer>

<https://gist.github.com/1634662>







Package twitterR

```
searchTwitter("#rstats", n=300)  
searchTwitter("patriots", geocode='42.375,-71.1061111,10mi')  
searchTwitter("trading", since="2012-10-01", until="2012-10-02")->t  
twListToDF(t)  
getTrends("daily")
```





ver. (10/2012)

[Mobile options & donations](#)

**FishBase** ( Species, Common names, Pictures,  
References, Collaborators, Visits/Month )

[Home](#) | [FishBase Book](#) | [Best Photos](#) | [Hints](#) | [Guest Book](#) | [Download](#) | [Links](#) | [Fish Forum](#) | [Fish Quiz](#) |

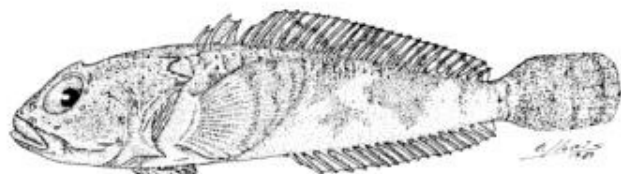
[FishWatcher](#) | [Ichthyology Course](#) | [LarvalBase](#) | [Team](#) | [Collaborators](#) | [Quick Identification](#) | [Services](#)



Fishbase consortium



Package  
rfishbase



# Data in the packages

```
data(package = "ggplot2")
```

```
data(msleep, package = "ggplot2")
```

# Package ggplot2



<http://www.diamondse.info>

~ 54 000 round diamonds with  
characteristics:

- carat
- colour
- clarity
- total depth
- width
- height
- price





# Package ggplot2

Full information about 38 popular cars  
from 1999 to 2008

```
data(mpg, package = "ggplot2")
```



# Package ggplot2

US economic time series  
from 1967 to 2007 r.

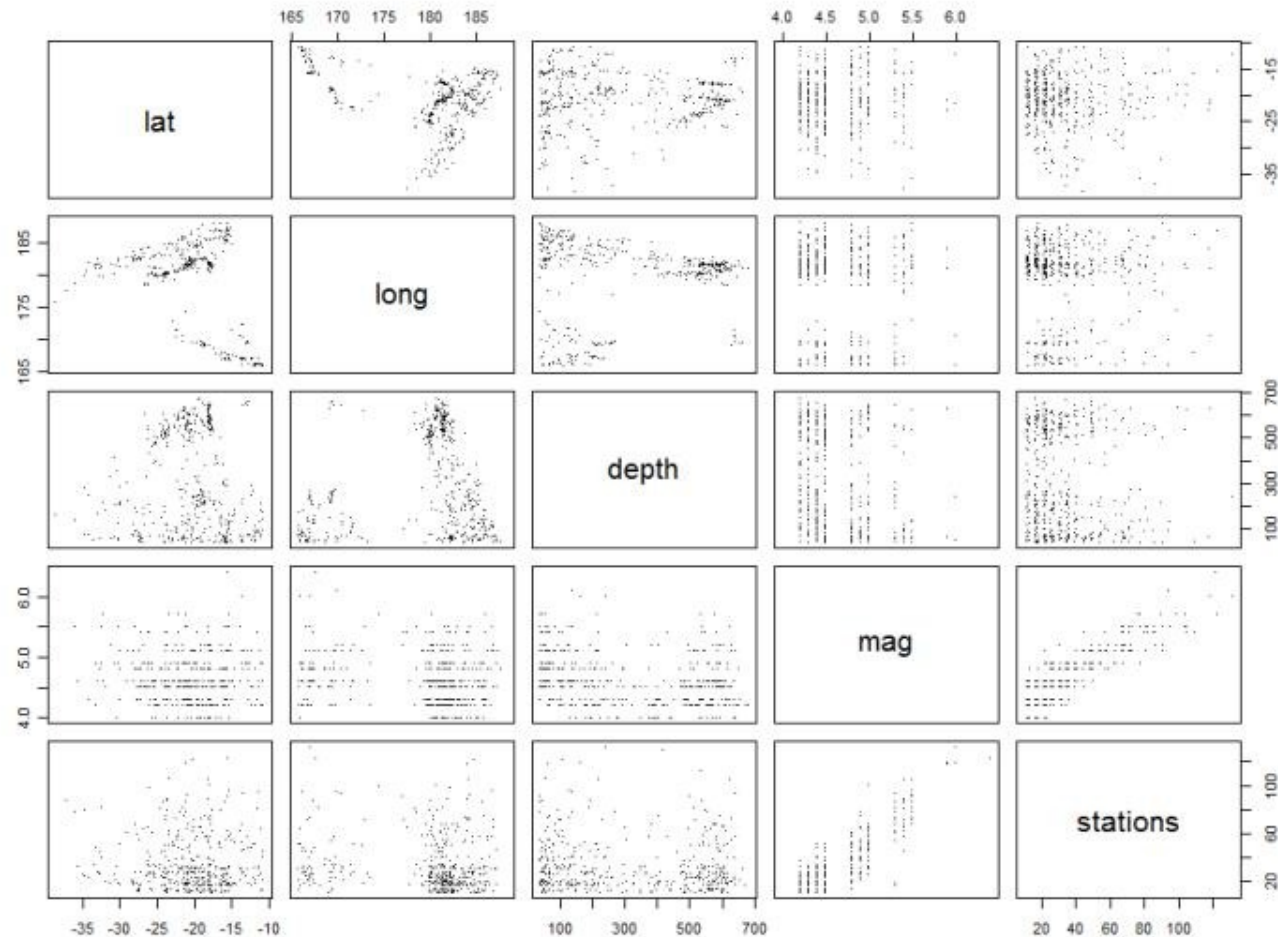
```
data(economics , package = "ggplot2")
```



# Package datasets

~ 1000 Earthquakes  
off Fiji  
since 1964 year

```
data(quakes, package = "datasets")
```



# Package datasets

Distances Between  
European Cities

```
data(eurodist, package = "datasets")
```





# download.file

```
help(download.file )
```

# Quantmod

```
getSymbols("AAPL",src="yahoo")  
barChart(AAPL)
```

```
candleChart(AAPL,multi.col=TRUE,theme="white")  
chartSeries(AAPL,up.col='white',dn.col='blue')
```

```
addMACD()
```

```
addBBands()
```

```
to.weekly(AAPL)
```

```
to.monthly(AAPL)
```

```
dailyReturn(AAPL)
```

```
weeklyReturn(AAPL)
```

```
monthlyReturn(AAPL)
```





BEFORE: you think R like  
"Swiss Army Knife"

AFTER: R really like this:

