The fEcofin Package

October 8, 2007

Version 260.72

Date 1997 - 2007

Title Ecofin - Economic and Financial Data Sets

Author Diethelm Wuertz and many others. See the SOURCE file

Depends R (>= 2.4.0), fUtilities

Maintainer Diethelm Wuertz and Rmetrics Core Team <Rmetrics-core@r-project.org>

Description Environment for teaching “Financial Engineering and Computational Finance”

NOTE SEVERAL PARTS ARE STILL PRELIMINARY AND MAY BE CHANGED IN THE FUTURE. THIS TYPICALLY INCLUDES FUNCTION AND ARGUMENT NAMES, AS WELL AS DEFAULTS FOR ARGUMENTS AND RETURN VALUES.

LazyLoad yes

LazyData yes

License GPL Version 2 or later

URL http://www.rmetrics.org

R topics documented:

BondsData .......................................................... 2
CIAFactbook ........................................................ 2
PerformanceAnalyticsData ...................................... 4
PortfolioData ....................................................... 5
TimeSeriesData .................................................... 6
WFEStatistics ...................................................... 10

Index 12
BondsData  

Bonds Data Sets

Description

A collection and description of data sets from the Rmetrics Package fBonds.

The data sets are:

bundesbankNSS  Nelson-Siegel-Svensson Coefficients.

Details

Bundesbank Nelson-Siegel-Svensson Coefficients:

Coefficients for the Nelson-Siegel-Svensson yield curve from the German Bundesbank.

: 

mk.zero2 is a data set with a 67 x 55 values representing the zero-coupon yield curve from August 1985 to February 1991.
mk.maturity a numeric vector of length 55, giving the fifty-five maturities in terms of years for the term structure.

References


CIAFactbook  

CIA Factbook

Description

A collection and description of functions to extract financial and economic market statistics from the data available in the CIA World Factbook.

The functions are:

- ciaCountries  Returns a list of CIA country codes,
- ciaIndicators  Returns a list of CIA indicator codes,
- ciaByCountry  Returns all Indicators by country,
- ciaByIndicator  Returns for all countries indicator ranking.
Usage

ciaCountries()
ciaIndicators()

ciaByCountry(code = "CH", from = FALSE, names = FALSE, details = FALSE)
ciaByIndicator(code = 2001, from = FALSE, details = FALSE)

## S3 method for class 'ciaCountries':
print(x, ...)
## S3 method for class 'ciaIndicators':
print(x, ...)

Arguments

code [ciaByCountry] -
a character string denoting the country code.
[ciaByIndicator] -
a character string or integer denoting the indicator code.
details a logical flag. Should details be printed? By default FALSE.
from a logical flag. If set to TRUE an additional column will be returned with the
information when the data were recorded.
names a logical flag. If set to TRUE then the full names of the countries will be
returned in an additional column
x x an object of class ciaCountries or ciaIndicators as returned by the
functions ciaCountry or ciaIndicator, respectively.
... arguments to be past to the print method.

Value

ciaCountries
returns a data frame with countries and contry codes.

ciaIndicators
returns a data frame with indicator codes.

ciaByCountry
returns a data frame with indicators by country.

ciaByIndicator
returns a data frame with ranked data for a given indicator.

Author(s)

Diethelm Wuertz for the Rmetrics R-port.
References


Examples

```r
## Pie Chart from CIA Oil Production Indicator (Code 2173):
# Search for Code:
ciaIndicators()
# Create Pie Chart:
OilProduction = as.integer(as.vector(ciaByIndicator(2173)[2:11, 2]))
names(OilProduction) = as.vector(ciaByIndicator(2173)[2:11, 1])
print(OilProduction)
pie(OilProduction, col = rainbow(10))
title(main = "Oil Production 2004
bbl/day")
mtext("Source: CIA World Factbook", side = 1)
```

PerformanceAnalyticsData

Performance Analytics Data Sets

Description

A collection and description of data sets used in the examples of the PerformanceAnalytics packages.

The files are:

```r
edhec  composite hedge fund style index returns,
managers fixed income benchmarks.
```

Format

All files are in CSV Excel spreadsheet format. The delimiter is a semicolon.

Details

**EDHEC composite hedge fund style index returns:**

“The EDHEC Risk and Asset Management Research Centre plays a noted role in furthering applied financial research and systematically highlighting its practical uses. As part of its philosophy, the centre maintains a dialogue with professionals which benefits the industry as a whole. At the same time, its proprietary R&D provides sponsors with an edge over competition and joint ventures allow selected partners to develop new business opportunities.

To further assist financial institutions and investors implement the latest research advances in order to meet the challenges of the changing asset management landscape, the centre has spawned two consultancies and an executive education arm. Clients of these derivative activities include many of the leading organisations throughout Europe”. [Source: EDHEC website]

see http://www.edhec-risk.com/about_us
Data used in PerformanceAnalytics and related publications with the kind permission of the ED-HEC Risk and Asset Management Research Center.

Hypothetical Alternative Asset Manager Data and Fixed Income Benchmarks:
A data frame that contains columns of monthly returns for six hypothetical asset managers (HAM1 through HAM6), the EDHEC Long-Short Equity hedge fund index, the S&P 500 total returns, and total return series for the US Treasury 10-year bond and 3-month bill. Monthly returns for all series end in December 2006 and begin at different periods starting from January 1996.

References


Examples

```r
## Load Example Data Set:
data(edhec)
edhec
```

PortfolioData  *fPortfolio Data Sets*

Description

Data sets used in the examples of the ‘fPortfolio’ package.

Format

The *Van Hedge Fund Indices* were one of the first performance benchmarks based on a large and representative sample of hedge fund returns. Published from 1995 until now, the Van Indices reflect the average performance of hedge funds back to 1988. The Indices are produced on a monthly basis. They represent the average performance of hedge funds around the world and therefore tracks the performance of the overall hedge fund universe.

All Index returns are based on hedge funds returns that are net of fees. They are simple non-dollar-weighted averages. Indexes for different time periods may be based on different funds, depending on the hedge funds reporting to VAN at the time. The database, used in construction of the Indices, contains information on approximately 5,300 hedge funds.

The Van Global Hedge Fund Index is reported on a percentage-change basis. The Index was set at an initial value of 1,000 as of its January 1, 1988 inception.
The csv data file consists of 16 columns, the first with the date entries formatted as "%m/%d/%Y", followed by 14 columns with the Index, and the last column with the Global Hedge Fund Index.

The Indexes are:
- AggressiveGrowth
- DistressedSecurities
- EmergingMarkets
- FundofFunds
- Income
- Macro
- MarketNeutralArbitrage
- MarketNeutralHedging
- MarketTiming
- Opportunistic
- SeveralStrategies
- ShortSelling
- SpecialSituations
- Value
- VanGlobalHedgeFundIndex

Source
Van Hedge Fund Advisors International, Inc.
http://hedgefund.com/

Examples

---

### Description

A collection and description of data sets used in the examples of the Rmetrics packages.

**bmwRet**

The file "bmwRet.csv" contains data representing daily stock returns of the german BMW shares. The data start on 1973-01-03 and end on 1996-07-23.

**CPI.dat**
**IP.dat**

The file "IP.dat.csv" contains data representing seasonally adjusted US Industrial Production Index and the file "CPI.dat.csv" contains data representing seasonally adjusted US Consumer
TimeSeriesData

Price Index.

danishClaims

The file "danishClaims.csv" contains data representing daily Danish fire losses in Million Danish Kronors. The data start on 1980-01-03 and end on 1990-12-31.

dem2gbp


DowJones30

The file "DowJones30.csv" contains daily observations from January 2, 1991 to January 2, 2001, of the 30 constituents of the Dow Jones Index. Each of the thirty columns represents the closing price of a stock in the "Dow Jones Industrial Average".

ford.s
hp.s

The files "ford.s.csv" and "hp.s.csv" contain data representing 2000 daily stock returns for the Ford and HP shares traded at NYSE. The time series span the period from February 2, 1984, to December 31, 1991.

klein

The file "klein.csv" contains data for Klein's (1950) simple econometric model of the US economy. The Klein data frame has 22 rows and 10 columns:
This data frame contains the following columns: year years 1921-1941, represented in the POSIX data format %Y-%m-%d,
c the consumption,
p the private profits,
wp the private wages,
i the investment,
k.lag the capital stock, lagged one year,
x the equilibrium demand,
wg the government wages,
g the government non-wage spending,
tax indirect business taxes and net exports.
Source: Greene (1993)

kmenta

The file "kmenta.csv" contains partly contrived data from Kmenta (1986), constructed to illus-
TimeSeriesData

strate estimation of a simultaneous-equation model. The data set has 20 rows and 6 columns, where the first holds the ISO-8601 formatted date as "%Y-%m-%d": The remaining columns are:

- q: food consumption per capita,
- p: ratio of food prices to general consumer prices,
- d: disposable income in constant dollars,
- f: ratio of preceding year’s prices received by farmers to general consumer prices,
- a: time in years (numbered from 1 to 20).

The exogenous variables d, f, and a are based on real data; the endogenous variables p and q were generated by simulation.

msft.dat

The file "msft.dat.csv" contains daily stock prices and volumes for the Microsoft covering the period from 2000-09-27 until 2001-09-27. The first column lists dates in the format code"%Y-%m-%d", the next four columns Open, High, Low, and Close Prices, and the final column volumes.

nelsonplosser

The file "nelsonplosser.csv" contains the data set listing fourteen US economic time series used by Nelson and Plosser in their seminal paper. The time series are:

- "%Y%m%d" - Date index from 18601231 until 19701231,
- "gnp.r" - Real GNP, [Billions of 1958 Dollars], [1909 - 1970],
- "gnp.n" - Nominal GNP, [Millions of Current Dollars], [1909 - 1970],
- "gnp.p" - Real Per Capita GNP, [1958 Dollars], [1909 - 1970],
- "ip" - Industrial Production Index, [1967 = 100], [1860 - 1970],
- "emp" - Total Employment, [Thousands], [1890 - 1970],
- "ur" - Total Unemployment Rate, [Percent], [1890 - 1970],
- "gnp.p" - GNP Deflator, [1958 = 100], [1889 - 1970],
- "cpi" - Consumer Price Index, [1967 = 100], [1860 - 1970],
- "wg.n" - Nominal Wages, [current Dollars], [1900 - 1970],
- "wg.r" - Real Wages, [Nominal wages/CPI], [1900 - 1970],
- "M" - Money Stock (M2), [Billions of Dollars, annual averages], [1889 - 1970],
- "vel" - Velocity of Money, [1869 - 1970],
- "bnd" - Basic Bond Yields of 30-year Corporate Bonds, [Percent per annum], [1900 - 1970],
- "sp" - Stock Prices, [Index; 1941 - 43 = 100], [1871 - 1970].

nyse

The file "nyse.csv" archives a two-column dataset, the first contains the date in the format "%Y%m-%d" and the second daily records of the NYSE Composite Index.

recession

The file "recession.csv" holds the data set used in the regression analysis of US recession. The data include short and long term interest rates from the US, the 3 Month Tbills data from US FED, the 10 Year Tbonds data from US FED, and also the Stock-Watson experimental recession index.

shiller.dat

shiller.annual

The files "shiller.dat.csv" and "shiller.annual.csv" hold data used in the book

singleIndex.dat
The file "recession.csv" holds monthly index and price data records from January 1990 to January 2001. Included are monthly closing prices for Microsoft Corporation (MSFT) and SP500 Index (SP500).

sp500dge
sp500index
The first file "sp500index.csv" lists daily SP500 index values. The data cover the period January 1995 until December 1999, and have 1249 observations. The first column of the file lists dates, and the second column lists index values. The second file "sp500dge.csv" lists daily returns from the SP500 as used in the paper of Ding, Granger and Engle.

surex1.ts.dat
The file "surex1.ts.csv" contains exchange rate spot returns and forward premium data as used in the article of E. Zivot (2000).

yhoo.df
The file "yhoo.df.csv" contains data representing daily transaction information of Yahoo stock, with the following six columns: Date, Open, High, Low, Close, Volume.

Format
All files are in CSV Excel spreadsheet format. The delimiter is a semicolon.

References
Klein, L. (1950); Economic Fluctuations in the United States 1921–1941, Wiley.


### Examples

```r
## Load Example Data Set:
data(kmenta)
kmenta
```

---

**WFES**

**Statistics**

**WFE Statistics**

**Description**

A collection and description of functions to extract financial and economic market statistics from the data available from the exchange data collected by the World Federation of Stock Exchanges.

To load statistics from the WFE:

```r
data(wfe1)  # Market capitalization of domestic companies,
data(wfe2)  # Total number of companies with shares listed,
data(wfe3)  # Total value of share trading,
data(wfe4)  # Market value of bonds listed,
data(wfe5)  # Total value of bond trading, and
ndata(wfe6)  # Price earning ratio an gross dividend yield.
```

**Author(s)**

Diethelm Wuertz for the Rmetrics R-port.

**References**


**Examples**

```r
## Barplot from WFE Capitalization Statistics:
# Extract Capitalization of/at:
# 1991 - 2003 triannual: 3,6,9,12,15
data(wfe1)
Table = t(wfe1[c(7,37,22,15),c(3,6,9,12,15)])/1e6
```
colnames(Table) = c("NewYork", "Tokyo", "London", "Frankfurt")
rownames(Table) = as.character(seq(1991, 2003, by = 3))
Table
  # Create Barplot:
  barplot(Table, beside = TRUE, legend = rownames(Table),
          col = c("lightblue", "mistyrose", "lightcyan", "lavender", "cornsilk"))
title(main = "Stock Market Capitalization\n1991 - 2003")
  mtext("Source: World Federation of Exchanges", side = 4,
        line = -2, cex = 0.7)
Index

*Topic datasets
  BondsData, 1
  PerformanceAnalyticsData, 4
  TimeSeriesData, 6

*Topic data
  CIAFactbook, 2
  PortfolioData, 5
  WFEStatistics, 10

altInvest (PortfolioData), 5
annualInvest (PortfolioData), 5
assetsCorr (PortfolioData), 5
berndtInvest (PortfolioData), 5
bmwRet (TimeSeriesData), 6
BondsData, 1
bundesbankNSS (BondsData), 1
ciaByCountry (CIAFactbook), 2
ciaByIndicator (CIAFactbook), 2
ciaCountries (CIAFactbook), 2
CIAFactbook, 2
ciaFactbook (CIAFactbook), 2
ciaIndicators (CIAFactbook), 2
CPI.dat (TimeSeriesData), 6
danishClaims (TimeSeriesData), 6
dem2gbp (TimeSeriesData), 6
DowJones30 (TimeSeriesData), 6
edhec (PerformanceAnalyticsData), 4
equityFunds (PortfolioData), 5
ford.s (TimeSeriesData), 6
hp.s (TimeSeriesData), 6
IP.dat (TimeSeriesData), 6
jobstCov (PortfolioData), 5
klein (TimeSeriesData), 6
kmenta (TimeSeriesData), 6
largecap.ts (PortfolioData), 5
LPP2005REC (PortfolioData), 5
managers
  (PerformanceAnalyticsData), 4
microcap.ts (PortfolioData), 5
midcap.ts (PortfolioData), 5
midcapD.ts (PortfolioData), 5
mk.maturity (BondsData), 1
mk.zero2 (BondsData), 1
msft.dat (TimeSeriesData), 6
nelsonplosser (TimeSeriesData), 6
nyse (TimeSeriesData), 6
PerformanceAnalyticsData, 4
PortfolioData, 5
print.ciaCountries (CIAFactbook), 2
print.ciaIndicators
  (CIAFactbook), 2
recession (TimeSeriesData), 6
returns.three.ts (PortfolioData), 5
shiller.annual (TimeSeriesData), 6
shiller.dat (TimeSeriesData), 6
singleIndex.dat (TimeSeriesData), 6
smallcap.ts (PortfolioData), 5
sp500dge (TimeSeriesData), 6
sp500index (TimeSeriesData), 6
surex1.ts (TimeSeriesData), 6
SWXLP (PortfolioData), 5
TimeSeriesData, 6
usdchf (TimeSeriesData), 6
usdthb (TimeSeriesData), 6

vanIndices (PortfolioData), 5

wfe1 (WFEStatistics), 10
wfe2 (WFEStatistics), 10
wfe3 (WFEStatistics), 10
wfe4 (WFEStatistics), 10
wfe5 (WFEStatistics), 10
wfe6 (WFEStatistics), 10
WFEStatistics, 10

yhoo.df (TimeSeriesData), 6