

# Package ‘jvnVaR’

November 18, 2015

**Type** Package

**Title** Value at Risk

**Version** 1.0

**Date** 2015-11-17

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**Description** Many method to compute, predict and back-test VaR. For more detail, see the report: Value at Risk <researchgate.net>.

**License** GPL-3

**Depends** R(>= 2.10.0), stats, utils

**Repository** CRAN

**NeedsCompilation** no

**Date/Publication** 2015-11-18 15:48:49

## R topics documented:

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jvnVaR-package      *Value at risk package.*

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**Description**

Provide many method to compute, predict and back-test VaR.

More about what it does, see the report: Value at Risk.<researchgate.net>

**Details**

Package: jvnVaR  
Type: Package  
Version: 1.0  
Date: 2015-08-10  
License: GPL-3

Using command 'jListFunctions()' to know its useful functions.

**Author(s)**

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**References**

See the report: Value at Risk.<Researchgate.net>

**See Also**

[https://www.researchgate.net/profile/Vu\\_Hung4](https://www.researchgate.net/profile/Vu_Hung4)

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dataSelected      *Price table.*

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**Description**

A set of stock price on Vietnam Security Market.

**Usage**

```
data("dataSelected")
```

**Format**

A data frame with 1827 observations on the following 687 variables.

```
dateList a factor with levels 2009-01-01 2009-01-02 2009-01-03 2009-01-04 2009-01-05
2009-01-06 2009-01-07 2009-01-08 2009-01-09 2009-01-10 2009-01-11 2009-01-12
2009-01-13 2009-01-14 2009-01-15 2009-01-16 2009-01-17 2009-01-18 2009-01-19
2009-01-20 2009-01-21 2009-01-22 2009-01-23 2009-01-24 2009-01-25 2009-01-26
2009-01-27 2009-01-28 2009-01-29 2009-01-30 2009-01-31 2009-02-01 2009-02-02
2009-02-03 2009-02-04 2009-02-05 2009-02-06 2009-02-07 2009-02-08 2009-02-09
2009-02-10 2009-02-11 2009-02-12 2009-02-13 2009-02-14 2009-02-15 2009-02-16
2009-02-17 2009-02-18 2009-02-19 2009-02-20 2009-02-21 2009-02-22 2009-02-23
2009-02-24 2009-02-25 2009-02-26 2009-02-27 2009-02-28 2009-03-01 2009-03-02
2009-03-03 2009-03-04 2009-03-05 2009-03-06 2009-03-07 2009-03-08 2009-03-09
2009-03-10 2009-03-11 2009-03-12 2009-03-13 2009-03-14 2009-03-15 2009-03-16
2009-03-17 2009-03-18 2009-03-19 2009-03-20 2009-03-21 2009-03-22 2009-03-23
2009-03-24 2009-03-25 2009-03-26 2009-03-27 2009-03-28 2009-03-29 2009-03-30
2009-03-31 2009-04-01 2009-04-02 2009-04-03 2009-04-04 2009-04-05 2009-04-06
2009-04-07 2009-04-08 2009-04-09 2009-04-10 2009-04-11 2009-04-12 2009-04-13
2009-04-14 2009-04-15 2009-04-16 2009-04-17 2009-04-18 2009-04-19 2009-04-20
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2009-04-28 2009-04-29 2009-04-30 2009-05-01 2009-05-02 2009-05-03 2009-05-04
2009-05-05 2009-05-06 2009-05-07 2009-05-08 2009-05-09 2009-05-10 2009-05-11
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2009-06-02 2009-06-03 2009-06-04 2009-06-05 2009-06-06 2009-06-07 2009-06-08
2009-06-09 2009-06-10 2009-06-11 2009-06-12 2009-06-13 2009-06-14 2009-06-15
2009-06-16 2009-06-17 2009-06-18 2009-06-19 2009-06-20 2009-06-21 2009-06-22
2009-06-23 2009-06-24 2009-06-25 2009-06-26 2009-06-27 2009-06-28 2009-06-29
2009-06-30 2009-07-01 2009-07-02 2009-07-03 2009-07-04 2009-07-05 2009-07-06
2009-07-07 2009-07-08 2009-07-09 2009-07-10 2009-07-11 2009-07-12 2009-07-13
2009-07-14 2009-07-15 2009-07-16 2009-07-17 2009-07-18 2009-07-19 2009-07-20
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2009-07-28 2009-07-29 2009-07-30 2009-07-31 2009-08-01 2009-08-02 2009-08-03
2009-08-04 2009-08-05 2009-08-06 2009-08-07 2009-08-08 2009-08-09 2009-08-10
2009-08-11 2009-08-12 2009-08-13 2009-08-14 2009-08-15 2009-08-16 2009-08-17
2009-08-18 2009-08-19 2009-08-20 2009-08-21 2009-08-22 2009-08-23 2009-08-24
2009-08-25 2009-08-26 2009-08-27 2009-08-28 2009-08-29 2009-08-30 2009-08-31
2009-09-01 2009-09-02 2009-09-03 2009-09-04 2009-09-05 2009-09-06 2009-09-07
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2009-09-22 2009-09-23 2009-09-24 2009-09-25 2009-09-26 2009-09-27 2009-09-28
2009-09-29 2009-09-30 2009-10-01 2009-10-02 2009-10-03 2009-10-04 2009-10-05
2009-10-06 2009-10-07 2009-10-08 2009-10-09 2009-10-10 2009-10-11 2009-10-12
2009-10-13 2009-10-14 2009-10-15 2009-10-16 2009-10-17 2009-10-18 2009-10-19
2009-10-20 2009-10-21 2009-10-22 2009-10-23 2009-10-24 2009-10-25 2009-10-26
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2009-11-03 2009-11-04 2009-11-05 2009-11-06 2009-11-07 2009-11-08 2009-11-09
```









2013-07-16 2013-07-17 2013-07-18 2013-07-19 2013-07-20 2013-07-21 2013-07-22  
2013-07-23 2013-07-24 2013-07-25 2013-07-26 2013-07-27 2013-07-28 2013-07-29  
2013-07-30 2013-07-31 2013-08-01 2013-08-02 2013-08-03 2013-08-04 2013-08-05  
2013-08-06 2013-08-07 2013-08-08 2013-08-09 2013-08-10 2013-08-11 2013-08-12  
2013-08-13 2013-08-14 2013-08-15 2013-08-16 2013-08-17 2013-08-18 2013-08-19  
2013-08-20 2013-08-21 2013-08-22 2013-08-23 2013-08-24 2013-08-25 2013-08-26  
2013-08-27 2013-08-28 2013-08-29 2013-08-30 2013-08-31 2013-09-01 2013-09-02  
2013-09-03 2013-09-04 2013-09-05 2013-09-06 2013-09-07 2013-09-08 2013-09-09  
2013-09-10 2013-09-11 2013-09-12 2013-09-13 2013-09-14 2013-09-15 2013-09-16  
2013-09-17 2013-09-18 2013-09-19 2013-09-20 2013-09-21 2013-09-22 2013-09-23  
2013-09-24 2013-09-25 2013-09-26 2013-09-27 2013-09-28 2013-09-29 2013-09-30  
2013-10-01 2013-10-02 2013-10-03 2013-10-04 2013-10-05 2013-10-06 2013-10-07  
2013-10-08 2013-10-09 2013-10-10 2013-10-11 2013-10-12 2013-10-13 2013-10-14  
2013-10-15 2013-10-16 2013-10-17 2013-10-18 2013-10-19 2013-10-20 2013-10-21  
2013-10-22 2013-10-23 2013-10-24 2013-10-25 2013-10-26 2013-10-27 2013-10-28  
2013-10-29 2013-10-30 2013-10-31 2013-11-01 2013-11-02 2013-11-03 2013-11-04  
2013-11-05 2013-11-06 2013-11-07 2013-11-08 2013-11-09 2013-11-10 2013-11-11  
2013-11-12 2013-11-13 2013-11-14 2013-11-15 2013-11-16 2013-11-17 2013-11-18  
2013-11-19 2013-11-20 2013-11-21 2013-11-22 2013-11-23 2013-11-24 2013-11-25  
2013-11-26 2013-11-27 2013-11-28 2013-11-29 2013-11-30 2013-12-01 2013-12-02  
2013-12-03 2013-12-04 2013-12-05 2013-12-06 2013-12-07 2013-12-08 2013-12-09  
2013-12-10 2013-12-11 2013-12-12 2013-12-13 2013-12-14 2013-12-15 2013-12-16  
2013-12-17 2013-12-18 2013-12-19 2013-12-20 2013-12-21 2013-12-22 2013-12-23  
2013-12-24 2013-12-25 2013-12-26 2013-12-27 2013-12-28 2013-12-29 2013-12-30  
2013-12-31 2014-01-01

AAA a numeric vector  
AAM a numeric vector  
ABT a numeric vector  
ACB a numeric vector  
ACC a numeric vector  
ACL a numeric vector  
ADC a numeric vector  
AGF a numeric vector  
AGM a numeric vector  
AGR a numeric vector  
ALP a numeric vector  
ALT a numeric vector  
ALV a numeric vector  
AMC a numeric vector  
AME a numeric vector  
AMV a numeric vector  
ANV a numeric vector  
APC a numeric vector



APG a numeric vector  
API a numeric vector  
APP a numeric vector  
APS a numeric vector  
ARM a numeric vector  
ASA a numeric vector  
ASIAGF a numeric vector  
ASM a numeric vector  
ASP a numeric vector  
ATA a numeric vector  
AVF a numeric vector  
B82 a numeric vector  
BBC a numeric vector  
BBS a numeric vector  
BCC a numeric vector  
BCE a numeric vector  
BCI a numeric vector  
BDB a numeric vector  
BED a numeric vector  
BGM a numeric vector  
BHC a numeric vector  
BHS a numeric vector  
BHT a numeric vector  
BHV a numeric vector  
BIC a numeric vector  
BKC a numeric vector  
BLF a numeric vector  
BMC a numeric vector  
BMI a numeric vector  
BMP a numeric vector  
BPC a numeric vector  
BRC a numeric vector  
BSC a numeric vector  
BSI a numeric vector  
BST a numeric vector  
BT6 a numeric vector  
BTH a numeric vector

BTP a numeric vector  
BTS a numeric vector  
BTT a numeric vector  
BVG a numeric vector  
BVH a numeric vector  
BVS a numeric vector  
BXH a numeric vector  
C21 a numeric vector  
C32 a numeric vector  
C47 a numeric vector  
C92 a numeric vector  
CAN a numeric vector  
CAP a numeric vector  
CCI a numeric vector  
CCL a numeric vector  
CCM a numeric vector  
CDC a numeric vector  
CIC a numeric vector  
CID a numeric vector  
CIG a numeric vector  
CII a numeric vector  
CJC a numeric vector  
CKV a numeric vector  
CLC a numeric vector  
CLG a numeric vector  
CLP a numeric vector  
CLW a numeric vector  
CMC a numeric vector  
CMG a numeric vector  
CMI a numeric vector  
CMS a numeric vector  
CMT a numeric vector  
CMV a numeric vector  
CMX a numeric vector  
CNG a numeric vector  
CNT a numeric vector  
COM a numeric vector

CPC a numeric vector  
CSC a numeric vector  
CSM a numeric vector  
CT6 a numeric vector  
CTA a numeric vector  
CTB a numeric vector  
CTC a numeric vector  
CTG a numeric vector  
CTI a numeric vector  
CTM a numeric vector  
CTN a numeric vector  
CTS a numeric vector  
CTV a numeric vector  
CTX a numeric vector  
CVN a numeric vector  
CVT a numeric vector  
CX8 a numeric vector  
CYC a numeric vector  
D11 a numeric vector  
D2D a numeric vector  
DAC a numeric vector  
DAD a numeric vector  
DAE a numeric vector  
DAG a numeric vector  
DBC a numeric vector  
DBT a numeric vector  
DC2 a numeric vector  
DC4 a numeric vector  
DCL a numeric vector  
DCS a numeric vector  
DCT a numeric vector  
DHA a numeric vector  
DHC a numeric vector  
DHG a numeric vector  
DHI a numeric vector  
DHM a numeric vector  
DHP a numeric vector

DHT a numeric vector  
DIC a numeric vector  
DID a numeric vector  
DIG a numeric vector  
DIH a numeric vector  
DL1 a numeric vector  
DLG a numeric vector  
DLR a numeric vector  
DMC a numeric vector  
DNC a numeric vector  
DNM a numeric vector  
DNP a numeric vector  
DNY a numeric vector  
DPC a numeric vector  
DPM a numeric vector  
DPR a numeric vector  
DQC a numeric vector  
DRC a numeric vector  
DRH a numeric vector  
DRL a numeric vector  
DSN a numeric vector  
DST a numeric vector  
DTA a numeric vector  
DTL a numeric vector  
DTT a numeric vector  
DVP a numeric vector  
DXG a numeric vector  
DXP a numeric vector  
DXV a numeric vector  
DZM a numeric vector  
EBS a numeric vector  
ECI a numeric vector  
EFI a numeric vector  
EIB a numeric vector  
EID a numeric vector  
ELC a numeric vector  
EMC a numeric vector

EVE a numeric vector  
FCM a numeric vector  
FCN a numeric vector  
FDC a numeric vector  
FDG a numeric vector  
FDT a numeric vector  
FIT a numeric vector  
FLC a numeric vector  
FMC a numeric vector  
FPT a numeric vector  
GAS a numeric vector  
GDT a numeric vector  
GGG a numeric vector  
GIL a numeric vector  
GLT a numeric vector  
GMC a numeric vector  
GMD a numeric vector  
GMX a numeric vector  
GSP a numeric vector  
GTA a numeric vector  
GTT a numeric vector  
HAD a numeric vector  
HAG a numeric vector  
HAI a numeric vector  
HAP a numeric vector  
HAR a numeric vector  
HAS a numeric vector  
HAT a numeric vector  
HAX a numeric vector  
HBC a numeric vector  
HBE a numeric vector  
HBS a numeric vector  
HCM a numeric vector  
HCT a numeric vector  
HDA a numeric vector  
HDC a numeric vector  
HDG a numeric vector

HDO a numeric vector  
HEV a numeric vector  
HGM a numeric vector  
HHC a numeric vector  
HHG a numeric vector  
HHL a numeric vector  
HHS a numeric vector  
HJS a numeric vector  
HLA a numeric vector  
HLC a numeric vector  
HLD a numeric vector  
HLG a numeric vector  
HLY a numeric vector  
HMC a numeric vector  
HMH a numeric vector  
HNM a numeric vector  
HOM a numeric vector  
HOT a numeric vector  
HPB a numeric vector  
HPC a numeric vector  
HPG a numeric vector  
HPS a numeric vector  
HQC a numeric vector  
HRC a numeric vector  
HSG a numeric vector  
HSI a numeric vector  
HST a numeric vector  
HT1 a numeric vector  
HTB a numeric vector  
HTC a numeric vector  
HTI a numeric vector  
HTL a numeric vector  
HTP a numeric vector  
HTV a numeric vector  
HU1 a numeric vector  
HU3 a numeric vector  
HUT a numeric vector

HVG a numeric vector  
HVT a numeric vector  
HVX a numeric vector  
ICF a numeric vector  
ICG a numeric vector  
IDI a numeric vector  
IDJ a numeric vector  
IDV a numeric vector  
IJC a numeric vector  
ILC a numeric vector  
IMP a numeric vector  
INC a numeric vector  
INN a numeric vector  
ITA a numeric vector  
ITC a numeric vector  
ITD a numeric vector  
ITQ a numeric vector  
IVS a numeric vector  
JVC a numeric vector  
KAC a numeric vector  
KBC a numeric vector  
KBT a numeric vector  
KDC a numeric vector  
KDH a numeric vector  
KHA a numeric vector  
KHB a numeric vector  
KHL a numeric vector  
KHP a numeric vector  
KKC a numeric vector  
KLF a numeric vector  
KLS a numeric vector  
KMR a numeric vector  
KMT a numeric vector  
KSA a numeric vector  
KSB a numeric vector  
KSD a numeric vector  
KSH a numeric vector

KSQ a numeric vector  
KSS a numeric vector  
KST a numeric vector  
KTB a numeric vector  
KTS a numeric vector  
KTT a numeric vector  
L10 a numeric vector  
L14 a numeric vector  
L18 a numeric vector  
L35 a numeric vector  
L43 a numeric vector  
L44 a numeric vector  
L61 a numeric vector  
L62 a numeric vector  
LAF a numeric vector  
LAS a numeric vector  
LBE a numeric vector  
LBM a numeric vector  
LCD a numeric vector  
LCG a numeric vector  
LCM a numeric vector  
LCS a numeric vector  
LDP a numeric vector  
LGC a numeric vector  
LGL a numeric vector  
LHC a numeric vector  
LHG a numeric vector  
LIG a numeric vector  
LIX a numeric vector  
LM3 a numeric vector  
LM7 a numeric vector  
LM8 a numeric vector  
L05 a numeric vector  
LSS a numeric vector  
LTC a numeric vector  
LUT a numeric vector  
MAC a numeric vector



MAFPF1 a numeric vector  
MAX a numeric vector  
MBB a numeric vector  
MCC a numeric vector  
MCF a numeric vector  
MCG a numeric vector  
MCL a numeric vector  
MCO a numeric vector  
MCP a numeric vector  
MDC a numeric vector  
MDG a numeric vector  
MEC a numeric vector  
MHC a numeric vector  
MHL a numeric vector  
MIC a numeric vector  
MIH a numeric vector  
MIM a numeric vector  
MKV a numeric vector  
MMC a numeric vector  
MNC a numeric vector  
MPC a numeric vector  
MSN a numeric vector  
MTG a numeric vector  
NAG a numeric vector  
NAV a numeric vector  
NBB a numeric vector  
NBC a numeric vector  
NBP a numeric vector  
NDN a numeric vector  
NDX a numeric vector  
NET a numeric vector  
NGC a numeric vector  
NHA a numeric vector  
NHC a numeric vector  
NHS a numeric vector  
NHW a numeric vector  
NIS a numeric vector

NKG a numeric vector  
NLC a numeric vector  
NLG a numeric vector  
NNC a numeric vector  
NPS a numeric vector  
NSC a numeric vector  
NSN a numeric vector  
NST a numeric vector  
NTL a numeric vector  
NTP a numeric vector  
NVB a numeric vector  
NVC a numeric vector  
NVN a numeric vector  
NVT a numeric vector  
OCH a numeric vector  
OGC a numeric vector  
ONE a numeric vector  
OPC a numeric vector  
ORS a numeric vector  
PAC a numeric vector  
PAN a numeric vector  
PCG a numeric vector  
PCT a numeric vector  
PDC a numeric vector  
PDN a numeric vector  
PDR a numeric vector  
PET a numeric vector  
PFL a numeric vector  
PGC a numeric vector  
PGD a numeric vector  
PGI a numeric vector  
PGS a numeric vector  
PGT a numeric vector  
PHC a numeric vector  
PHH a numeric vector  
PHR a numeric vector  
PHS a numeric vector

PID a numeric vector  
PIT a numeric vector  
PIV a numeric vector  
PJC a numeric vector  
PJT a numeric vector  
PLC a numeric vector  
PMC a numeric vector  
PMS a numeric vector  
PNC a numeric vector  
POM a numeric vector  
POT a numeric vector  
PPC a numeric vector  
PPE a numeric vector  
PPG a numeric vector  
PPI a numeric vector  
PPP a numeric vector  
PPS a numeric vector  
PRC a numeric vector  
PSC a numeric vector  
PSD a numeric vector  
PSG a numeric vector  
PSI a numeric vector  
PTB a numeric vector  
PTC a numeric vector  
PTI a numeric vector  
PTK a numeric vector  
PTL a numeric vector  
PTM a numeric vector  
PTS a numeric vector  
PV2 a numeric vector  
PVA a numeric vector  
PVC a numeric vector  
PVD a numeric vector  
PVE a numeric vector  
PVG a numeric vector  
PVI a numeric vector  
PVL a numeric vector

PVR a numeric vector  
PVS a numeric vector  
PVT a numeric vector  
PVV a numeric vector  
PVX a numeric vector  
PXA a numeric vector  
PXI a numeric vector  
PXL a numeric vector  
PXM a numeric vector  
PXS a numeric vector  
PXT a numeric vector  
QCC a numeric vector  
QCG a numeric vector  
QHD a numeric vector  
QNC a numeric vector  
QST a numeric vector  
QTC a numeric vector  
RAL a numeric vector  
RCL a numeric vector  
RDP a numeric vector  
REE a numeric vector  
RHC a numeric vector  
RIC a numeric vector  
S12 a numeric vector  
S55 a numeric vector  
S74 a numeric vector  
S91 a numeric vector  
S96 a numeric vector  
S99 a numeric vector  
SAF a numeric vector  
SAM a numeric vector  
SAP a numeric vector  
SAV a numeric vector  
SBA a numeric vector  
SBC a numeric vector  
SBT a numeric vector  
SC5 a numeric vector

SCD a numeric vector  
SCJ a numeric vector  
SCL a numeric vector  
SCR a numeric vector  
SD1 a numeric vector  
SD2 a numeric vector  
SD4 a numeric vector  
SD5 a numeric vector  
SD6 a numeric vector  
SD7 a numeric vector  
SD9 a numeric vector  
SDA a numeric vector  
SDB a numeric vector  
SDC a numeric vector  
SDD a numeric vector  
SDE a numeric vector  
SDG a numeric vector  
SDH a numeric vector  
SDN a numeric vector  
SDP a numeric vector  
SDT a numeric vector  
SDU a numeric vector  
SDY a numeric vector  
SEB a numeric vector  
SEC a numeric vector  
SED a numeric vector  
SEL a numeric vector  
SFC a numeric vector  
SFI a numeric vector  
SFN a numeric vector  
SGC a numeric vector  
SGD a numeric vector  
SGH a numeric vector  
SGT a numeric vector  
SHB a numeric vector  
SHI a numeric vector  
SHN a numeric vector

SHS a numeric vector  
SIC a numeric vector  
SII a numeric vector  
SJ1 a numeric vector  
SJC a numeric vector  
SJD a numeric vector  
SJE a numeric vector  
SJM a numeric vector  
SJS a numeric vector  
SKS a numeric vector  
SLS a numeric vector  
SMA a numeric vector  
SMC a numeric vector  
SMT a numeric vector  
SNG a numeric vector  
SPI a numeric vector  
SPM a numeric vector  
SPP a numeric vector  
SQC a numeric vector  
SRA a numeric vector  
SRB a numeric vector  
SRC a numeric vector  
SRF a numeric vector  
SSC a numeric vector  
SSG a numeric vector  
SSI a numeric vector  
SSM a numeric vector  
ST8 a numeric vector  
STB a numeric vector  
STC a numeric vector  
STG a numeric vector  
STL a numeric vector  
STP a numeric vector  
STT a numeric vector  
SVC a numeric vector  
SVI a numeric vector  
SVN a numeric vector

SVT a numeric vector  
SZL a numeric vector  
TAC a numeric vector  
TAG a numeric vector  
TAS a numeric vector  
TBC a numeric vector  
TBX a numeric vector  
TC6 a numeric vector  
TCL a numeric vector  
TCM a numeric vector  
TCO a numeric vector  
TCR a numeric vector  
TCS a numeric vector  
TCT a numeric vector  
TDC a numeric vector  
TDH a numeric vector  
TDN a numeric vector  
TDW a numeric vector  
TET a numeric vector  
TH1 a numeric vector  
THB a numeric vector  
THG a numeric vector  
THT a numeric vector  
TIC a numeric vector  
TIE a numeric vector  
TIG a numeric vector  
TIX a numeric vector  
TJC a numeric vector  
TKC a numeric vector  
TKU a numeric vector  
TLG a numeric vector  
TLH a numeric vector  
TMC a numeric vector  
TMP a numeric vector  
TMS a numeric vector  
TMT a numeric vector  
TMX a numeric vector

TNA a numeric vector  
TNC a numeric vector  
TNG a numeric vector  
TNT a numeric vector  
TPC a numeric vector  
TPH a numeric vector  
TPP a numeric vector  
TRA a numeric vector  
TRC a numeric vector  
TS4 a numeric vector  
TSB a numeric vector  
TSC a numeric vector  
TSM a numeric vector  
TST a numeric vector  
TTC a numeric vector  
TTF a numeric vector  
TTP a numeric vector  
TTZ a numeric vector  
TV1 a numeric vector  
TV2 a numeric vector  
TV3 a numeric vector  
TV4 a numeric vector  
TVD a numeric vector  
TXM a numeric vector  
TYA a numeric vector  
UDC a numeric vector  
UIC a numeric vector  
UNI a numeric vector  
V12 a numeric vector  
V15 a numeric vector  
V21 a numeric vector  
VAT a numeric vector  
VBC a numeric vector  
VBH a numeric vector  
VC1 a numeric vector  
VC2 a numeric vector  
VC3 a numeric vector



VC5 a numeric vector  
VC6 a numeric vector  
VC7 a numeric vector  
VC9 a numeric vector  
VCB a numeric vector  
VCC a numeric vector  
VCF a numeric vector  
VCG a numeric vector  
VCM a numeric vector  
VCR a numeric vector  
VCS a numeric vector  
VCV a numeric vector  
VDL a numeric vector  
VDS a numeric vector  
VE1 a numeric vector  
VE2 a numeric vector  
VE3 a numeric vector  
VE4 a numeric vector  
VE8 a numeric vector  
VE9 a numeric vector  
VFG a numeric vector  
VFMVF4 a numeric vector  
VFR a numeric vector  
VGP a numeric vector  
VGS a numeric vector  
VHC a numeric vector  
VHG a numeric vector  
VHH a numeric vector  
VHL a numeric vector  
VIC a numeric vector  
VID a numeric vector  
VIE a numeric vector  
VIG a numeric vector  
VIP a numeric vector  
VIS a numeric vector  
VIT a numeric vector  
VIX a numeric vector

VKC a numeric vector  
VLA a numeric vector  
VLF a numeric vector  
VMC a numeric vector  
VMD a numeric vector  
VNA a numeric vector  
VNC a numeric vector  
VND a numeric vector  
VNE a numeric vector  
VNF a numeric vector  
VNG a numeric vector  
VNH a numeric vector  
VNI a numeric vector  
VNL a numeric vector  
VNM a numeric vector  
VNN a numeric vector  
VNR a numeric vector  
VNS a numeric vector  
VNT a numeric vector  
VOS a numeric vector  
VPC a numeric vector  
VPH a numeric vector  
VPK a numeric vector  
VRC a numeric vector  
VSC a numeric vector  
VSH a numeric vector  
VSI a numeric vector  
VST a numeric vector  
VTB a numeric vector  
VTC a numeric vector  
VTF a numeric vector  
VTL a numeric vector  
VTO a numeric vector  
VTS a numeric vector  
VTV a numeric vector  
VXB a numeric vector  
WCS a numeric vector  
XMC a numeric vector  
YBC a numeric vector

**Details**

There are 687 stock codes. Some examples: AAA, AAM, ABT,...

**Source**

<http://www.cophieu68.vn/export.php> <https://www.vndirect.com.vn/portal/thong-ke-thi-truong-chung-khoan/lich-su-gia.shtml>

**Examples**

```
data(dataSelected)
```

---

`dateList`

*Date list.*

---

**Description**

Date list.

**Usage**

```
data("dateList")
```

**Format**

The format is: chr [1:1827] "2009-01-01" "2009-01-02" "2009-01-03" "2009-01-04" ...

**Source**

Vietnam stock market.

**References**

See the report.

**Examples**

```
data(dateList)
```

**Description**

Using when you need a series of price to do back-testing.  
This function using normal return model to simulate price.  
Related report: Value at Risk.<researchgate.net>

**Usage**

```
jMCPri(s0, mu, sigma, m)
```

**Arguments**

|       |  |
|-------|--|
| s0    | The initial price or the price at the first day. |
| mu    | Expected (or drift) of return.                   |
| sigma | Standard deviation (or volatility) of return.    |
| m     | Number of observations.                          |

**Value**

An array of price.

**Note**

viet-hung.vu@jvn.edu.vn

**Author(s)**

Hung Vu

**References**

Value at Risk.(reserchgate.net)

**See Also**

[https://www.researchgate.net/profile/Vu\\_Hung4](https://www.researchgate.net/profile/Vu_Hung4)

**Examples**

```
s0 <- 100  
mu <- 0.02  
sigma <- 0.1  
m <- 1000  
jMCPri (s0, mu, sigma, m)
```

---

`jMCPriLim`*Monte-Carlo Price Simulation (under price limit condition)*

---

**Description**

Using when you need a series of price to do back-testing.

This function using normal return model to simulate price under price limit condition.

Price limit condition require that the return on price is limited.

Related report: Value at Risk.<researchgate.net>

**Usage**

```
jMCPriLim(s0, L, U, mu, sigma,m)
```

**Arguments**

|                    |  |
|--------------------|--|
| <code>s0</code>    | The initial price or the price at the first day. |
| <code>L</code>     | Lower limit of return.                           |
| <code>U</code>     | Upper limit of return.                           |
| <code>mu</code>    | Expected (or mean) of return.                    |
| <code>sigma</code> | Standard deviation (or volatility) of return.    |
| <code>m</code>     | Number of observations.                          |

**Value**

An array of price.

**Note**

viet-hung.vu@jvn.edu.vn

**Author(s)**

Hung Vu

**References**

Value at Risk.(reserchgate.net)

**See Also**

[https://www.researchgate.net/profile/Vu\\_Hung4](https://www.researchgate.net/profile/Vu_Hung4)

**Examples**

```
s0 <- 100
mu <- 0.02
sigma <- 0.1
m <- 1000
L <- -0.07
U <- 0.07
jMCPriLim (s0, L, U, mu, sigma, m)
```

---

jPrice

*Historical Price Function*

---

**Description**

Take out a price series from database.

See the report: Value at Risk.<researchgate.net>

**Usage**

```
jPrice(name)
```

**Arguments**

name                    Name of a stock. See list of stocks using jStockList()

**Value**

A price series.

**Note**

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**Author(s)**

Hung Vu

**See Also**

[https://www.researchgate.net/profile/Vu\\_Hung4](https://www.researchgate.net/profile/Vu_Hung4)

**Examples**

```
jStockList()
jPrice('AAA')
```

---

`jReturn`*Return Function*

---

**Description**

Compute returns from a price series of an asset.

Return is gain (or loss) rate from an investment to the asset in a time interval.

See the report: Value at Risk.<researchgate.net>

**Usage**

```
jReturn(s)
```

**Arguments**

`s` A price series.

**Value**

A return series.

**Note**

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**Author(s)**

Hung Vu

**See Also**

[https://www.researchgate.net/profile/Vu\\_Hung4](https://www.researchgate.net/profile/Vu_Hung4)

**Examples**

```
y <- c(11, 12, 10, 13, 12, 14, 13, 15, 13, 14, 12)
s <- jReturn(y)
s
```

---

`jStockList`*Stocks List in Vietnam stock market.*

---

**Description**

Provide a list of Vietnamese stocks.

See the report: Value at Risk.<researchgate.net>

**Usage**

```
jStockList()
```

**Value**

A list of Vietnamese stocks

**Note**

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**Author(s)**

Hung Vu

**See Also**

[https://www.researchgate.net/profile/Vu\\_Hung4](https://www.researchgate.net/profile/Vu_Hung4)

**Examples**

```
jStockList()
```

---

`jTestVaR`*VaR Back-testing*

---

**Description**

Provide some kinds of test for Value at risk.

The null hypothesis is the equation of the probability of loss cross over VaR and the given ruin level.

It will show how the calculated VaR can be accepted.

See the report: Value at Risk.<researchgate.net>

**Usage**

```
jTestVaR(Ret, VaR, p, test_significant, type)
```



**Arguments**

|                  |  |
|------------------|--|
| Ret              | Return series use to back-test.                            |
| VaR              | Value at Risk that has been calculated.                    |
| p                | Given probability used to calculate VaR                    |
| test_significant | Significant level of the test.                             |
| type             | Kinds of test.<br>. p_value<br>. pof<br>. tuff<br>. mixkup |

**Details**

See the report.

**Value**

Statistic,Quantile and test result.

**Note**

viet-hung.vu@jvn.edu.vn

**Author(s)**

Hung Vu

**See Also**

[https://www.researchgate.net/profile/Vu\\_Hung4](https://www.researchgate.net/profile/Vu_Hung4)

**Examples**

```
y <- c(11, 12, 10, 13, 12, 14, 13, 15, 13, 14, 12)
s <- jReturn(y)
alpha <- 0.2
h <- 0
v <- jVaR('non_adjust_hist',s,alpha,h)
jTestVaR(s, v, alpha, 0.05, 'p_value')
```

jVaR

*Value at Risk Function***Description**

Compute VaR by many methods.

See the report: Value at Risk.<researchgate.net>

**Usage**

```
jVaR(type, Return, Alpha, N_th_day)
```

**Arguments**

|          |   |
|----------|---|
| type     | Computing method.<br>. 'non_adjust_hist': Historical method without any adjustment.<br>. 'grch11_hist': Historical method with adjustment by Garch(1,1) method.<br>. 'ewhv_hist': Exponential Weighted method.<br>. 'ewma_hist': Historical method with adjustment by EWMA method.<br>. 'kernel_hist': Estimating density function using kernel fitting method.<br>. 'grch11_kernel_hist': Kernel fitting method apply on return adjusted by Garch(1,1).<br>. 'ewma_kernel_hist': Kernel fitting method apply on return adjusted by EWMA.<br>. 'garch11': Garch(1,1) method.<br>. 'normal': Normal return method.<br>. 'mle_normal': Normal return method (Estimating by maximum likelihood method).<br>. 'monte_carlo': Simulation method. |
| Return   | A return series that computed from price series.  |
| Alpha    | Given probability of the event that loss exceeds VaR.   |
| N_th_day | Time point of VaR computing (...,-1,0,1,...)<br>. -1 : previous day<br>. 0 : present<br>. 1 : next day  |

**Value**

Value at Risk at the time point.

**Note**

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**Author(s)**

Hung Vu

**References**

Value at Risk.(researchgate.net)

**See Also**

[https://www.researchgate.net/profile/Vu\\_Hung4](https://www.researchgate.net/profile/Vu_Hung4)

**Examples**

```
y <- c(11, 12, 10, 13, 12, 14, 13, 15, 13, 14, 12)
s <- jReturn(y)
alpha <- 0.2
h <- 0
v <- jVaR('non_adjust_hist',s,alpha,h)
```

---

jVaRLim

*Value at Risk Function(under price limit condition)*


---

**Description**

Compute VaR under price limit condition.

See the report: Value at Risk.<researchgate.net>

**Usage**

```
jVaRLim(Ret, L, U, alpha, type, h)
```

**Arguments**

|       |   |
|-------|---|
| Ret   | A return series that computed from price series.  |
| L     | Lower limit.  |
| U     | Upper limit.  |
| alpha | Given probability of the event that loss exceeds VaR.   |
| type  | Computing method.<br>'model': Garch(1,1) method.<br>'histl': Historical method with return series adjusted by Garch(1,1) method.<br>'simul': Simulation method. |
| h     | Time point of VaR computing (...,-1,0,1,...)<br>. -1 : previous day<br>. 0 : present<br>. 1 : next day  |

**Value**

Value at Risk at the time point.

**Note**

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**Author(s)**

Hung Vu

**References**

Value at Risk.(reserchgate.net)

**See Also**

[https://www.researchgate.net/profile/Vu\\_Hung4](https://www.researchgate.net/profile/Vu_Hung4)

**Examples**

```
y <- c(11, 12, 10, 13, 12, 14, 13, 15, 13, 14, 12)
s <- jReturn(y)
alpha <- 0.2
h <- 0
L <- -0.13
U <- 0.16
v <- jVaRLim(s,L,U,alpha,'model',h)
```

---

stockList

*Stock List.*

---

**Description**

Stock List.

**Usage**

```
data("stockList")
```

**Format**

The format is: chr [1:691] "AAA" "AAM" "ABT" "ACB" "ACC" "ACL" "ADC" ...

**Source**

<http://www.cophieu68.vn/export.php> <https://www.vndirect.com.vn/portal/thong-ke-thi-truong-chung-khoan/lich-su-gia.shtml>

**Examples**

```
data(stockList)
```

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