

Package ‘CfEstimateQuantiles’

February 19, 2015

Type Package

Title Estimate quantiles using any order Cornish-Fisher expansion

Version 1.0

Date 2013-05-12

Author Maxim Yurchuk

Maintainer Maxim Yurchuk <maxim.yurchuk@gmail.com>

Description Estimate quantiles using formula (18) from
<http://www.jaschke-net.de/papers/CoFi.pdf> (Yaschke; 2001)

License GPL-2

LazyLoad yes

NeedsCompilation no

Repository CRAN

Date/Publication 2013-05-18 02:04:44

R topics documented:

CfEstimateQuantiles-package	1
cf_estimate_quantiles	2

Index	4
--------------	----------

CfEstimateQuantiles-package
Estimate quantiles using any order Cornish-Fisher expansion

Description

Estimate quantiles using formula (18) from <http://www.jaschke-net.de/papers/CoFi.pdf> (Yaschke; 2001)

Details

Package: CfEstimateQuantiles
Type: Package
Version: 1.0
Date: 2013-05-12
License: GPL-2
LazyLoad: yes

Author(s)

Maxim Yurchuk <maxim.yurchuk@gmail.com>

References

<http://www.jaschke-net.de/papers/CoFi.pdf>

cf_estimate_quantiles *Estimate quantiles of random variable*

Description

Estimate quantiles of random variable using Cornish-Fisher expansion

Usage

```
cf_estimate_quantiles(cf_expansion_order, probabilities, cumulants)
```

Arguments

cf_expansion_order
 order of CF expansion (= number of using cumulants)
probabilities a numeric vector of probabilities
cumulants a numeric vector of random variable cumulants

Value

a numeric vector of estimated quantiles

Author(s)

Maxim Yurchuk

Examples

```
cf_order = 8
cumulants = rep(0, cf_order);
for (i in 1:cf_order)
  cumulants[i] = (1/i)*factorial(i);
probabilities = seq(0.01, 0.99, 0.05)
estimated_quantiles= cf_estimate_quantiles(cf_order, probabilities, cumulants)
plot(probabilities, estimated_quantiles, "l",
     main = "Cornish-Fisher approximation for exp(1) with order = 8",
     xlab = "Probability", ylab = "Quantile")
```

Index

`cf_estimate_quantiles`, [2](#)
`CfEstimateQuantiles`
 (`CfEstimateQuantiles-package`),
 [1](#)
`CfEstimateQuantiles-package`, [1](#)