

Package ‘quantsig’

November 20, 2024

Type Package

Title Sigmoidal Quantile Function Estimator

Version 0.1.0

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Description A sigmoidal quantile function estimator based on a newly defined generalized expectile function. The generalized sigmoidal quantile function can estimate quantiles beyond the range of the data, which is important for certain applications given smaller sample sizes. The package is based on the method introduced in Hutson (2024) <[doi:10.1080/03610918.2022.2032161](https://doi.org/10.1080/03610918.2022.2032161)>.

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Encoding UTF-8

NeedsCompilation no

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Repository CRAN

Date/Publication 2024-11-20 19:30:02 UTC

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quantsig	<i>Sigmoidal quantile function estimator</i>
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Description

This function implements the sigmoidal quantile function estimator, which is a smooth nonparametric quantile function estimator based on a newly defined generalized expectile function.

Usage

```
quantsig(x, p)
```

Arguments

x	a numeric whose sample quantiles are wanted.
p	the probability with values in (0,1).

Value

The estimated quantile.

Author(s)

Alan Hutson, Han Yu

References

Hutson AD. The generalized sigmoidal quantile function. *Communications in Statistics-Simulation and Computation*. 2024 Feb 1;53(2):799-813.

Examples

```
x <- c(1, 2, 3, 4, 5, 6, 7, 8, 8, 9)
quantsig(x, 0.5)
```

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