

Package ‘CGR’

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Type Package

Title Compound Growth Rate for Capturing the Growth Rate Over the Period

Version 0.1.0

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Description

The compound growth rate indicates the percentage change of a specific variable over a defined period. It is calculated using non-linear models, particularly the exponential model. To estimate the compound growth rates, the growth model is first converted to semilog form and then analyzed using Ordinary Least Squares (OLS) regression. This package has been developed using concept of Shankar et al. (2022)<[doi:10.3389/fsufs.2023.1208898](https://doi.org/10.3389/fsufs.2023.1208898)>.

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Encoding UTF-8

Imports stats, base

NeedsCompilation no

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CGR

*CGR***Description**

Compound Growth Rate for Capturing the Growth Rate Over the Period

Usage

```
CGR(variable, data, verbose = FALSE)
```

Arguments

variable	Time series data taken for the study
data	Name of the data taken for the study
verbose	Logical. If TRUE, the function prints detailed information about its progress. Default is FALSE.

Value

Returns a list containing the Compound growth rate for capturing the growth rate over the period and other model parameters. The list includes:

- CGR: Growth rate calculated for the data.
- AoS: The value derived by taking anti log of the slope of exponential model.

References

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- Shankar, S. V., Chandel, A., Gupta, R. K., Sharma, S., Chand, H., Kumar, R., ... & Gowsar, S. N. (2023). Corrigendum: Exploring the dynamics of arrivals and prices volatility in onion (*Allium cepa*) using advanced time series techniques. *Frontiers in Sustainable Food Systems*, 7, 1290515. DOI: 10.3389/fsufs.2023.1208898

Examples

```
{
library(CGR)
years <- 1:50
value<-rnorm(length(years),100, 50)
data <- data.frame(Year = years, Sales = round(value))
CGR_results <- CGR(variable = data$Sales, data = data)
print(CGR_results)
}
```

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