## Package ‘EDA’

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### Type
Package

### Title
Energy Decomposition Analysis

### Date
2019-11-08

### Version
1.3

### Maintainer
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### Description

### Imports
ggplot2, stats

### Depends
R (&gt;= 3.5.0)

### License
GPL-2

### RoxygenNote
6.1.1

### LazyData
true

### Suggests
knitr, rmarkdown

### VignetteBuilder
knitr

### NeedsCompilation
no

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### Repository
CRAN

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CarbonEmission

Carbon emission data for energy decomposition analysis.

Description

Carbon emission data for energy decomposition analysis.

Usage

carbon
enenergy
buildingarea
factordata

Format

carbon: A data frame of carbon emissions from multiple types of fuels and building sectors.
enenergy: A data frame energy consumptions from multiple types of fuels and building sectors.
buildingarea: A data frame of annual building areas. factordata: A list of data frames of factors of carbon emission changes.

Author(s)

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EDA

Energy consumption analysis for calculating carbon emission changes

Description

Energy consumption analysis for calculating carbon emission changes

Usage

EDA(cdata, factordata, years = years, Factor = Factor,
     Fuel = 1, Sector = 1, method = "LMDI")
## S3 method for class 'EDA'
print(x, ...)
## S3 method for class 'EDA'
plot(x, ...)
EDA

Arguments

cdata  A data.frame of annual carbon emission or energy consumption data, which can include multiple Fuels stored by columns.
factordata  A list of factors’ data.frame.
years  A numeric vector of year.
Factor  A vector of factor names.
Fuel  A vector of fuel names.
Sector  A vector of carbon emission or energy consumption sector names or number. If only one sector of carbon emission or energy consumption, set Sector = 1.
method  A character of energy consumption analysis method’s name. One of "LMDI", "Laspeyres", "Paasche", "Marshall-Edgeworth" or "Walsh".
x  A list of EDA result.
...  Ignore

Author(s)

Yongze Song <yongze.song@postgrad.curtin.edu.au> and Peng Wu <peng.wu@curtin.edu.au>.

References

Paasche, H. Uber die Preisentwicklung der letzten Jahre. Jahriuber fur Nationalokonomie und Statistik, 23(1874), 168.

See Also

LMDI

Examples

library(EDA)
data(carbon)
data(factordata)
## set parameters
cdata <- carbon[-c(1,2)]
years <- carbon$year
Sector <- c("b1", "b2", "b3")
Fuel <- colnames(cdata)
Factor <- names(factordata)
## run EDA model
LMDI <- EDA(cdata, factordata, years = years, Factor = Factor, Fuel = Fuel, Sector = Sector, method = "LMDI")
edal
plot(eda1)

LMDI 

*Log Mean Devisia Index method for energy decomposition analysis*

**Description**

Log Mean Devisia Index method for energy decomposition analysis

**Usage**

LMDI(C0, CT, X0, XT)

## S3 method for class 'LMDI'
print(x, ...)

**Arguments**

C0  A numeric vector or a data.frame of carbon emission or energy consumption in the initial year.

CT  A numeric vector or a data.frame of carbon emission or energy consumption in the year T.

X0  A numeric vector or a data.frame of an impact factor in the initial year.

XT  A numeric vector or a data.frame of an impact factor in the year T.

x   A list of LMDI result.

...  Ignore

**Author(s)**

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**References**


**See Also**

EDA
Examples

```r
library(EDA)
data(carbon)
data(factordata)
## set parameters
cdata <- carbon[-c(1,2)]
C0 <- cdata[1,]
CT <- cdata[2,]
X0 <- factordata[[2]][1,]
XT <- factordata[[2]][2,]
## run LMDI model
ed1 <- LMDI(C0, CT, X0, XT)
ed1
```
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