Package ‘fitDTVARMx’

July 4, 2024

Title Fit The Discrete-Time Vector Autoregressive Model

Version 0.0.0.9000

Description Fit the discrete-time vector autoregressive model using the 'OpenMx' package.

URL https://github.com/jeksterslab/fitDTVARMx,
https://jeksterslab.github.io/fitDTVARMx/

BugReports https://github.com/jeksterslab/fitDTVARMx/issues

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Encoding UTF-8

Roxygen list(markdown = TRUE)

VignetteBuilder knitr

Depends R (>= 3.0.0), OpenMx

Imports stats

Suggests knitr, rmarkdown, testthat, simStateSpace

RoxygenNote 7.3.2

NeedsCompilation no

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Contents

coef.fitdtvaridmx *Parameter Estimates*

Description

Parameter Estimates

Usage

```
## S3 method for class 'fitdtvaridmx'
coef(object, psi = FALSE, theta = FALSE, ...)
```

Arguments

`object`	Object of class `fitdtvaridmx`.
`psi`	Logical. If `psi = TRUE`, include estimates of the `psi` matrix. If `psi = FALSE`, exclude estimates of the `psi` matrix.
`theta`	Logical. If `theta = TRUE`, include estimates of the `theta` matrix if available. If `theta = FALSE`, exclude estimates of the `theta` matrix.
`...`	additional arguments.

Value

Returns a list of vectors of parameter estimates.

Author(s)

Ivan Jacob Agaloos Pesigan

FitDTVARIDMx *Fit First Order Discrete-Time Vector Autoregressive Model by ID*

Description

Fit First Order Discrete-Time Vector Autoregressive Model by ID

Usage

```
FitDTVARIDMx(
  data,
  observed,
  id,
  beta_start = NULL,
  beta_lbound = NULL,
  beta_ubound = NULL,
```

```
  psi_start = NULL,
  psi_lbound = NULL,
  psi_ubound = NULL,
  psi_diag = TRUE,
  theta = FALSE,
  theta_start = NULL,
  theta_lbound = NULL,
  theta_ubound = NULL,
  try = 1000,
  ncores = NULL
)
```

Arguments

data	Data frame. A data frame object of data for potentially multiple subjects that contain a column of subject ID numbers (i.e., an ID variable), and at least one column of observed values.
observed	Character vector. A vector of character strings of the names of the observed variables in the data.
id	Character string. A character string of the name of the ID variable in the data.
beta_start	Numeric matrix. Optional starting values for `beta`.
beta_lbound	Numeric matrix. Optional lower bound for `beta`.
beta_ubound	Numeric matrix. Optional upper bound for `beta`.
psi_start	Numeric matrix. Optional starting values for `psi`.
psi_lbound	Numeric matrix. Optional lower bound for `psi`.
psi_ubound	Optional upper bound for `psi`.
psi_diag	Logical. If `psi_diag = TRUE`, `psi` is a diagonal matrix.
theta	Logical. If `theta = TRUE`, estimate the diagonal measurement error matrix `theta`.
theta_start	Optional starting values for `theta`. Ignored if `theta = FALSE`.
theta_lbound	Optional lower bound for `theta`. Ignored if `theta = FALSE`.
theta_ubound	Optional upper bound for `theta`. Ignored if `theta = FALSE`.
try	Positive integer. Number of extra tries for `OpenMx::mxTryHard()`.
ncores	Positive integer. Number of cores to use.

Author(s)

Ivan Jacob Agaloos Pesigan

print.fitdtvaridmx *Print Method for Object of Class* fitdtvaridmx

Description

Print Method for Object of Class `fitdtvaridmx`

Usage

```
## S3 method for class 'fitdtvaridmx'
print(x, means = TRUE, ...)
```

Arguments

`x`	an object of class `fitdtvaridmx`.
`means`	Logical. If `means = TRUE`, return means. Otherwise, the function returns raw estimates.
`...`	further arguments.

Author(s)

Ivan Jacob Agaloos Pesigan

summary.fitdtvaridmx *Summary Method for Object of Class* fitdtvaridmx

Description

Summary Method for Object of Class `fitdtvaridmx`

Usage

```
## S3 method for class 'fitdtvaridmx'
summary(object, means = TRUE, ...)
```

Arguments

`object`	an object of class `fitdtvaridmx`.
`means`	Logical. If `means = TRUE`, return means. Otherwise, the function returns raw estimates.
`...`	further arguments.

Author(s)

Ivan Jacob Agaloos Pesigan

vcov.fitdtvaridmx *Sampling Covariance Matrix of the Parameter Estimates*

Description

Sampling Covariance Matrix of the Parameter Estimates

Usage

```
## S3 method for class 'fitdtvaridmx'
vcov(object, psi = FALSE, theta = FALSE, ...)
```

Arguments

`object`	Object of class `fitdtvaridmx`.
`psi`	Logical. If `psi = TRUE`, include estimates of the `psi` matrix. If `psi = FALSE`, exclude estimates of the `psi` matrix.
`theta`	Logical. If `theta = TRUE`, include estimates of the `theta` matrix if available. If `theta = FALSE`, exclude estimates of the `theta` matrix.
`...`	additional arguments.

Value

Returns a list of sampling variance-covariance matrices.

Author(s)

Ivan Jacob Agaloos Pesigan

Index