

# 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>

**License** MIT + file LICENSE

**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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coef.fitdtvaridmx	<i>Parameter Estimates</i>
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**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

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FitDTVARIDMx	<i>Fit First Order Discrete-Time Vector Autoregressive Model by ID</i>
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**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 <a href="#">OpenMx::mxTryHard()</a> .
ncores	Positive integer. Number of cores to use.

### Author(s)

Ivan Jacob Agaloos Pesigan

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

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**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

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

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**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

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vcov.fittedvaridmx	<i>Sampling Covariance Matrix of the Parameter Estimates</i>
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**Description**

Sampling Covariance Matrix of the Parameter Estimates

**Usage**

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

**Arguments**

object	Object of class fittedvaridmx.
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

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