

# fitDTVARMx: Internal Tests

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## Tests

```
#> test
#> Running DTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR with 15 parameters
#>
#> Lowest minimum so far: 1524.97939232148
#>
#> Solution found
```

```
#>
#> Solution found! Final fit=1524.9794 (started at 1557.0026) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> 0.681884399637485,0.505025206662044,0.00506050712459571,-0.00880844481963858,0.602653154400743,0.
#> Running DTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR with 15 parameters
#>
#> Lowest minimum so far: 1681.83659549401
#>
#> Solution found
```

```
#>
#> Solution found! Final fit=1681.8366 (started at 1722.7204) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> 0.714644528461438,0.446353594291677,-0.137212338869065,-0.00257767877354943,0.597640270246286,0.
#> Running DTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR with 15 parameters
```

```
#>
#> Lowest minimum so far: 1601.71644591383
#>
#> Solution found
```

```
#>
#> Solution found! Final fit=1601.7164 (started at 1635.9302) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> 0.71800476258364,0.528419880764906,-0.10482940602939,0.00736362924235293,0.574273814464634,0.494
#> Running DTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR with 15 parameters
#>
#> Lowest minimum so far: 1531.86993218524
#>
#> Solution found
```

```
#>
#> Solution found! Final fit=1531.8699 (started at 1560.1578) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> 0.704974586703295,0.554273394549335,-0.087284854777545,0.0247250025241927,0.599417592359912,0.40
#> Running DTVAR with 15 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR with 15 parameters
#>
#> Lowest minimum so far: 1543.75235268938
#>
#> Solution found
```

```
#>
#> Solution found! Final fit=1543.7524 (started at 1589.4452) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> 0.688872877098987,0.416165285858525,-0.205786742272697,-0.00462436634601826,0.686325495735713,0.4
#>
#> Means of the estimated paramaters per individual.
#>      beta_11      beta_21      beta_31      beta_12      beta_22
#> 0.7016762309 0.4900474724 -0.1060105670 0.0032156284 0.6120620654
#>      beta_32      beta_13      beta_23      beta_33      psi_11
#> 0.4357929222 -0.0142610588 0.0060008591 0.4769960236 0.0995165970
#>      psi_21      psi_22      psi_31      psi_32      psi_33
```

```

#> 0.0003752380 0.0991479238 0.0006857301 0.0001355818 0.0981329873
#>
#> Estimated paramaters per individual.
#>      beta_11  beta_21  beta_31  beta_12  beta_22  beta_32
#> [1,] 0.6818844 0.5050252 0.005060507 -0.008808445 0.6026532 0.3434701
#> [2,] 0.7146445 0.4463536 -0.137212339 -0.002577679 0.5976403 0.5129555
#> [3,] 0.7180048 0.5284199 -0.104829406 0.007363629 0.5742738 0.4944551
#> [4,] 0.7049746 0.5542734 -0.087284855 0.024725003 0.5994176 0.4088297
#> [5,] 0.6888729 0.4161653 -0.205786742 -0.004624366 0.6863255 0.4192542
#>      beta_13  beta_23  beta_33  psi_11  psi_21  psi_22
#> [1,] 0.028766356 0.056455542 0.5183970 0.09611164 0.001651630 0.09990868
#> [2,] -0.024434516 -0.005013696 0.4821948 0.10392617 -0.000505320 0.10229593
#> [3,] 0.007565429 0.030893065 0.4147986 0.09818614 -0.005637000 0.10348546
#> [4,] -0.047154981 -0.029503897 0.4987864 0.10376766 0.005035551 0.08977813
#> [5,] -0.036047583 -0.022826719 0.4708033 0.09559137 0.001331329 0.10027142
#>      psi_31  psi_32  psi_33
#> [1,] -7.865557e-04 0.002525390 0.09533547
#> [2,] -2.856558e-03 -0.002869901 0.10001679
#> [3,] 2.348042e-05 0.002602347 0.09774676
#> [4,] 6.226675e-03 -0.004183038 0.09992354
#> [5,] 8.216079e-04 0.002603111 0.09764237

#> Running DTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR with 12 parameters
#>
#> Lowest minimum so far: 1526.00731414886
#>
#> Solution found

#>
#> Solution found! Final fit=1526.0073 (started at 1557.0026) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> 0.681893265716128,0.505053274890204,0.00510867946731734,-0.00880537044501161,0.602624580422842,0.
#> Running DTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR with 12 parameters
#>
#> Lowest minimum so far: 1683.45326767593
#>
#> Solution found

```

```

#>
#> Solution found! Final fit=1683.4533 (started at 1722.7204) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> 0.714804674842962,0.446703778085809,-0.137212071724935,-0.00286224947476047,0.597355821483634,0.
#> Running DTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR with 12 parameters
#>
#> Lowest minimum so far: 1605.51702315235
#>
#> Solution found

```

```

#>
#> Solution found! Final fit=1605.517 (started at 1635.9302) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> 0.718078169954275,0.528392546303217,-0.104829061549278,0.00732747600476022,0.574300310244837,0.4
#> Running DTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR with 12 parameters
#>
#> Lowest minimum so far: 1540.5851271712
#>
#> Solution found

```

```

#>
#> Solution found! Final fit=1540.5851 (started at 1560.1578) (1 attempt(s): 1
valid, 0 errors)
#> Start values from best fit:
#> 0.704947419473423,0.554348588558669,-0.0873190767870889,0.024687071043122,0.599422931825699,0.40
#> Running DTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR with 12 parameters
#>
#> Lowest minimum so far: 1544.6953978122
#>
#> Solution found

```

```

#>
#> Solution found! Final fit=1544.6954 (started at 1589.4452) (1 attempt(s): 1
valid, 0 errors)

```

```

#> Start values from best fit:
#> 0.688879065105914,0.416188710841178,-0.205800583956037,-0.00462531692461861,0.686315176835109,0.
#>
#> Means of the estimated paramaters per individual.
#>      beta_11      beta_21      beta_31      beta_12      beta_22      beta_32
#> 0.701720519 0.490137380 -0.106010423 0.003144322 0.612003764 0.435809007
#>      beta_13      beta_23      beta_33      psi_11      psi_22      psi_33
#> -0.014208228 0.006029654 0.476983842 0.099522285 0.099143083 0.098132334
#>
#> Estimated paramaters per individual.
#>      beta_11      beta_21      beta_31      beta_12      beta_22      beta_32
#> [1,] 0.6818933 0.5050533 0.005108679 -0.008805370 0.6026246 0.3434339
#> [2,] 0.7148047 0.4467038 -0.137212072 -0.002862249 0.5973558 0.5128712
#> [3,] 0.7180782 0.5283925 -0.104829062 0.007327476 0.5743003 0.4944581
#> [4,] 0.7049474 0.5543486 -0.087319077 0.024687071 0.5994229 0.4090176
#> [5,] 0.6888791 0.4161887 -0.205800584 -0.004625317 0.6863152 0.4192641
#>      beta_13      beta_23      beta_33      psi_11      psi_22      psi_33
#> [1,] 0.028747373 0.056477097 0.5183946 0.09611176 0.09990714 0.09533267
#> [2,] -0.024206175 -0.004791162 0.4822680 0.10395016 0.10226568 0.10002055
#> [3,] 0.007524571 0.030858698 0.4148173 0.09818538 0.10348889 0.09775024
#> [4,] -0.047063124 -0.029584381 0.4986395 0.10377264 0.08978277 0.09991549
#> [5,] -0.036043783 -0.022811982 0.4707998 0.09559149 0.10027094 0.09764272
#> Test passed
#> [[1]]
#> [[1]][[1]]
#> [[1]][[1]]$value
#> [[1]][[1]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[1]]$visible
#> [1] TRUE

```

## Environment

```
ls()  
#> [1] "root"
```

## Class

```
#> [[1]]  
#> [1] "root_criterion"
```

## References

R Core Team. (2024). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. <https://www.R-project.org/>