metaVAR: Internal Tests

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Tests

```
#> test-metaVAR-fit-ct-var-id-mx-theta-null-fixed
#> Running CTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 12 parameters
#>
#>  Lowest minimum so far:   -2781.91307737116
#>
#> Solution found
```

```
#>
#>  Solution found!   Final fit=-2781.9131 (started at -2667.8333)  (1 attempt(s):
1 valid, 0 errors)
#>  Start values from best fit:
#> -0.436283136296556,0.581430064215022,-0.692131023747746,-0.0312583857104042,-0.287741639214355,0.
#> Running CTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 12 parameters
#>
#>  Lowest minimum so far:   -2696.8171011284
#>
#> Solution found
```

```
#>
#>  Solution found!   Final fit=-2696.8171 (started at -2553.6049)  (1 attempt(s):
1 valid, 0 errors)
#>  Start values from best fit:
#> -0.436755093740936,0.950732515822416,-0.782634475987831,-0.119303590983245,-0.693199711323752,0.8
#> Running Model with 12 parameters
#>
#> Beginning initial fit attempt
#> Running Model with 12 parameters
```

```
#>
#>  Lowest minimum so far:   -79.2081134461944
#>
#> Solution found
```

```
#>
#>  Solution found!   Final fit=-79.208113 (started at 1454.2099)  (1 attempt(s):  1
valid, 0 errors)
#>  Start values from best fit:
#> -0.376523943499213,0.759292334044879,-0.715885895980673,-0.0757399210120224,-0.463437415309729,0.
#>           est     se       z      p    2.5%   97.5%
#> b0_1  -0.3765 0.1141 -3.2992 0.0010 -0.6002 -0.1528
#> b0_2   0.7593 0.1121  6.7705 0.0000  0.5395  0.9791
#> b0_3  -0.7159 0.1124 -6.3701 0.0000 -0.9362 -0.4956
#> b0_4  -0.0757 0.0876 -0.8648 0.3871 -0.2474  0.0959
#> b0_5  -0.4634 0.0874 -5.3006 0.0000 -0.6348 -0.2921
#> b0_6   0.7584 0.0875  8.6672 0.0000  0.5869  0.9299
#> b0_7   0.0500 0.0793  0.6307 0.5282 -0.1054  0.2054
#> b0_8  -0.0414 0.0790 -0.5234 0.6007 -0.1963  0.1135
#> b0_9  -0.6997 0.0802 -8.7208 0.0000 -0.8569 -0.5424
#> b0_10  0.0978 0.0045 21.5280 0.0000  0.0889  0.1067
#> b0_11  0.0975 0.0045 21.8957 0.0000  0.0887  0.1062
#> b0_12  0.0985 0.0045 21.9366 0.0000  0.0897  0.1073
#> Test passed
```

```
#> test-metaVAR-fit-ct-var-id-mx-theta-null
#> Running CTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 12 parameters
#>
#>  Lowest minimum so far:   -2707.31197426421
#>
#> Solution found
```

```
#>
#>  Solution found!   Final fit=-2707.312 (started at -2583.5637)  (1 attempt(s):  1
valid, 0 errors)
#>  Start values from best fit:
#> -0.545410808015616,0.655791704057053,-0.4319181053049,0.0684713570989829,-0.1952231790709,0.85913
#> Running CTVAR with 12 parameters
#>
#> Beginning initial fit attempt
#> Running CTVAR with 12 parameters
#>
#>  Lowest minimum so far:   -2726.62588111983
```

```
#>
#> Solution found
```

```
#>
#>  Solution found!   Final fit=-2726.6259 (started at -2584.9163)  (1 attempt(s):
1 valid, 0 errors)
#>  Start values from best fit:
#> -0.2139001517700005,0.861186849501166,-0.405561461480421,-0.131907517647472,-0.523808720935904,0.8
#> Running Model with 90 parameters
#>
#> Beginning initial fit attempt
#> Running Model with 90 parameters
#>
#>  Lowest minimum so far:   -89.76927877140229
#>
#> Solution found
```

```
#>
#>  Solution found!   Final fit=-89.769279 (started at 49.63987)  (1 attempt(s):  1
valid, 0 errors)
#>  Start values from best fit:
#> -0.3751373490777617,0.757131830409476,-0.414493586496051,-0.0312218385901363,-0.356491031738541,0.
#> Error in OpenMx::mxSE(i_sqr, model = object$output, silent = TRUE): Couldn't evaluate
expression 'i_sqr'.  Might help to check if it works in mxEval.
#> Recall also that elements of submodels are addressed as submodelName.objectName
#> For example, to refer to an object called 'bob' in submodel 'sub1', you would say
'sub1.bob'.
```

Environment

```
ls()

#> [1] "root"
```

Class

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

References

R Core Team. (2023). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. https://www.R-project.org/