1 Ordered Response Models

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      name:  gologit2
       log:  C:/Users/User/Documents/GitHub/2-projectMM-SHARE/files/logs/log-t-regd_count-cohort-gologit2.txt
  log type:  text
 opened on:   4 Feb 2024, 15:41:11

. eststo m2: gologit2 'y' 'agectrls' 'ctrls'      if 'sample'==1, vce(cluster ID) autofit gamma // cutpoints (intercept) are i
> dentical to ologit (but not xtologit)

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Testing parallel lines assumption using the .05 level of significance...

Step  1:  Constraints for parallel lines imposed for 60.cohortmin5 (P Value = 0.1847)
Step  2:  Constraints for parallel lines imposed for 65.cohortmin5 (P Value = 0.3571)
Step  3:  Constraints for parallel lines imposed for 55.cohortmin5 (P Value = 0.2113)
Step  4:  Constraints for parallel lines imposed for 1.male (P Value = 0.1111)
Step  5:  Constraints for parallel lines imposed for 2.raeducl (P Value = 0.0523)
Step  6:  Constraints for parallel lines are not imposed for
          age (P Value = 0.00230)
          marriedr (P Value = 0.01091)
          3.raeducl (P Value = 0.00625)

Wald test of parallel lines assumption for the final model:

 ( 1)  [0]55.cohortmin5 - [1]55.cohortmin5 = 0
 ( 2)  [0]60.cohortmin5 - [1]60.cohortmin5 = 0
 ( 3)  [0]65.cohortmin5 - [1]65.cohortmin5 = 0
 ( 4)  [0]1.male - [1]1.male = 0
 ( 5)  [0]2.raeducl - [1]2.raeducl = 0
 ( 6)  [0]55.cohortmin5 - [2]55.cohortmin5 = 0
 ( 7)  [0]60.cohortmin5 - [2]60.cohortmin5 = 0
 ( 8)  [0]65.cohortmin5 - [2]65.cohortmin5 = 0
 ( 9)  [0]1.male - [2]1.male = 0
 (10)  [0]2.raeducl - [2]2.raeducl = 0
 (11)  [0]55.cohortmin5 - [3]55.cohortmin5 = 0
 (12)  [0]60.cohortmin5 - [3]60.cohortmin5 = 0
 (13)  [0]65.cohortmin5 - [3]65.cohortmin5 = 0
 (14)  [0]1.male - [3]1.male = 0
 (15)  [0]2.raeducl - [3]2.raeducl = 0
 (16)  [0]55.cohortmin5 - [4]55.cohortmin5 = 0
 (17)  [0]60.cohortmin5 - [4]60.cohortmin5 = 0
 (18)  [0]65.cohortmin5 - [4]65.cohortmin5 = 0
 (19)  [0]1.male - [4]1.male = 0
 (20)  [0]2.raeducl - [4]2.raeducl = 0
 (21)  [0]55.cohortmin5 - [5]55.cohortmin5 = 0
 (22)  [0]60.cohortmin5 - [5]60.cohortmin5 = 0
 (23)  [0]65.cohortmin5 - [5]65.cohortmin5 = 0
 (24)  [0]1.male - [5]1.male = 0
 (25)  [0]2.raeducl - [5]2.raeducl = 0
 (26)  [0]55.cohortmin5 - [6]55.cohortmin5 = 0
 (27)  [0]60.cohortmin5 - [6]60.cohortmin5 = 0
 (28)  [0]65.cohortmin5 - [6]65.cohortmin5 = 0
 (29)  [0]1.male - [6]1.male = 0
 (30)  [0]2.raeducl - [6]2.raeducl = 0

           chi2( 30) =   46.85
         Prob > chi2 =    0.0258

An insignificant test statistic indicates that the final model
does not violate the proportional odds/ parallel lines assumption

If you re-estimate this exact same model with gologit2, instead
of autofit you can save time by using the parameter

pl(50b.cohortmin5 55.cohortmin5 60.cohortmin5 65.cohortmin5 0b.male 1.male 1b.raeducl 2.raeducl)

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Generalized Ordered Logit Estimates                   Number of obs =  84,923
                                                      Wald chi2(26) = 6090.51
                                                      Prob > chi2   =  0.0000
Log pseudolikelihood = -143307.41                     Pseudo R2     =  0.0497
```

```
 ( 1)  [0]55.cohortmin5 - [1]55.cohortmin5 = 0
 ( 2)  [0]60.cohortmin5 - [1]60.cohortmin5 = 0
 ( 3)  [0]65.cohortmin5 - [1]65.cohortmin5 = 0
 ( 4)  [0]1.male - [1]1.male = 0
 ( 5)  [0]2.raeducl - [1]2.raeducl = 0
 ( 6)  [1]55.cohortmin5 - [2]55.cohortmin5 = 0
 ( 7)  [1]60.cohortmin5 - [2]60.cohortmin5 = 0
 ( 8)  [1]65.cohortmin5 - [2]65.cohortmin5 = 0
 ( 9)  [1]1.male - [2]1.male = 0
 (10)  [1]2.raeducl - [2]2.raeducl = 0
 (11)  [2]55.cohortmin5 - [3]55.cohortmin5 = 0
 (12)  [2]60.cohortmin5 - [3]60.cohortmin5 = 0
 (13)  [2]65.cohortmin5 - [3]65.cohortmin5 = 0
 (14)  [2]1.male - [3]1.male = 0
 (15)  [2]2.raeducl - [3]2.raeducl = 0
 (16)  [3]55.cohortmin5 - [4]55.cohortmin5 = 0
 (17)  [3]60.cohortmin5 - [4]60.cohortmin5 = 0
 (18)  [3]65.cohortmin5 - [4]65.cohortmin5 = 0
 (19)  [3]1.male - [4]1.male = 0
 (20)  [3]2.raeducl - [4]2.raeducl = 0
 (21)  [4]55.cohortmin5 - [5]55.cohortmin5 = 0
 (22)  [4]60.cohortmin5 - [5]60.cohortmin5 = 0
 (23)  [4]65.cohortmin5 - [5]65.cohortmin5 = 0
 (24)  [4]1.male - [5]1.male = 0
 (25)  [4]2.raeducl - [5]2.raeducl = 0
 (26)  [5]55.cohortmin5 - [6]55.cohortmin5 = 0
 (27)  [5]60.cohortmin5 - [6]60.cohortmin5 = 0
 (28)  [5]65.cohortmin5 - [6]65.cohortmin5 = 0
 (29)  [5]1.male - [6]1.male = 0
 (30)  [5]2.raeducl - [6]2.raeducl = 0
                                              (Std. err. adjusted for 17,415 clusters in ID)
------------------------------------------------------------------------------------------------
                               |               Robust
                     d_count | Coefficient  std. err.      z    P>|z|     [95% conf. interval]
-------------------------------+----------------------------------------------------------------
0                              |
                           age |   .1155052   .0022321    51.75   0.000     .1111303    .1198801
                               |
                          male |
                        1.male |  -.3253926   .0257881   -12.62   0.000    -.3759363    -.274849
                               |
                      marriedr |  -.1266688   .0397224    -3.19   0.001    -.2045233   -.0488143
                               |
                       raeducl |
  2.upper secondary or vocational |  -.3077584    .029004   -10.61   0.000    -.3646052   -.2509116
            3.tertiary education |  -.6109739   .0414677   -14.73   0.000    -.6922491   -.5296987
                               |
                    cohortmin5 |
                        55-59  |  -.1439795   .0366286    -3.93   0.000    -.2157702   -.0721887
                        60-64  |  -.3077681   .0389323    -7.91   0.000    -.3840739   -.2314623
                          65+  |  -.5442468   .0427478   -12.73   0.000     -.628031   -.4604626
                               |
                         _cons |  -5.245369   .1385054   -37.87   0.000    -5.516835   -4.973904
-------------------------------+----------------------------------------------------------------
1                              |
                           age |    .112447   .0018557    60.60   0.000       .10881    .1160841
                               |
                          male |
                        1.male |  -.3253926   .0257881   -12.62   0.000    -.3759363    -.274849
                               |
                      marriedr |  -.1665718   .0319044    -5.22   0.000    -.2291034   -.1040402
                               |
                       raeducl |
  2.upper secondary or vocational |  -.3077584    .029004   -10.61   0.000    -.3646052   -.2509116
            3.tertiary education |  -.6650196   .0362973   -18.32   0.000     -.736161   -.5938783
                               |
                    cohortmin5 |
                        55-59  |  -.1439795   .0366286    -3.93   0.000    -.2157702   -.0721887
                        60-64  |  -.3077681   .0389323    -7.91   0.000    -.3840739   -.2314623
                          65+  |  -.5442468   .0427478   -12.73   0.000     -.628031   -.4604626
                               |
                         _cons |  -6.383653   .1178301   -54.18   0.000    -6.614596    -6.15271
-------------------------------+----------------------------------------------------------------
2                              |
                           age |   .1142367   .0019311    59.16   0.000     .1104517    .1180216
                               |
```

male						
1.male	-.3253926	.0257881	-12.62	0.000	-.3759363	-.274849
marriedr	-.1835188	.0326657	-5.62	0.000	-.2475425	-.1194951
raeducl						
2.upper secondary or vocational	-.3077584	.029004	-10.61	0.000	-.3646052	-.2509116
3.tertiary education	-.6986977	.0397992	-17.56	0.000	-.7767026	-.6206927
cohortmin5						
55-59	-.1439795	.0366286	-3.93	0.000	-.2157702	-.0721887
60-64	-.3077681	.0389323	-7.91	0.000	-.3840739	-.2314623
65+	-.5442468	.0427478	-12.73	0.000	-.628031	-.4604626
_cons	-7.507797	.1287648	-58.31	0.000	-7.760171	-7.255422
3						
age	.1166289	.0023114	50.46	0.000	.1120987	.1211591
male						
1.male	-.3253926	.0257881	-12.62	0.000	-.3759363	-.274849
marriedr	-.2516604	.0372694	-6.75	0.000	-.3247071	-.1786138
raeducl						
2.upper secondary or vocational	-.3077584	.029004	-10.61	0.000	-.3646052	-.2509116
3.tertiary education	-.7200224	.0483888	-14.88	0.000	-.8148628	-.6251821
cohortmin5						
55-59	-.1439795	.0366286	-3.93	0.000	-.2157702	-.0721887
60-64	-.3077681	.0389323	-7.91	0.000	-.3840739	-.2314623
65+	-.5442468	.0427478	-12.73	0.000	-.628031	-.4604626
_cons	-8.554732	.1607131	-53.23	0.000	-8.869724	-8.23974
4						
age	.1200388	.0031195	38.48	0.000	.1139247	.1261529
male						
1.male	-.3253926	.0257881	-12.62	0.000	-.3759363	-.274849
marriedr	-.3277274	.0473585	-6.92	0.000	-.4205483	-.2349065
raeducl						
2.upper secondary or vocational	-.3077584	.029004	-10.61	0.000	-.3646052	-.2509116
3.tertiary education	-.7917869	.0666359	-11.88	0.000	-.9223908	-.661183
cohortmin5						
55-59	-.1439795	.0366286	-3.93	0.000	-.2157702	-.0721887
60-64	-.3077681	.0389323	-7.91	0.000	-.3840739	-.2314623
65+	-.5442468	.0427478	-12.73	0.000	-.628031	-.4604626
_cons	-9.698555	.2231467	-43.46	0.000	-10.13591	-9.261196
5						
age	.1315769	.0047575	27.66	0.000	.1222525	.1409014
male						
1.male	-.3253926	.0257881	-12.62	0.000	-.3759363	-.274849
marriedr	-.3735562	.0714011	-5.23	0.000	-.5134998	-.2336126
raeducl						
2.upper secondary or vocational	-.3077584	.029004	-10.61	0.000	-.3646052	-.2509116
3.tertiary education	-1.043973	.1066608	-9.79	0.000	-1.253024	-.8349215
cohortmin5						
55-59	-.1439795	.0366286	-3.93	0.000	-.2157702	-.0721887
60-64	-.3077681	.0389323	-7.91	0.000	-.3840739	-.2314623
65+	-.5442468	.0427478	-12.73	0.000	-.628031	-.4604626
_cons	-11.58022	.3488322	-33.20	0.000	-12.26392	-10.89652
6						
age	.1426234	.0090984	15.68	0.000	.1247909	.1604559

male						
1.male	-.3253926	.0257881	-12.62	0.000	-.3759363	-.274849
marriedr	-.439421	.1250147	-3.51	0.000	-.6844452	-.1943968
raeducl						
2.upper secondary or vocational	-.3077584	.029004	-10.61	0.000	-.3646052	-.2509116
3.tertiary education	-1.260081	.2050079	-6.15	0.000	-1.661889	-.8582732
cohortmin5						
55-59	-.1439795	.0366286	-3.93	0.000	-.2157702	-.0721887
60-64	-.3077681	.0389323	-7.91	0.000	-.3840739	-.2314623
65+	-.5442468	.0427478	-12.73	0.000	-.628031	-.4604626
_cons	-13.77573	.6728946	-20.47	0.000	-15.09458	-12.45688

Alternative parameterization: Gammas are deviations from proportionality

d_count	Coefficient	Std. err.	z	P>|z|	[95% conf.	interval]
Beta						
age	.1155052	.0022321	51.75	0.000	.1111303	.1198801
male						
1.male	-.3253926	.0257881	-12.62	0.000	-.3759363	-.274849
marriedr	-.1266688	.0397224	-3.19	0.001	-.2045233	-.0488143
raeducl						
2.upper secondary or vocational	-.3077584	.029004	-10.61	0.000	-.3646052	-.2509116
3.tertiary education	-.6109739	.0414677	-14.73	0.000	-.6922491	-.5296987
cohortmin5						
55-59	-.1439795	.0366286	-3.93	0.000	-.2157702	-.0721887
60-64	-.3077681	.0389323	-7.91	0.000	-.3840739	-.2314623
65+	-.5442468	.0427478	-12.73	0.000	-.628031	-.4604626
Gamma_2						
age	-.0030582	.0017897	-1.71	0.087	-.0065659	.0004495
marriedr	-.039903	.0310121	-1.29	0.198	-.1006855	.0208795
raeducl						
3.tertiary education	-.0540457	.0308482	-1.75	0.080	-.1145071	.0064156
Gamma_3						
age	-.0012685	.0022521	-0.56	0.573	-.0056826	.0031456
marriedr	-.05685	.0392856	-1.45	0.148	-.1338485	.0201484
raeducl						
3.tertiary education	-.0877238	.040665	-2.16	0.031	-.1674256	-.0080219
Gamma_4						
age	.0011237	.0027249	0.41	0.680	-.004217	.0064644
marriedr	-.1249917	.0457627	-2.73	0.006	-.2146849	-.0352984
raeducl						
3.tertiary education	-.1090485	.0510318	-2.14	0.033	-.209069	-.009028
Gamma_5						
age	.0045336	.0035035	1.29	0.196	-.0023332	.0114003
marriedr	-.2010586	.0554595	-3.63	0.000	-.3097573	-.09236
raeducl						
3.tertiary education	-.180813	.0693835	-2.61	0.009	-.3168021	-.044824
Gamma_6						
age	.0160717	.0050633	3.17	0.002	.0061478	.0259957
marriedr	-.2468874	.0773667	-3.19	0.001	-.3985234	-.0952514
raeducl						
3.tertiary education	-.4329989	.1087106	-3.98	0.000	-.6460678	-.2199301
Gamma_7						
age	.0271182	.0092786	2.92	0.003	.0089325	.0453039

```
                     marriedr |  -.3127522   .1286914    -2.43   0.015    -.5649827   -.0605217
                              |
                      raeducl |
          3.tertiary education |  -.6491074   .2060489    -3.15   0.002    -1.052956   -.2452589
-------------------------------+----------------------------------------------------------------
Alpha                          |
                      _cons_1 |  -5.245369   .1385054   -37.87   0.000    -5.516835   -4.973904
                      _cons_2 |  -6.383653   .1178301   -54.18   0.000    -6.614596    -6.15271
                      _cons_3 |  -7.507797   .1287648   -58.31   0.000    -7.760171   -7.255422
                      _cons_4 |  -8.554732   .1607131   -53.23   0.000    -8.869724    -8.23974
                      _cons_5 |  -9.698555   .2231467   -43.46   0.000    -10.13591   -9.261196
                      _cons_6 |  -11.58022   .3488322   -33.20   0.000    -12.26392   -10.89652
                      _cons_7 |  -13.77573   .6728946   -20.47   0.000    -15.09458   -12.45688
------------------------------------------------------------------------------------------------

. qui log close gologit2
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