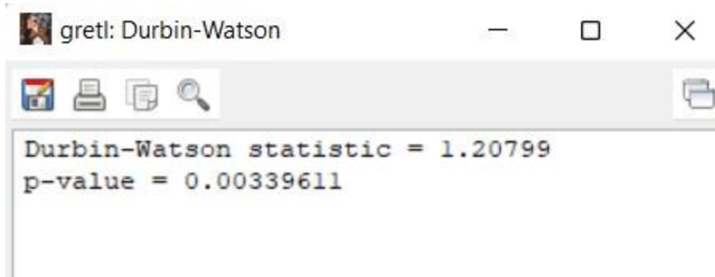
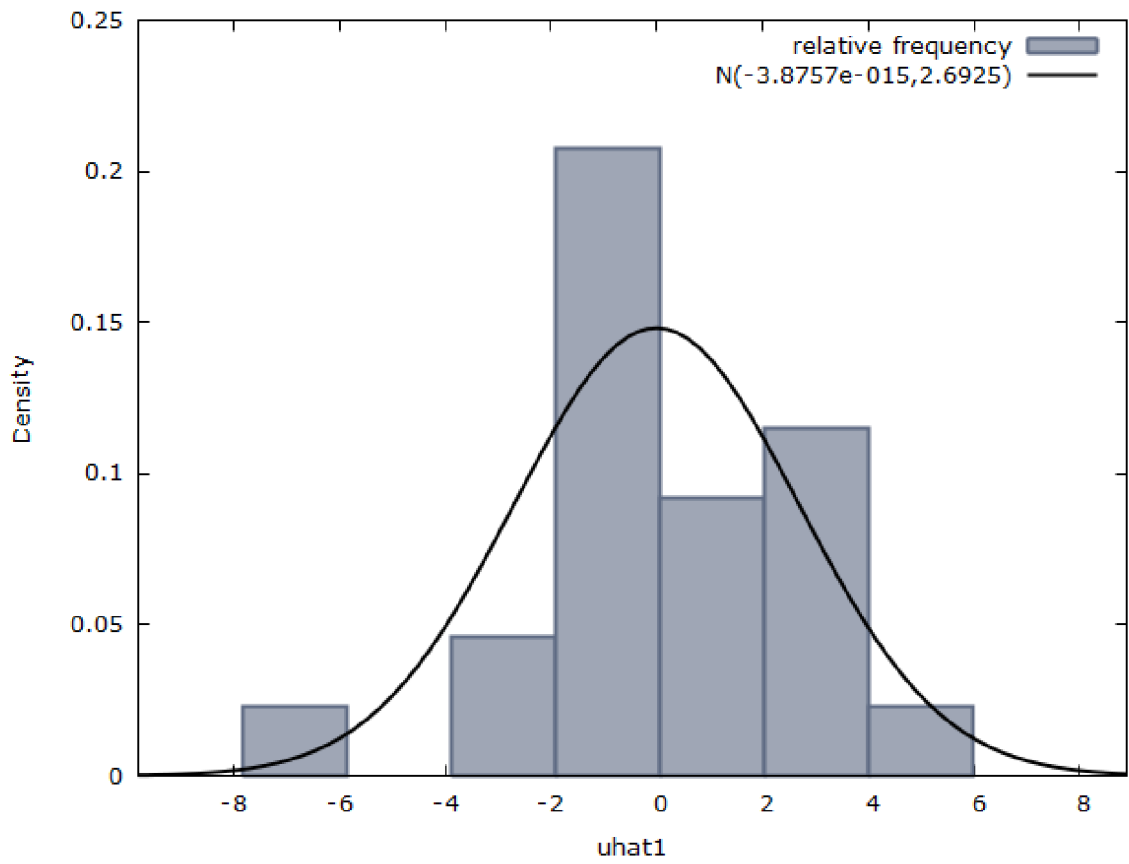


1 Appendix



```
gretl: CUSUM test output

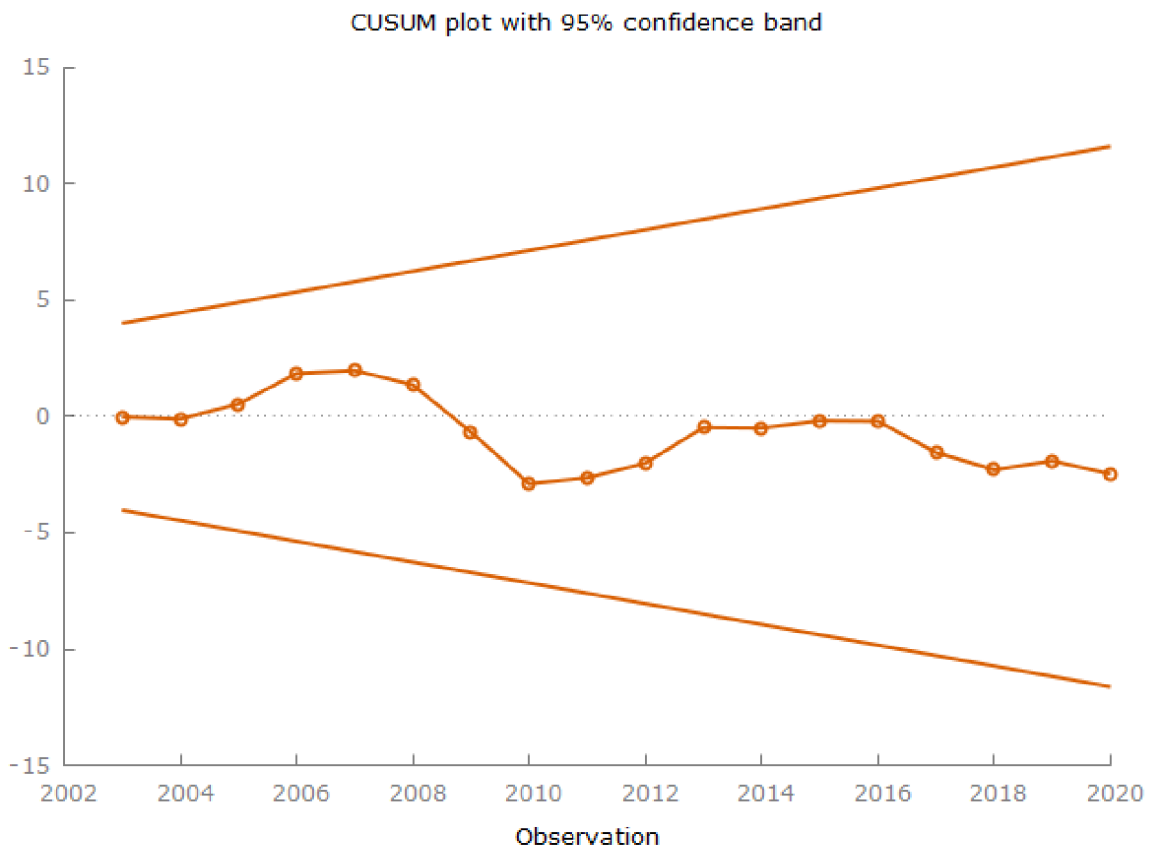
CUSUM test for stability of parameters

mean of scaled residuals = -0.374687
sigma-hat                = 2.74361

Cumulated sum of scaled residuals
('*' indicates a value outside of 95% confidence band)

2003    -0.011
2004    -0.101
2005     0.539
2006     1.858
2007     1.984
2008     1.364
2009    -0.661
2010    -2.887
2011    -2.627
2012    -2.002
2013    -0.465
2014    -0.490
2015    -0.177
2016    -0.196
2017    -1.545
2018    -2.282
2019    -1.910
2020    -2.458

Harvey-Collier  $t(17) = -0.579406$  with p-value 0.5699
```

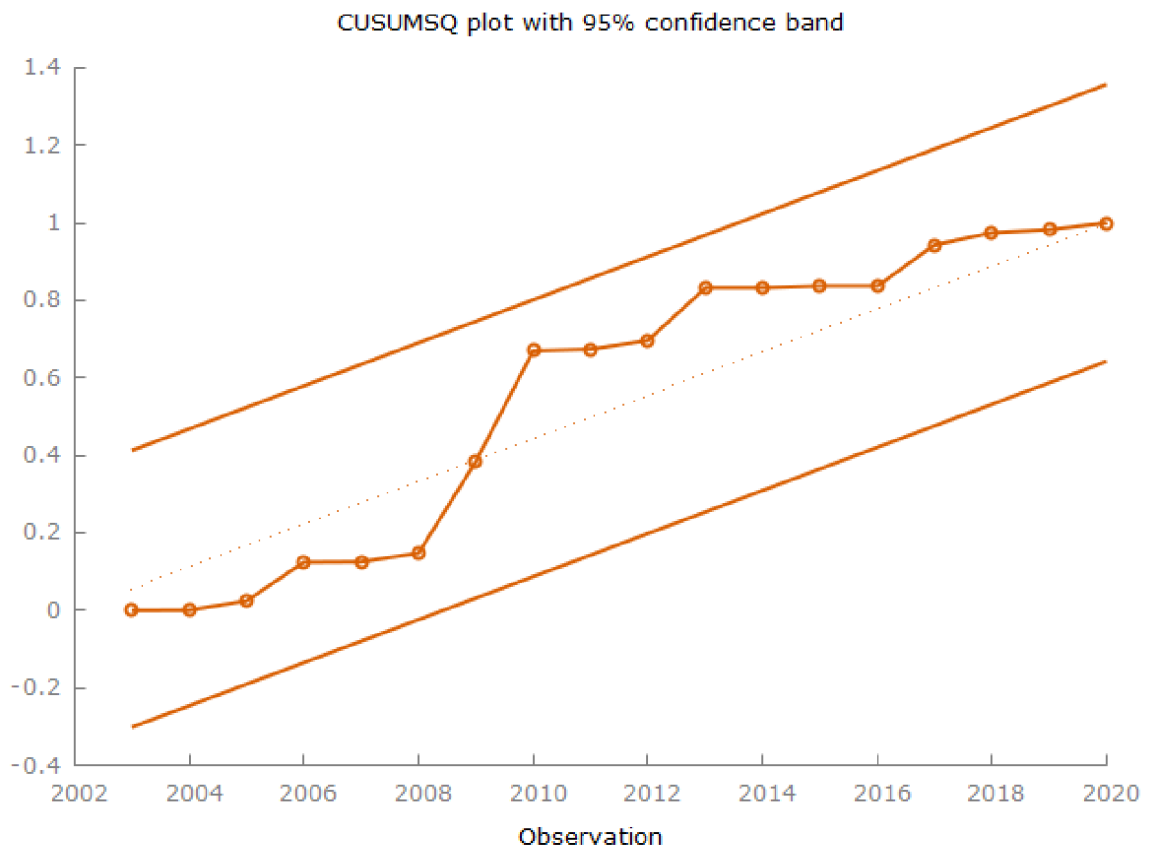


gretl: CUSUMSQ test output

CUSUMSQ test for stability of parameters

Cumulated sum of squared residuals
 ('*' indicates a value outside of 95% confidence band)

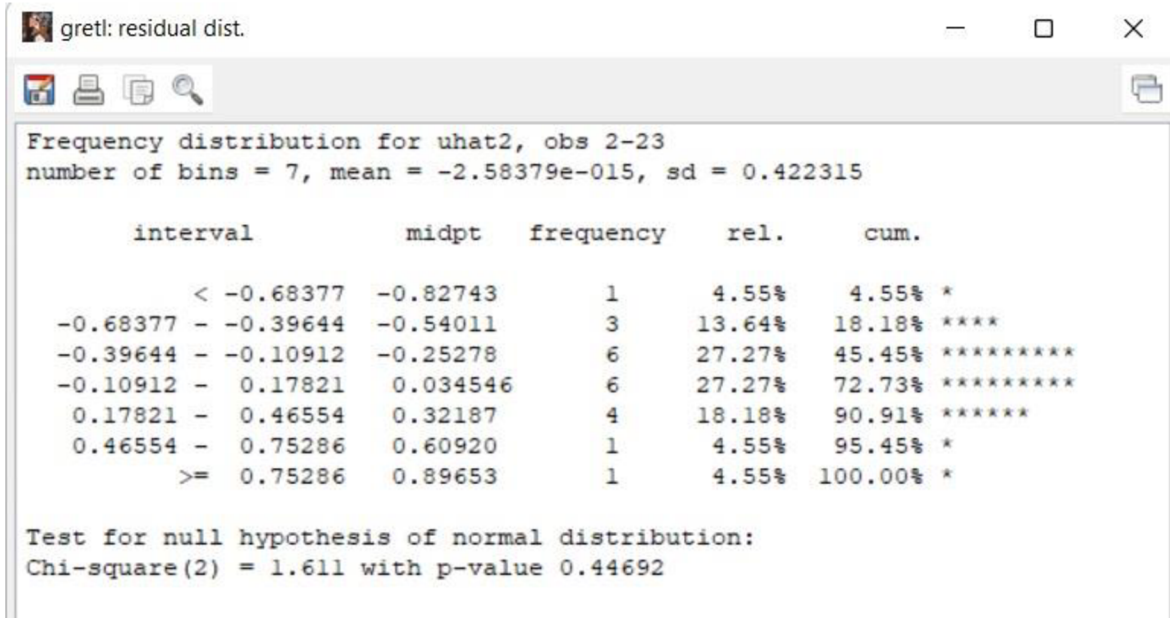
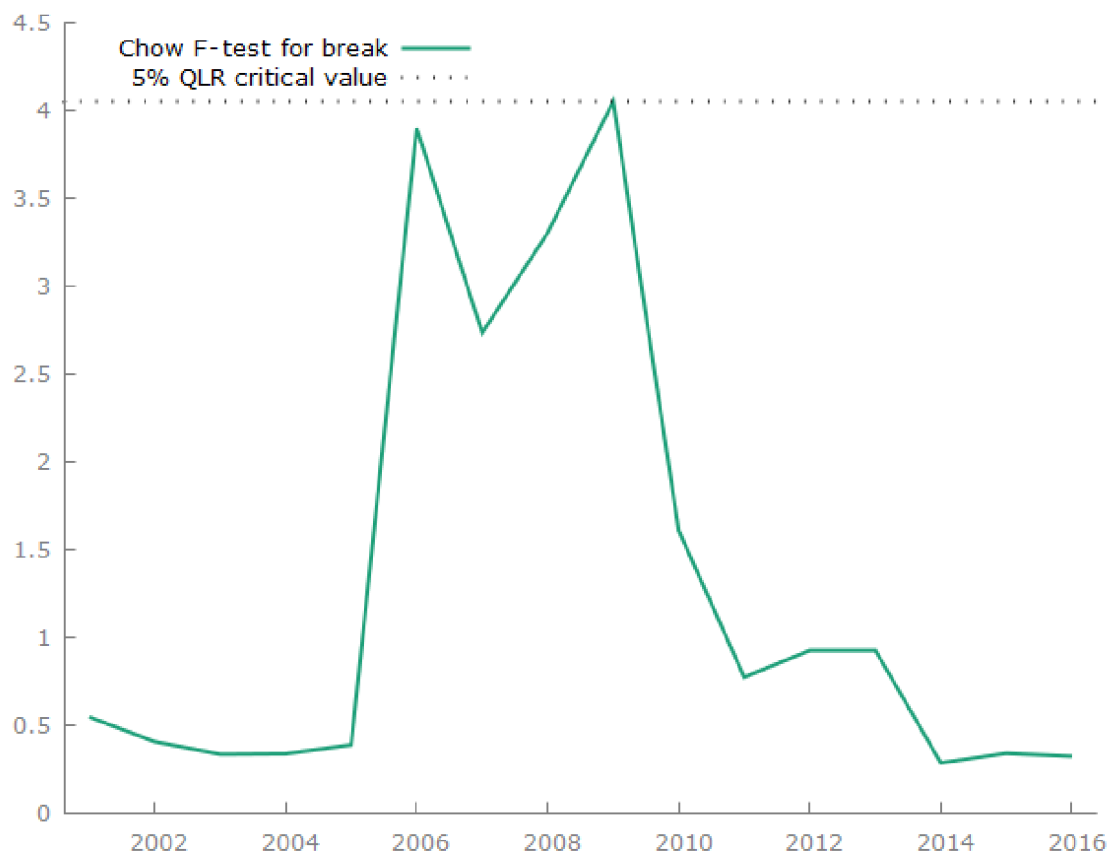
2003	0.000
2004	0.000
2005	0.024
2006	0.125
2007	0.125
2008	0.148
2009	0.384
2010	0.670
2011	0.674
2012	0.696
2013	0.833
2014	0.833
2015	0.838
2016	0.838
2017	0.943
2018	0.975
2019	0.983
2020	1.000

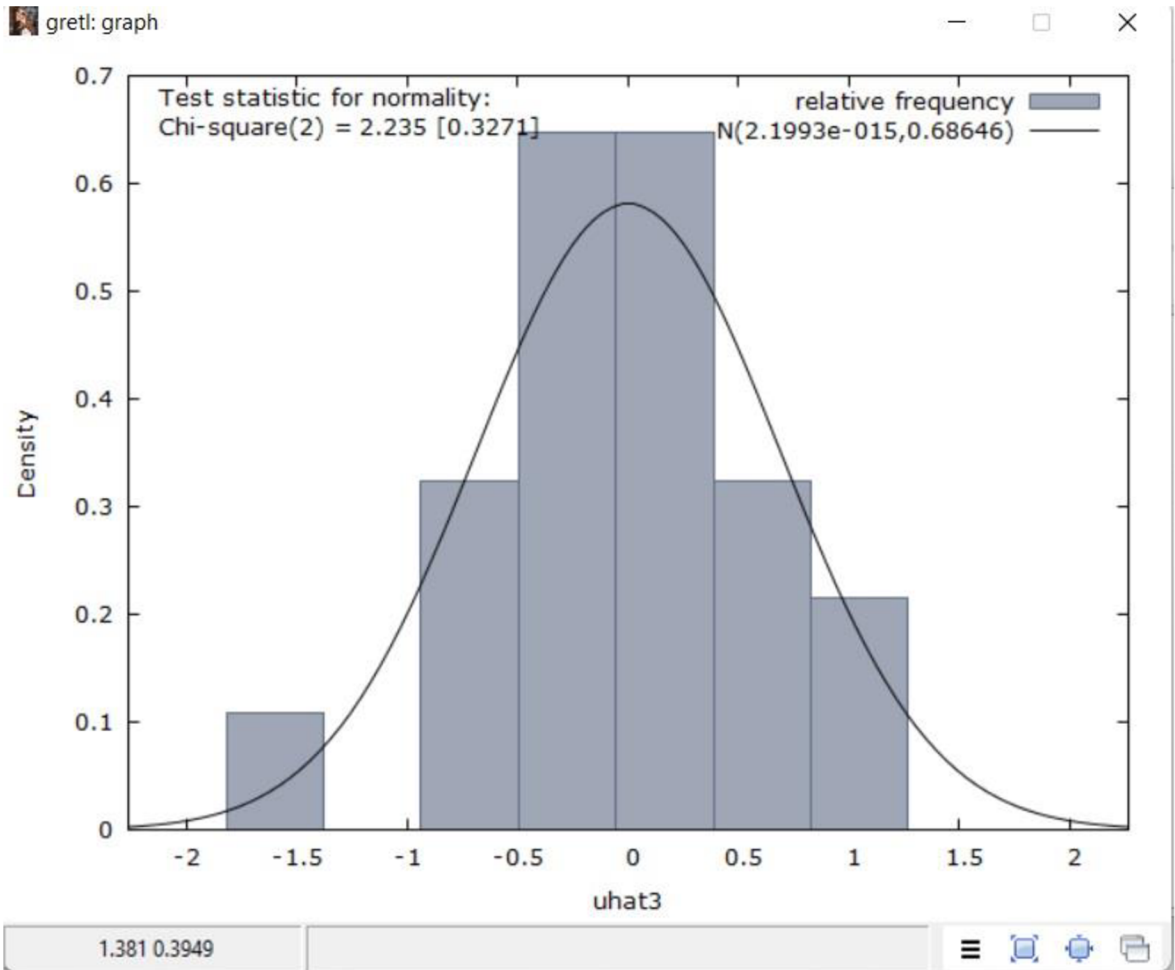


```

gret: QLR test output
Quant likelihood ratio test for structural break at an unknown point,
with 15 percent trimming:
The maximum F(4, 14) = 4.0509 occurs at observation 2009
Asymptotic p-value = 0.0489959 for chi-square(4) = 16.2036

```



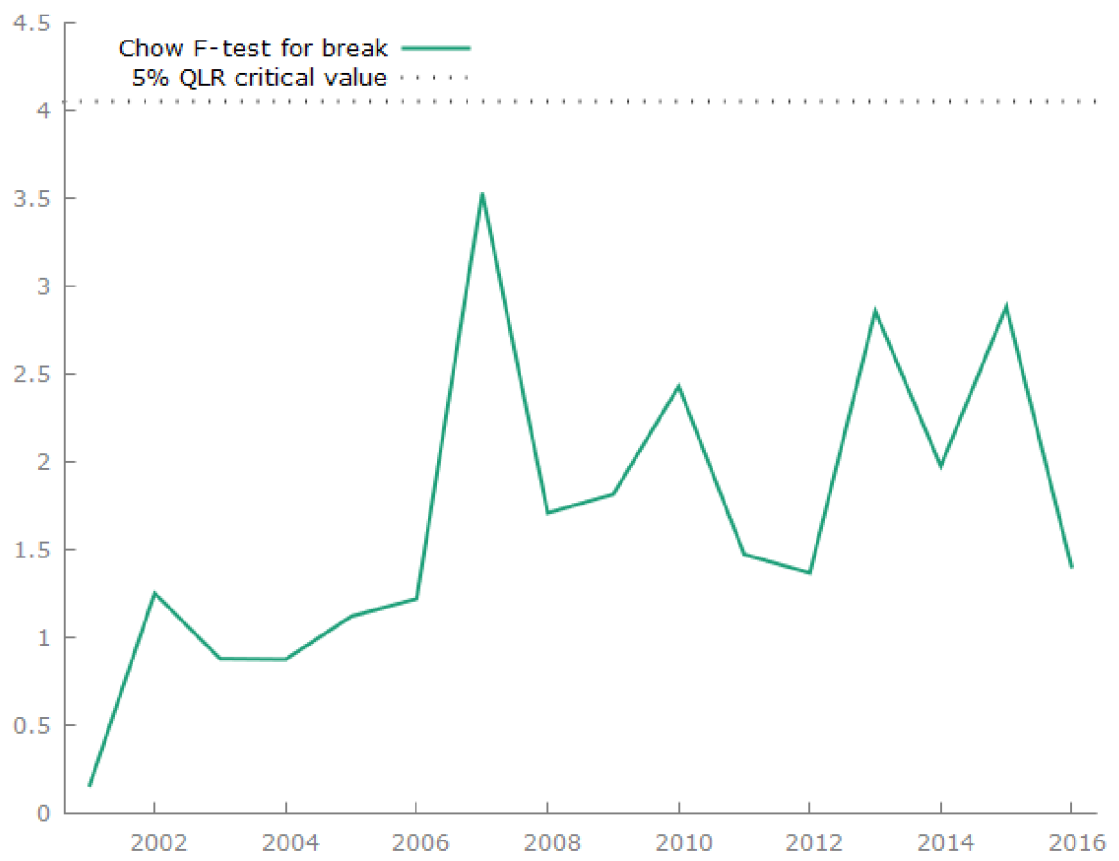


gretl: Durbin-Watson

Durbin-Watson statistic = 2.14997
p-value = 0.417943

gretl: QLR test output

Quandt likelihood ratio test for structural break at an unknown point,
with 15 percent trimming:
The maximum $F(4, 14) = 3.53238$ occurs at observation 2007
Asymptotic p-value = 0.102987 for chi-square(4) = 14.1295



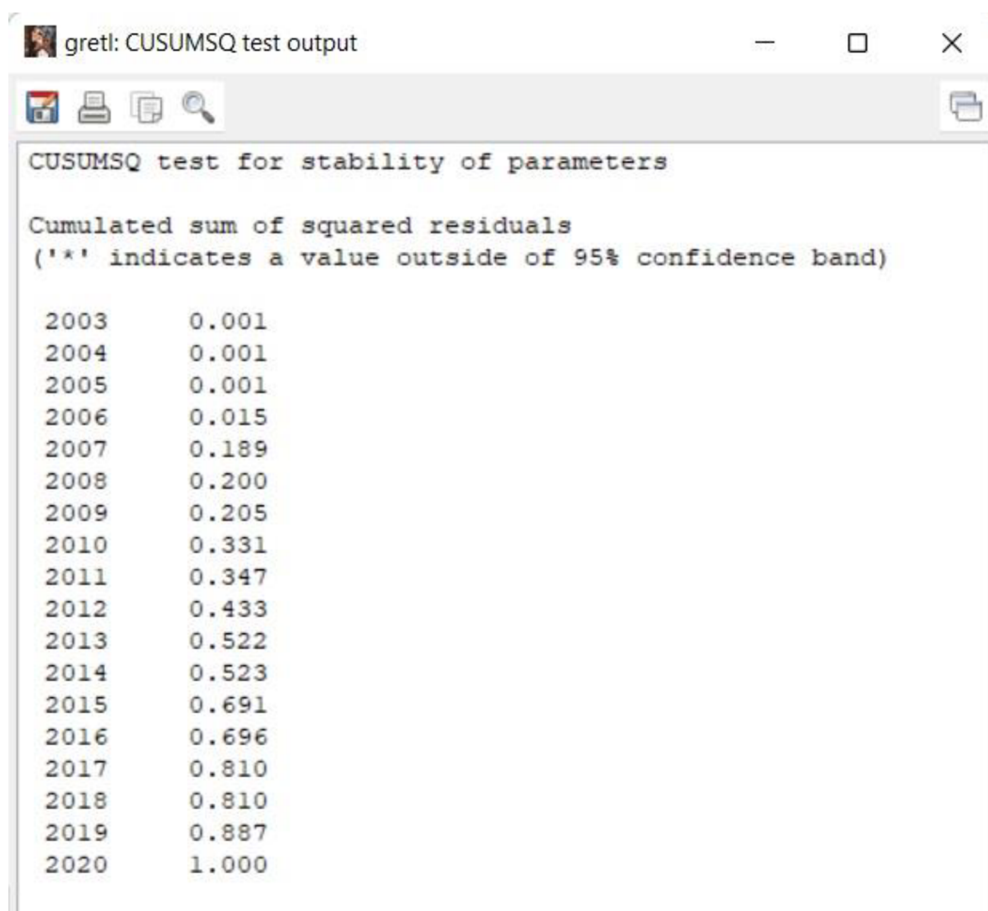
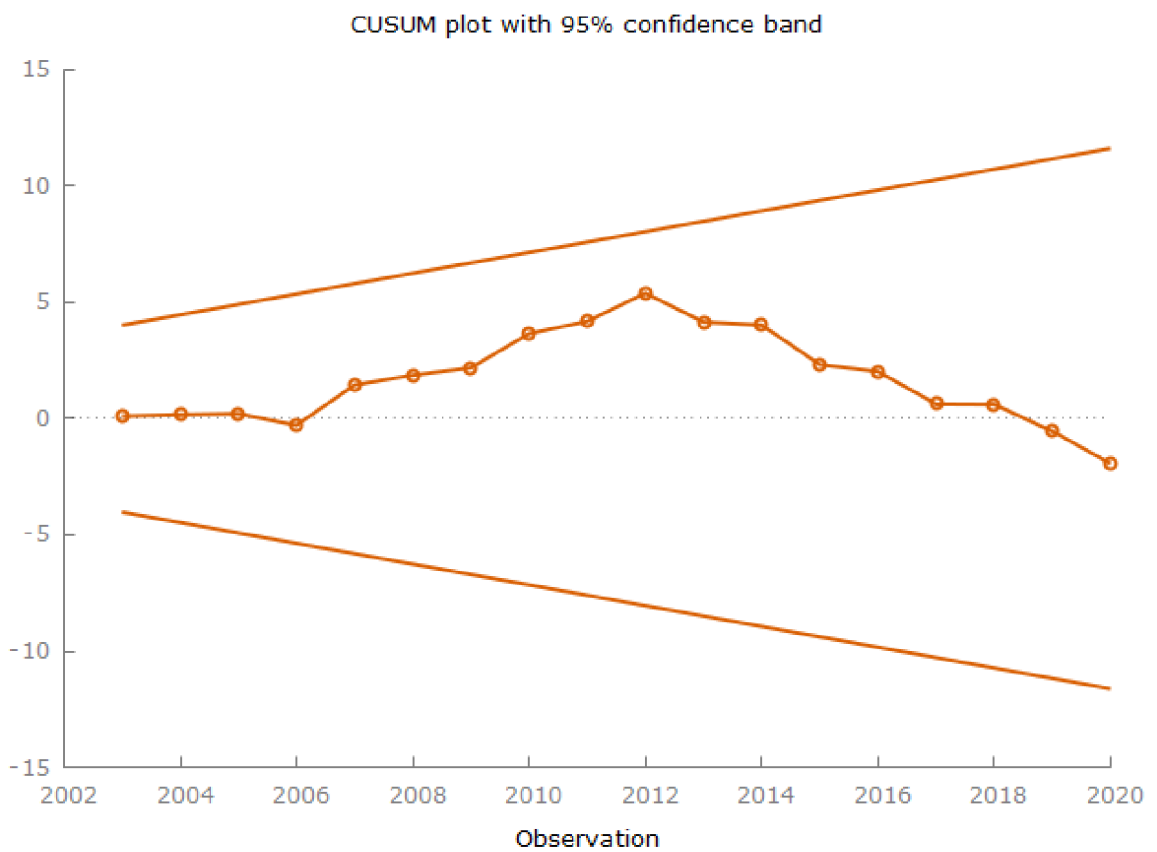
```
CUSUM test for stability of parameters

mean of scaled residuals = -0.0464647
sigmahat                  = 0.43192

Cumulated sum of scaled residuals
('*' indicates a value outside of 95% confidence band)

2003    0.104
2004    0.166
2005    0.207
2006   -0.284
2007    1.447
2008    1.871
2009    2.188
2010    3.658
2011    4.182
2012    5.397
2013    4.157
2014    4.027
2015    2.328
2016    2.029
2017    0.628
2018    0.610
2019   -0.543
2020   -1.936

Harvey-Collier t(17) = -0.456411 with p-value 0.6539
```

CUSUMSQ plot with 95% confidence band

