name: RERTOT\_FRL

log: C:\Users\jamel\Dropbox\Latex\PROJECTS\24-09-rer-fd-ecs\Revision\_FRL\Replication\RERTOT\_FRL.smcl

log type: smcl

opened on: 4 Aug 2025, 16:26:32

. use datafintransformed-22-11-17, clear

. set scheme stcolor

. \*search xthreg

. \*\*# Table 1: Descriptive statistics.

. sum lreer lto ltot lres lgdppk\_m100 lgovexp

Max	Min	Std. dev.	Mean	0bs	Variable
5.567302	2.84686	.1832542	4.632866	2,200	lreer
5.392096	2.377674	.4817038	3.650269	2,200	lto
2.513272	-2.11197	.371138	014806	2,200	ltot
4.697033	.0925683	.8929707	2.522981	2,200	lres
5.774917	3.159225	.5413455	4.60517	2,200	lgdppk_m100
3.56532	0494565	.3713954	2.696445	2,127	lgovexp

```
. qui: outreg2 using sum.doc, ///
```

> replace sum(log) keep(lreer lto ltot lres lgdppk\_m100 lgovexp)

. sum fd fi fm fmd if count\_lgovexp==20

Max	Min	Std. dev.	Mean	0bs	Variable
.9674348	.0260242	.2430807	.3877101	2,000	fd
.9781906	.0496998	.2280799	.4590305	2,000	fi
.9494287	0	.2785787	.302498	2,000	fm
1	0	.297646	.2903551	2,000	fmd

```
. qui: outreg2 using sum1.doc if count_lgovexp==20, ///
```

> replace sum(log) keep(fd fi fm fmd)

. \*\*# Table 2. Panel threshold regressions and financial development.

. // Column 1

. \*\*# Financial Dev - Full sample\*\*

. xthreg lreer lgdppk\_m100 lgovexp if count\_lgovexp==20, ///

> rx(etot\_L1lres) qx(12.fd) thnum(1) grid(300) bs(300)

Estimating the threshold parameters: 1st ..... Done

Boostrap for single threshold

..... + ..... + 100 ..... + 250 ..... + 300

Threshold estimator (level = 95):

model	Threshold	Lower	Upper
Th-1	0.0844	0.0791	0.0851

Threshold effect test (bootstrap = 300):

Threshold	RS	S MSE	Fstat	Prob	Crit10	Crit5	Crit1
Single	23.272	0.0131	12.97	0.7833	36.8851	42.3277	49.8437
Fixed-effect Group variab		) regression	1		er of obs er of grou	= ups =	1,800 100
Between	= 0.1286 n = 0.1258	1		Obs p	oer group:	min = avg =	18 18.0
overa1.	l = <b>0.037</b> 6	)				max =	18
corr(u_i, Xt	o) = <b>-0.9</b> 6	86		F( <b>4,</b> Prob	<b>1696</b> ) > F	=	62.57 0.0000
	lreer	Coefficient	Std. err.	t	P> t	[95% co	nf. interval]
•	ok_m100 lgovexp	.6930496 .1469674	.0551961 .0218244	12.56 6.73	0.000 0.000	.5847 .104161	
_cat#c.etot_	_L1lres 0 1	.0034922 0089182	.0033994 .0014233	1.03 -6.27	0.304 0.000	003175 011709	
	_cons	1.020741	.2654403	3.85	0.000	.500116	4 1.541366
	sigma_u sigma_e	.42868485 .11714166					
	rho	.93051816	(fraction	of varian	ice due to	u_i)	
. // Column	2	9: F(99, <b>1</b> 696			F	Prob > F =	0.0000
// Column **Financia . xthreg lre > , /// > rx Estimating Boostrap for	2 al Institu eer lgdppk x(etot_L11 the thre r single t	ntions - Full m100 lgovex res) qx(l2.f	sample**  or if count_  i) thnum(1)  neters: 1s	grid(600 t	=20 /// 0) bs(100) Done 50		
// Column **Financia . xthreg lre > , /// > rz Estimating Boostrap for	2 al Institu eer lgdppk x(etot_L11 the thre r single t	ntions - Full 1m100 lgovex 1res) qx(l2.f 1shold param 1hreshold	sample**  cp if count_  i) thnum(1)  neters: 1s	grid(600 t+	=20 /// 0) bs(100) Done 50		
// Column **Financia . xthreg lre > , /// > ro Estimating Boostrap for	2 al Institu eer lgdppk x(etot_L11 the thre r single t	rtions - Full _m100 lgovex res) qx(12.f eshold param hreshold 	sample**  cp if count_  i) thnum(1)  neters: 1s	grid(600 t+	=20 /// 0) bs(100) Done 50 100		
// Column **Financia . xthreg lre > , /// > ro Estimating Boostrap for	2 al Institueer lgdppk x(etot_L1l the thre r single t stimator (	rtions - Full _m100 lgovex res) qx(12.f eshold param hreshold 	sample**  rp if count_  i) thnum(1) neters: 1s	grid(600 t + +	=20 /// b) bs(100) Done 50 100		
. // Column . **Financia . xthreg lre > , /// > rz Estimating Boostrap for Threshold es  model Th-1	2 al Institueer lgdppk x(etot_L1l the thre r single t stimator ( Thres	rtions - Full m100 lgovex res) qx(12.f shold param hreshold 	sample**  prif count_  i) thnum(1)  neters: 1s	grid(600 t + +	=20 /// b) bs(100) Done 50 100		
. // Column . **Financia . xthreg lre > , /// > rz Estimating Boostrap for Threshold es  model Th-1	2 al Institueer lgdppk x(etot_L1l the thre r single t stimator ( Thres	res) qx(12.feshold parametreshold level = 95): chold 4806	sample**  prif count_  fi) thnum(1) neters: 1s   Lower  0.4790  = 100):	grid(600 t + +	=20 /// b) bs(100) Done 50 100		
. // Column . **Financia . xthreg lre > , /// > ry Estimating Boostrap for	2 al Institueer lgdppk x(etot_L11 the thre r single t stimator ( Thres 0.	res) qx(12.frshold parametershold level = 95): shold 4806 (bootstrap	sample**   sample**	grid(600 t + + Upper 0.4814	50 /// 50 bs(100) 50 100	) trim(0.1	0)
. // Column . **Financia . xthreg lre . y /// > rx Estimating Boostrap for Threshold es model Th-1 Threshold es Threshold es	2 al Institueer lgdppk x(etot_L11 the thre r single t stimator ( Thres  0.  ffect test  RS  22.922	res) qx(12.frshold parametershold level = 95): shold 4806 (bootstrap	sample**   sample**   sp if count_   si) thnum(1)   neters: 1s   Lower   0.4790   = 100):   Fstat   40.36	grid(600 t + + Upper 0.4814 Prob 0.0500	50 /// Done 50 100  Crit10	Crit5 39.2648	0) Crit1
. // Column . **Financia . xthreg lre . y /// > re Estimating Boostrap for Threshold es  model Th-1 Threshold Single Fixed-effect Group variab R-squared:	al Institueer lgdppk  x(etot_L1l the thre r single t   stimator ( Thres  22.922  ts (within ole: cn	res) qx(12.feshold parametreshold pa	sample**   sample**   sp if count_   si) thnum(1)   neters: 1s   Lower   0.4790   = 100):   Fstat   40.36	grid(600 t + + Upper 0.4814 Prob 0.0500	20 /// 3) bs(100) Done 50 100  Crit10 35.0130	Crit5 39.2648  = ups =	Crit1 45.8237 1,800 100
. // Column . **Financia . xthreg lre . y /// > re Estimating Boostrap for Threshold es  model Th-1 Threshold es  Threshold Single  Fixed-effect Group varial R-squared: Within	2 al Institueer lgdppk x(etot_L11 the thre r single t stimator ( Thres  0.  ffect test  RS  22.922	res) qx(12.feshold parametreshold pa	sample**   sample**   sp if count_   si) thnum(1)   neters: 1s   Lower   0.4790   = 100):   Fstat   40.36	grid(600 t + + Upper 0.4814 Prob 0.0500	20 /// b) bs(100) Done 50 100  Crit10  35.0130  er of obser of grou	Crit5 39.2648  = ups = : min =	Crit1 45.8237
. // Column . **Financia . xthreg lre . /// > ry Estimating Boostrap for Threshold es   model   Th-1 Threshold es  Threshold Single  Fixed-effect Group variab R-squared:   Within Between	al Instituter lgdppk  x(etot_L1l the three single t  stimator (  Thres  0.  ffect test  RS  22.922  ts (within ole: cn	res) qx(12.feshold parametreshold pa	sample**   sample**   sp if count_   si) thnum(1)   neters: 1s   Lower   0.4790   = 100):   Fstat   40.36	grid(600 t + + Upper 0.4814 Prob 0.0500	20 /// b) bs(100) Done 50 100  Crit10  35.0130  er of obser of grou	Crit5 39.2648  = ups =	Crit1 45.8237 1,800 100

	lreer	Coeffi	cient	Std.	err.	t	P> t	[95% cor	nf. interval
	k_m100 govexp		2848 3809		8386 1652	12.97 7.10	0.000 0.000	.6037263 .111341	
_cat#c.etot_	L1lres 0 1	009 .007	6133 7606		3982 2883	-6.88 2.69	0.000 0.007	0123557 .002106	
	_cons	.917	8462	.263	6877	3.48	0.001	.4006587	7 1.435034
	igma_u igma_e rho	.4420 .1163 .9352	5181	(fra	ction	of varia	nce due to	o u_i)	
F test that	all u_i	=0: F( <b>99</b>	, 1696	5) = 1	4.59		F	Prob > F =	0.0000
. sum fm if	fi <= 0	.4806 &	count_	_lgove	xp==20				
Variable		0bs		Mean	Std	. dev.	Min	Max	
fm	1	1,180	.156	7849	.17	51877	0	.7171974	
. sum fm if	fi > 0.4	1806 & c	ount_1	lgovex	p==20				
Variable	!	0bs		Mean	Std	. dev.	Min	Max	
fm	1	820	.526	8167	.25	36828	.0036177	.9494287	
. // Column	3								
Estimating Boostrap for	(etot_L2 the thr single	llres) q	x(12.f	fm) the	num(1) : 1s	grid(300 t + + +	=20 /// a) bs(300 Done 50 100 150 200 250 300	)	
Threshold es		•	= 95):			Henry	_		
model Th-1	,	eshold 0.1092		0.097		Uppe:	_		
		9.1092		0.057	,	0.114	-		
Threshold ef	fect tes	st (boot	strap	= 300	):				
Threshold		RSS	MSE		Fstat	Prob	Crit10	Crit5	Crit1
Single	23.19	985	0.0130	)	18.66	0.5867	38.2236	46.8354	70.2220
Fixed-effect Group variab	•	in) regr	essior	1			er of obs er of gro	ups =	1,800 100
Between	= 0.133 = 0.126 = 0.036	99				Obs	per group	: min = avg = max =	18 18.0 18
corr(u_i, Xb	) = -0.9	9702				F( <b>4</b> , Prob	<b>1696</b> ) > F	=	64.06 0.0000

lreer	Coefficient	Std. err.	t	P> t	[95% conf.	interval]
lgdppk_m100	.7139527	.0552046	12.93	0.000	.6056763	.8222291
lgovexp	.1441147	.0218229	6.60	0.000	.1013121	.1869174
cat#c.etot L1lres						
_ 0	0043845	.0015397	-2.85	0.004	0074044	0013647
1	0145245	.0021707	-6.69	0.000	018782	0102669
_cons	.9325112	.2651255	3.52	0.000	.4125037	1.452519
sigma u	.44079781					
sigma_e	.11696286					
rho	.9342239	(fraction	of varia	nce due t	o u_i)	

## Threshold estimator (level = 95):

Th-1	0.0217	0.0210	0.0220
model	Threshold	Lower	Upper

## Threshold effect test (bootstrap = 300):

Threshold	RSS	MSE	Fstat	Prob	Crit10	Crit5	Crit1
Single	5.0432	0.0072	61.50	0.0167	39.2743	48.3484	64.8603
Fixed offect	ts (within) r	ognossion		Numbo	r of obs	=	720
Group varial	, ,	egression			r of obs r of grou		726 40

R-squared: Obs per group:

Within = 0.1814 min = 18 Between = 0.0010 avg = 18.0 Overall = 0.0024 max = 18

F(4, 676) = 37.45 $corr(u_i, Xb) = -0.9397$  Prob > F = 0.0000

lreer	Coefficient	Std. err.	t	P> t	[95% conf	. interval]
lgdppk_m100 lgovexp	.6172063 .1520681	.0632999 .0408981	9.75 3.72	0.000 0.000	.4929182 .0717654	.7414944 .2323707
_cat#c.etot_L1lres 0 1	0134782 .0144936	.0029661 .0026559	-4.54 5.46	0.000 0.000	019302 .0092788	0076544 .0197084
_cons	1.076252	.3553874	3.03	0.003	.3784566	1.774048
sigma_u sigma_e	.21999629 .08656159					

rho .86593778 (fraction of variance due to u\_i)

F test that all  $u_i=0$ : F(39, 676) = 10.58

 $\mathsf{Prob} \, > \, \mathsf{F} \, = \, \mathbf{0.0000}$ 

. sum fm if fm <= 0.0217 & rn==2 & count\_lgovexp==20

Variable	0bs	Mean	Std. dev.	Min	Max
fm	122	.0093684	.0059324	.0028123	.0215554

. sum fm if fm > 0.0217 & rn==2 & count\_lgovexp==20

fm	678	.4301768	.273638	.021737	.9494287
Variable	0bs	Mean	Std. dev.	Min	Max

. // Column 5

. \*\*# Financial Markets Depth - ECS\*\*

- . xthreg lreer lgdppk\_m100 lgovexp if count\_lgovexp==20 ///
- > & rn==2, ///

> rx(etot\_L1lres) qx(L2.fmd) thnum(1) grid(300) bs(300) Estimating the threshold parameters: 1st ..... Done Boostrap for single threshold

 	 	 + 50
 	 	 + 100
 	 	 + 150
 	 	 + 200
 	 	 + 250
 	 	 + 300

Threshold estimator (level = 95):

 $corr(u_i, Xb) = -0.9355$ 

Th 1	0.0224	0.0173	0 0240
Th-1	0.0234	0.0173	0.0249

Threshold effect test (bootstrap = 300):

Threshold	RSS	MSE	Fstat	Prob	Crit10	Crit5	Crit1
Single	5.0576	0.0072	59.33	0.0233	41.7778	51.2579	80.7307

Fixed-effects (within) regression Number of obs 720 Number of groups = Group variable: cn 40

Obs per group: R-squared:

Within = **0.1826** min = 18 Between = **0.0013** avg = 18.0 Overall = **0.0024** max = 18

37.76 F(4, 676)

Prob > F

0.0000

lreer	Coefficient	Std. err.	t	P> t	[95% conf.	interval]
lgdppk_m100 lgovexp	.5809665 .1585325	.0632187 .040872	9.19 3.88	0.000 0.000	.4568379 .0782812	.7050951 .2387837
_cat#c.etot_L11res 0 1	012808 .012576	.0028886 .0024976	-4.43 5.04	0.000 0.000	0184797 .007672	0071362 .01748
_cons	1.239264	.3548933	3.49	0.001	.5424382	1.936089
sigma_u sigma_e rho	.21322326 .08649631 .85869291	(fraction	of variar	nce due t	o u_i)	

```
. sum fmd if fmd <= 0.0234 & rn==2 & count_lgovexp==20
```

Variable	Obs	Mean	Std. dev.	. Min	Max
fmd	119	.0113428	.0052305	.0004064	.0233997

. sum fmd if fmd > 0.0234 & rn==2 & count\_lgovexp==20

fmd	681	.410132	.3047344	.0238967	.9888874
Variable	0bs	Mean	Std. dev.	Min	Max

```
. **# Fig. 1. Threshold effect in the ECS region.
. gen resgdp = (res/gdp)*100
. by cn: egen resgdp_full = mean(resgdp)
. by cn: egen resgdp_before = mean(resgdp) if year<2008
(1,430 missing values generated)
. by cn: egen resgdp_after = mean(resgdp) if year>2009
(990 missing values generated)
. by cn: egen resgdp_full_sd = sd(resgdp)
. by cn: egen resgdp_before_sd = sd(resgdp) if year<2008
(1,430 missing values generated)
. by cn: egen resgdp_after_sd = sd(resgdp) if year>2009
(990 missing values generated)
. graph hbar resgdp_before resgdp_after ///
> if region=="ECS" & eurozone==0, over(cn, sort(2) ///
> label(labsize(small))) ///
> legend(pos(6) label(1 "Before the financial crisis (2007-2009)") label(2 "After the financial crisis (2010-2020)")
> title("Buffer effect in the ECS region without EZ") ///
> note(Source: see the main text.) xsize(7)
. graph rename Graph Thres_Res, replace
. graph export Thres_Res.png, as(png) name("Thres_Res") width(3000) replace
file Thres_Res.png saved as PNG format
. **# Fig. 2, Fig. 3 present the construction of the confidence intervals for the threshold models in the ECS region
. // Column 4
. **# Financial Markets - ECS**
. xthreg lreer lgdppk_m100 lgovexp if count_lgovexp==20 ///
> & rn==2, ///
```

> rx(etot\_L1lres) qx(L2.fm) thnum(1) grid(300) bs(300) Estimating the threshold parameters: 1st ..... Done Boostrap for single threshold .....+ ..... + 100 ..... + 250

Threshold estimator (level = 95):

model	Threshold	Lower	Upper
Th-1	0.0217	0.0210	0.0220

Threshold effect test (bootstrap = 300):

Crit1	Crit5	Crit10	Prob	Fstat	MSE	RSS	Threshold		
69.9921	54.3420	44.1211	0.0200	61.50	0.0072	5.0432	Single		
720 40	= S =	r of obs r of group		Fixed-effects (within) regression Group variable: cn					
18	in =	-	Obs p	R-squared: Within = 0.1814					
18.0 18	vg = ax =			Between = <b>0.0010</b> Overall = <b>0.0024</b>					
37.45 0.0000	=	,	F( <b>4,</b> Prob			o) = <b>-0.9397</b>	corr(u_i, Xb		

lreer	Coefficient	Std. err.	t	P> t	[95% conf	. interval]
lgdppk_m100 lgovexp	.6172063 .1520681	.0632999 .0408981	9.75 3.72	0.000 0.000	.4929182 .0717654	.7414944 .2323707
_cat#c.etot_L1lres 0 1	0134782 .0144936	.0029661 .0026559	-4.54 5.46	0.000 0.000	019302 .0092788	0076544 .0197084
_cons	1.076252	.3553874	3.03	0.003	.3784566	1.774048
sigma_u sigma_e rho	.21999629 .08656159 .86593778	(fraction	of varia	nce due to	o u_i)	

F test that all u\_i=0: F(39, 676) = 10.58

Prob > F =**0.0000** 

. sum fm if fm <= 0.0217 & rn==2 & count\_lgovexp==20

Variable	0bs	Mean	Std. dev.	Min	Max
fm	122	.0093684	.0059324	.0028123	.0215554

. sum fm if fm > 0.0217 & rn==2 & count\_lgovexp==20

fm	678	.4301768	.273638	.021737	.9494287
Variable	Obs	Mean	Std. dev.	Min	Max

<sup>.</sup> . \*ereturn list

. capture graph drop LR\_FMECS

.

```
Monday August 4 16:28:44 2025
. _matplot e(LR), title("ECS FM - buffer effect") ///
> yline(7.35, lpattern(dash)) connect(direct) msize(small) mlabp(0) ///
> mlabs(zero) ytitle("LR Statistics") xtitle("Threshold Parameter") ///
> recast(line) name(LR_FMECS)
. graph export LR_FMECS.png, as(png) name("LR_FMECS") width(3000) replace
(file LR_FMECS.png not found)
file LR_FMECS.png saved as PNG format
. // Column 5
. **# Financial Markets Depth - ECS**
. xthreg lreer lgdppk_m100 lgovexp if count_lgovexp==20 ///
> & rn==2, ///
> rx(etot_L1lres) qx(L2.fmd) thnum(1) grid(300) bs(300)
Estimating the threshold parameters:
Boostrap for single threshold
.....+
                                                  100
.....+
                                                  150
                                                  250
.....+
Threshold estimator (level = 95):
    mode1
              Threshold
                               Lower
                                            Upper
     Th-1
                 0.0234
                              0.0173
                                           0.0249
Threshold effect test (bootstrap = 300):
Threshold
                 RSS
                                                            Crit5
                                                                    Crit1
                           MSE
                                    Fstat
                                            Prob
                                                   Crit10
              5.0576
                         0.0072
                                    59.33 0.0200 39.3432 47.0501 61.2113
   Single
Fixed-effects (within) regression
                                            Number of obs
                                                                     720
Group variable: cn
                                            Number of groups
                                                                      40
R-squared:
                                            Obs per group:
    Within = 0.1826
                                                         min =
                                                                      18
    Between = 0.0013
                                                         avg =
                                                                    18.0
    Overall = 0.0024
                                                         max =
                                                                      18
                                            F(4, 676)
                                                                   37.76
corr(u_i, Xb) = -0.9355
                                            Prob > F
                                                                   0.0000
           lreer
                   Coefficient Std. err.
                                             t
                                                  P>|t|
                                                           [95% conf. interval]
                     . 5809665
                                                  0.000
                                                           .4568379
                                                                       .7050951
      lgdppk_m100
                                .0632187
                                           9.19
                     .1585325
                                .040872
                                           3.88
                                                  0.000
                                                            .0782812
                                                                       .2387837
          lgovexp
_cat#c.etot_L1lres
              0
                     -.012808
                               .0028886
                                          -4.43
                                                  0.000
                                                          -.0184797
                                                                     -.0071362
                      .012576
              1
                               .0024976
                                           5.04
                                                  0.000
                                                            .007672
                                                                        .01748
```

\_cons

sigma\_u
sigma\_e

1.239264

.21322326

.08649631 .85869291 .3548933

3.49

(fraction of variance due to u i)

0.001

.5424382

1.936089

. sum fmd if fmd <= 0.0234 & rn==2 & count\_lgovexp==20</pre>

Variable	Obs	Mean	Std. dev.	Min	Max
fmd	119	.0113428	.0052305	.0004064	.0233997

. sum fmd if fmd > 0.0234 & rn==2 & count\_lgovexp==20

fmd	681	.410132	.3047344	.0238967	.9888874
Variable	0bs	Mean	Std. dev.	Min	Max

. \*ereturn list

. capture graph drop LR FMDECS

. \_matplot e(LR), title("ECS FMD - buffer effect") ///
> yline(7.35, lpattern(dash)) connect(direct) msize(small) mlabp(0) ///

> mlabs(zero) ytitle("LR Statistics") xtitle("Threshold Parameter") ///

> recast(line) name(LR\_FMDECS)

. graph export LR\_FMDECS.png, as(png) name("LR\_FMDECS") width(3000) replace
(file LR\_FMDECS.png not found)
file LR\_FMDECS.png saved as PNG format

. \*\*# Appendix A. Robustness checks

. \*\*# Robustness 1: Financial Markets Depth - ECS\*\*

. xthreg lreer lgdppk\_m100 lgovexp if count\_lgovexp==20 ///

> & rn==2, ///

> rx(etot\_L1lres) qx(L3.fmd) thnum(1) grid(300) bs(300)

Estimating the threshold parameters: 1st ..... Done Boostrap for single threshold

Threshold estimator (level = 95):

model	Threshold	Lower	Upper
Th-1	0.0268	0.0248	0.0279

Threshold effect test (bootstrap = 300):

Threshold	RSS	MSE	Fstat	Prob	Crit10	Crit5	Crit1
Single	4.1930	0.0063	54.04	0.0300	37.0046	44.9117	72.4574

Fixed-effects (within) regression Group variable: <b>cn</b>	Number of obs = Number of groups =	680 40
R-squared: Within = 0.1597 Between = 0.0107 Overall = 0.0000	Obs per group: min = avg = max =	17 17.0 17
corr(u_i, Xb) = -0.9304	F( <b>4</b> , <b>636</b> ) = Prob > F =	30.22 0.0000

lreer	Coefficient	Std. err.	t	P> t	[95% conf.	. interval
lgdppk_m100 lgovexp	.553136 .1530125	.0671746 .0412435	8.23 3.71	0.000 0.000	.4212252 .0720225	.6850468 .2340024
_cat#c.etot_L1lres 0 1	0103589 .012047	.0028371 .0024903	-3.65 4.84	0.000 0.000	0159301 .0071568	0047877 .0169373
_cons	1.399711	.3766669	3.72	0.000	.6600495	2.139372
sigma_u sigma_e rho	.20754116 .08143554 .86657808	(fraction	of varia	nce due to	o u_i)	
F test that all u_i	=0: F( <b>39, 63</b> 6	) = 11.60		F	Prob $> F = 0$ .	0000
. sum fmd if fmd <=	0.0268 & rn=	=2 & count_1	govexp==	20		
Variable	Obs	Mean Std	. dev.	Min	Max	
fmd	126 .01	21188 .00	60165	.0004064	.026792	
. sum fmd if fmd >	0.0268 & rn==	2 & count_lg	ovexp==2	0		
Variable	Obs	Mean Std	. dev.	Min	Max	
fmd	674 .41	41286 .30	37641	.0278929	.9888874	
capture graph dromatplot e(LR), t	. – itle("ECS FMD					
matplot e(LR), t > yline(7.35, lpatt > mlabs(zero) ytitl > recast(line) name graph export LR_F	itle("ECS FMD ern(dash)) co e("LR Statist (LR_FMDECSR) MDECSR.png, a	nnect(direct ics") xtitle	) msize( ("Thresh	small) mla	abp(0) /// eter") ///	lace
<pre>matplot e(LR), t &gt; yline(7.35, lpatt &gt; mlabs(zero) ytitl &gt; recast(line) name graph export LR_F (file LR_FMDECSR.pn</pre>	itle("ECS FMD ern(dash)) co e("LR Statist (LR_FMDECSR)  MDECSR.png, a g not found)	nnect(direct dics") xtitle ds(png) name(	) msize( ("Thresh	small) mla	abp(0) /// eter") ///	lace
<pre>matplot e(LR), t &gt; yline(7.35, lpatt &gt; mlabs(zero) ytitl &gt; recast(line) name graph export LR_F (file LR_FMDECSR.pn file LR_FMDECSR.pn  . **# Robustness 2: . xthreg lreer lgdp &gt; &amp; rn==2, /// &gt; rx(etot_L1lres) q Estimating the th</pre>	itle("ECS FMD ern(dash)) co e("LR Statist (LR_FMDECSR)  MDECSR.png, a g not found) saved as PNG  Financial Ma pk_m100 lgove x(L2.fmd) thn reshold para	ennect(direct dics") xtitle dis(png) name( different dirkets Depth exp if count_ dum(2) grid(3	) msize( ("Thresh "LR_FMDE - ECS** lgovexp=	small) mla old Parame CSR") widt ==20 ///	abp(0) /// eter") /// th(3000) rep]	Lace
matplot e(LR), t > yline(7.35, lpatt > mlabs(zero) ytitl > recast(line) name  . graph export LR_F (file LR_FMDECSR.pn file LR_FMDECSR.pn  . **# Robustness 2: . xthreg lreer lgdp > & rn==2, /// > rx(etot_L1lres) q Estimating the th Boostrap for single	itle("ECS FMD ern(dash)) co e("LR Statist (LR_FMDECSR)  MDECSR.png, a g not found) saved as PNG  Financial Ma pk_m100 lgove x(L2.fmd) thn reshold para threshold	ennect(direct dics") xtitle dis(png) name( difformat dirkets Depth dixp if count_ dum(2) grid(3 dimeters: 1s	) msize( ("Thresh  "LR_FMDE  - ECS** lgovexp=  00) bs(3  t +	small) mla old Parame CSR") widt =20 /// 00 300) 2nd	abp(0) /// eter") /// th(3000) rep]	lace
matplot e(LR), t > yline(7.35, lpatt > mlabs(zero) ytitl > recast(line) name  . graph export LR_F (file LR_FMDECSR.pn file LR_FMDECSR.pn  . **# Robustness 2: . xthreg lreer lgdp > & rn==2, /// > rx(etot_L1lres) q Estimating the th Boostrap for single	itle("ECS FMD ern(dash)) co e("LR Statist (LR_FMDECSR)  MDECSR.png, a g not found) saved as PNG  Financial Ma pk_m100 lgove x(L2.fmd) thn reshold para threshold	nnect(direct dics") xtitle dis(png) name( difformat dirkets Depth exp if count_ dum(2) grid(3 dimeters: 1s	) msize( ("Thresh  "LR_FMDE  - ECS** lgovexp=  00) bs(3 t ++	small) mla old Parame CSR") widt =20 /// 00 300) 2nd	abp(0) /// eter") /// th(3000) rep]	Lace
matplot e(LR), t > yline(7.35, lpatt > mlabs(zero) ytitl > recast(line) name  . graph export LR_F (file LR_FMDECSR.pn file LR_FMDECSR.pn  . **# Robustness 2: . xthreg lreer lgdp > & rn==2, /// > rx(etot_L1lres) q Estimating the th Boostrap for single	itle("ECS FMD ern(dash)) co e("LR Statist (LR_FMDECSR)  MDECSR.png, a g not found) saved as PNG  Financial Ma pk_m100 lgove x(L2.fmd) thn reshold para threshold	nnect(direct dics") xtitle dis(png) name( difformat dirkets Depth exp if count_ dum(2) grid(3 dimeters: 1s	) msize( ("Thresh  "LR_FMDE  - ECS** lgovexp=  00) bs(3 t ++	small) mla old Parame CSR") widt =20 /// 00 300) 2nd 50 100 150 200	abp(0) /// eter") /// th(3000) rep]	Lace
	itle("ECS FMD ern(dash)) co e("LR Statist (LR_FMDECSR)  MDECSR.png, a g not found) saved as PNG  Financial Ma pk_m100 lgove x(L2.fmd) thn reshold para threshold	nnect(direct dics") xtitle dis(png) name( difformat dirkets Depth exp if count_ dum(2) grid(3 meters: 1s	) msize( ("Thresh  "LR_FMDE  - ECS** lgovexp=  00) bs(3 t  + + +	small) mla old Parame CSR") widt =20 /// 00 300) 2nd 50 100 150 200 250	abp(0) /// eter") /// th(3000) rep]	lace
matplot e(LR), t > yline(7.35, lpatt > mlabs(zero) ytitl > recast(line) name  . graph export LR_F (file LR_FMDECSR.pn file LR_FMDECSR.pn  . **# Robustness 2: . xthreg lreer lgdp > & rn==2, /// > rx(etot_L1lres) q Estimating the th Boostrap for single	itle("ECS FMD ern(dash)) co e("LR Statist (LR_FMDECSR)  MDECSR.png, a g not found) saved as PNG  Financial Ma pk_m100 lgove  x(L2.fmd) thn reshold para threshold threshold mo	nnect(direct dics") xtitle dis(png) name( different diff	) msize( ("Thresh "LR_FMDE  - ECS** lgovexp=  00) bs(3 t +++	small) mla old Parame CSR") widt =20 /// 00 300) 2nd 50 100 150 200 250 300	abp(0) /// eter") /// th(3000) rep]	lace
matplot e(LR), t > yline(7.35, lpatt > mlabs(zero) ytitl > recast(line) name  . graph export LR_F (file LR_FMDECSR.png  . **# Robustness 2: . xthreg lreer lgdp > & rn==2, /// > rx(etot_L1lres) q Estimating the th Boostrap for single	itle("ECS FMD ern(dash)) co e("LR Statist (LR_FMDECSR)  MDECSR.png, a g not found) saved as PNG  Financial Ma pk_m100 lgove x(L2.fmd) thn reshold para threshold threshold mo	nnect(direct dics") xtitle dis(png) name( different diff	) msize( ("Thresh "LR_FMDE  - ECS** lgovexp=  00) bs(3 t	small) mla old Parame CSR") widt =20 /// 00 300) 2nd 50 100 250 300 50 100	abp(0) /// eter") /// th(3000) rep]	Lace
matplot e(LR), t > yline(7.35, lpatt > mlabs(zero) ytitl > recast(line) name  . graph export LR_F (file LR_FMDECSR.pn file LR_FMDECSR.pn  . **# Robustness 2:     xthreg lreer lgdp > & rn==2, /// > rx(etot_L1lres) q Estimating the th Boostrap for single	itle("ECS FMD ern(dash)) co e("LR Statist (LR_FMDECSR)  MDECSR.png, a g not found) saved as PNG  Financial Ma pk_m100 lgove x(L2.fmd) thn reshold para threshold threshold mo	nnect(direct dics") xtitle dis(png) name( disformat dirkets Depth exp if count_ dum(2) grid(3 dimeters: 1s	) msize( ("Thresh  "LR_FMDE  - ECS** lgovexp=  00) bs(3 t ++++	small) mla old Parame CSR") widt =20 /// 00 300) 2nd 50 100 150 200 250 300 50 100 150 200	abp(0) /// eter") /// th(3000) rep]	lace

Threshold estimator (level = 95):

model	Threshold	Lower	Upper
Th-1	0.0234	0.0173	0.0249
Th-21 Th-22	0.0282 0.2857	0.0236 0.2697	0.0299 0.2922

Threshold effect test (bootstrap = 300 300):

Threshold	RSS	MSE	Fstat	Prob	Crit10	Crit5	Crit1
Single Double	5.0576 4.9570	0.0072 0.0071	59.33 14.25	0.0267 0.5967	41.6066 35.6681	53.2914 43.4968	71.1557 56.1298
Fixed-effects (within) regression Group variable: <b>cn</b>			Number of obs = 7 Number of groups =				
R-squared:				Obs p	er group:		
Within	= 0.1966					min =	18
Betweer	n = <b>0.0005</b>					avg =	18.0
Overal:	1 = 0.0035					max =	18
				F( <b>5</b> ,	675)	=	33.03
corr(u_i, X	o) = -0.9385			Prob	> F	=	0.0000

lreer	Coefficient	Std. err.	t	P> t	[95% conf	. interval]
lgdppk_m100 lgovexp	.5975804 .1741253	.0632136 .0406294	9.45 4.29	0.000 0.000	.4734615 .0943501	.7216993 .2539004
_cat#c.etot_L1lres 0 1 2	0113923 .0193939 .0002597	.0028401 .0029551 .0046852	-4.01 6.56 0.06	0.000 0.000 0.956	0169689 .0135915 0089396	0058158 .0251963 .0094589
_cons	1.108105	.3546799	3.12	0.002	.4116961	1.804513
sigma_u sigma_e rho	.22030878 .08581939 .86824963	(fraction	of varia	nce due t	o u_i)	

F test that all  $u_i=0$ : F(39, 675) = 10.16

Prob > F =**0.0000** 

. capture graph drop LR21 LR22

. capture graph drop LR\_ECSFMD2

```
. _matplot e(LR21), columns(1 2) yline(7.35, lpattern(dash)) connect(direct) ///
> msize(small) mlabp(0) mlabs(zero) ytitle("LR Statistics") ///
```

<sup>&</sup>gt; xtitle("First Threshold") recast(line) name(LR21) nodraw title("ECS FMD - buffer effect (Double Threshold)")

<sup>.</sup> \_matplot e(LR22), columns(1 2) yline(7.35, lpattern(dash)) connect(direct) ///

<sup>&</sup>gt; msize(small) mlabp(0) mlabs(zero) ytitle("LR Statistics") ///
> xtitle("Second Threshold") recast(line) name(LR22) nodraw

```
Monday August 4 16:28:44 2025  Page 12

. graph combine LR21 LR22, cols(1)

. graph rename Graph LR_ECSFMD2

. graph export LR_ECSFMD2.png, as(png) name("LR_ECSFMD2") width(3000) replace
(file LR_ECSFMD2.png not found)
file LR_ECSFMD2.png saved as PNG format

. log close _all
    name: RERTOT_FRL
    log: C:\Users\jamel\Dropbox\Latex\PROJECTS\24-09-rer-fd-ecs\Revision_FRL\Replication\RERTOT_FRL.smcl
log type: smcl
closed on: 4 Aug 2025, 16:27:38
```