Econometric estimation

Params

Pooled estimator

Random effects estimator

Fixed effects estimator

```
phtest(exports_ree, exports_fee)
```

Hausman test

```
##
##  Hausman Test
##
## data:  formula_exports
## chisq = 792.72, df = 4, p-value < 2.2e-16
## alternative hypothesis: one model is inconsistent
```

```
phtest(imports_ree, imports_fee)
```

```
##
##  Hausman Test
##
## data:  formula_imports
## chisq = 3.3932, df = 4, p-value = 0.4943
## alternative hypothesis: one model is inconsistent
```

Interpretation: https://www.statisticshowto.com/hausman-test/

Poisson pseudo maximum likelihood

Alternative approach: https://cran.r-project.org/web/packages/fixest/vignettes/fixest_walkthrough.html

Params

Estimation   Interpretation: https://stackoverflow.com/questions/69942339/understanding-the-output-of-my-ramsey-reset-test

Results

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	OLS	REE	FEE	PPML
	(1)	(2)	(3)	(4)
Suma bilateral del producto interno bruto	1.663***	1.659***	1.354**	0.138***
	(0.183)	(0.189)	(0.582)	(0.026)
Diferencia en la dotación relativa de factores	−0.283	−0.281	−0.442	−0.058***
	(0.435)	(0.442)	(0.477)	(0.020)
Similitud en el tamaño de las economías	4.781***	4.768***	0.751	0.144*
	(1.496)	(1.498)	(2.053)	(0.080)
Distancia entre principales centros urbanos	−2.445***	−2.445***		
	(0.372)	(0.373)		
Fronteras en común	−1.711**	−1.705**		
	(0.668)	(0.670)		
Lenguaje en común	1.081	1.070		
	(0.861)	(0.864)		
Colonizador en común	−1.069*	−1.052		
	(0.647)	(0.660)		
Índice de similitud en creencias religiosas	−1.376	−1.374		
	(1.068)	(1.068)		
Acuerdos comerciales regionales	1.174**	1.169**	−0.151	−0.023***
	(0.479)	(0.483)	(0.203)	(0.007)
Constante	−7.412	−7.309		
	(4.511)	(4.665)		
N	780	780	780	780
R^2	0.747	0.745	0.011	
Adjusted R^2	0.744	0.742	−0.069	
F Statistic	252.951*** (df = 9; 770)	2,247.490***	1.959* (df = 4; 721)	

Table 1:

Notes:

***Significant at the 1 percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

	Table 2:			
	OLS	REE	FEE	PPML
	(1)	(2)	(3)	(4)
Suma bilateral del producto interno bruto	3.193***	3.193***	1.745	0.219***
	(0.421)	(0.421)	(1.763)	(0.081)
Diferencia en la dotación relativa de factores	1.152*	1.152*	0.580	−0.027
	(0.644)	(0.644)	(1.188)	(0.064)
Similitud en el tamaño de las economías	18.038***	18.038***	8.299	0.728***
	(3.361)	(3.361)	(6.293)	(0.219)
Distancia entre principales centros urbanos	−1.738***	−1.738***		
	(0.556)	(0.556)		
Fronteras en común	0.206	0.206		
	(1.328)	(1.328)		
Lenguaje en común	6.746***	6.746***		
	(1.257)	(1.257)		
Colonizador en común	−3.570**	−3.570**		
	(1.559)	(1.559)		
Índice de similitud en creencias religiosas	−2.607	−2.607		
	(2.511)	(2.511)		
Acuerdos comerciales regionales	−0.016	−0.016	−0.440	−0.055***
	(0.707)	(0.707)	(0.341)	(0.016)
Constante	−58.644***	−58.644***		
	(12.556)	(12.556)		
N	780	780	780	780
R^2	0.778	0.778	0.030	
Adjusted R^2	0.776	0.776	−0.048	
F Statistic	300.181*** (df = 9; 770)	2,701.625***	5.641*** (df = 4; 721)	

Notes:
***Significant at the 1 percent level.
**Significant at the 5 percent level.
*Significant at the 10 percent level.