Linear regression

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_k	.836	.014	60.10	0	.809	.864	***
freedom	.001	.001	0.40	.689	002	.003	
ln_stud	.261	.041	6.35	0	.18	.342	***
Constant	1.511	.13	11.59	0	1.254	1.769	***
Mean dependent var		8.229	SD deper	ndent var		0.676	
R-squared		0.966	Number	of obs	174		
F-test		1595.872	$2 \text{Prob} > F \qquad 0.00$		0.000		
Akaike crit. (AIC)		-222.189	Bayesian crit. (BIC) -209.553			-209.553	

^{***} p<.01, ** p<.05, * p<.1

Regression results

.717	024	•			Interval]	Sig	
	.024	29.53	0	.669	.765	***	
0	.002	0.18	.857	003	.004		
.999	.092	10.84	0	.817	1.181	***	
.94	.201	4.67	0	.542	1.337	***	
	8.229	SD deper	ndent var		0.676		
	0.954	Number	of obs		174		
	1138.672	$2 \text{Prob} > F \qquad 0.00$			0.000		
	-298.285	Bayesian crit. (BIC) -285.64			-285.649		
		.999 .092 .94 .201 8.229 0.954 1138.672	999 .092 10.84 .94 .201 4.67 8.229 SD deper 0.954 Number of 1138.672 Prob > F	999 .092 10.84 0 .94 .201 4.67 0 8.229 SD dependent var 0.954 Number of obs 1138.672 Prob > F	999 .092 10.84 0 .817 .94 .201 4.67 0 .542 8.229 SD dependent var 0.954 Number of obs 1138.672 Prob > F	.999 .092 10.84 0 .817 1.181 .94 .201 4.67 0 .542 1.337 8.229 SD dependent var 0.676 0.954 Number of obs 174 1138.672 Prob > F 0.000	

^{***} p<.01, ** p<.05, * p<.1

Regression results

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_k	.8	.02	40.11	0	.761	.839	***
freedom	.001	.002	0.83	.409	002	.005	
ln_stud	.564	.071	7.95	0	.425	.703	***
Constant	1.126	.19	5.93	0	.754	1.498	***
Mean dependent var		8.229	SD deper	ndent var		0.676	
Overall r-squared		0.955	Number	of obs	174		
Chi-square		3204.318	$18 \text{Prob} > \text{chi}2 \qquad \qquad 0.00$			0.000	
R-squared within		0.948	R-squared between 0.964				

^{***} p<.01, ** p<.05, * p<.1

Hausman (1978) specification test

	Coef.
Chi-square test value	64.334
P-value	0

Linear regression

(Std. Err. adjusted for 6 clusters in country_code)

D.ln_y	Coef.	Std.Err.	t	P>t	[95%Conf.	Interval]
ln_k D1.	0.590	0.066	8.920	0.000	0.420	0.760
freedom D1.	-0.000	0.002	-0.220	0.835	-0.005	0.004
ln_stud D1.	0.377	0.144	2.620	0.047	0.008	0.747

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

$$F(1, 5) = 75.508$$

 $Prob > F = 0.0003$

Linear regression

(Std. Err. adjusted for 6 clusters in country_code)

Robust

D.ln_y	Coef.	Std.Err.	t	P>t	[95%Conf.	Interval]
ln_k D1.	0.590	0.066	8.920	0.000	0.420	0.760
freedom D1.	-0.000	0.002	-0.220	0.835	-0.005	0.004
ln_stud D1.	0.377	0.144	2.620	0.047	0.008	0.747

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

$$F(1, 5) = 75.508$$

 $Prob > F = 0.0003$

Prais-Winsten regression, heteroskedastic panels corrected standard errors

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_k	.728	.025	29.63	0	.68	.776	***
freedom	.002	.002	0.91	.364	002	.006	
ln_stud	.386	.087	4.42	0	.215	.556	***
Constant	1.978	.247	8.01	0	1.494	2.462	***
Mean dependent var		8.229	SD deper	ident var		0.676	
R-squared	-squared 0.987		Number of obs			174	
Chi-square		1147.872	$2 \text{Prob} > \text{chi2} \qquad 0.000$			0.000	

*** p<.01, ** p<.05, * p<.1

Cross-sectional time-series FGLS regression

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln k	.746	.022	34.61	0	.703	.788	***

freedom	.003	.002	1.54	.123	001	.007	
ln_stud	.363	.083	4.37	0	.2	.526	***
Constant	1.846	.223	8.27	0	1.408	2.284	***
Mean dependent var		8.229	SD depend	lent var		0.676	
Number of obs		174	Chi-square			1550.162	

^{***} p<.01, ** p<.05, * p<.1

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Year	174	2009	8.391	1995	2023
capital	174	5.425e+10	8.595e+10	1.024e+09	4.339e+11
LaborForce	174	16620965	15267015	3347227	60144623
study mean	174	7.484	1.64	3.571	10.155
freedom	174	60.912	7.041	42.3	71.7
property	174	40.206	13.671	10	70
corruption	174	31.851	8.156	10	58.7
tax	174	80.297	5.551	66.6	91.8
gov spen	174	79.876	13.835	41.8	99.3
busin free	174	62.793	9.779	48.5	90.2
mone free	174	73.845	9.108	33.4	88.8
trade free	174	73.176	8.608	51	88.4
inver free	174	56.81	20.316	5	90
finan free	174	57.069	12.213	30	70
gdp pc	174	4612.693	2835.717	852.754	13790.024
k	174	2072.663	1489.523	253.46	7213.918
country code	174	3.5	1.713	1	6
ln y	174	8.229	.676	6.748	9.532
ln k	174	7.372	.761	5.535	8.884
In free	174	4.102	.124	3.745	4.272
ln stud	174	1.984	.257	1.273	2.318
ln corr	174	3.424	.291	2.303	4.072
est fixed	174	1	0	1	1
est random	174	1	0	1	1

Pairwise correlations

Variables	(1)	(2)	(3)	(4)
(1) gdp_pc	1.000			
(2) k	0.979	1.000		
	(0.000)			
(3) freedom	0.240	0.235	1.000	
	(0.001)	(0.002)		
(4) study_mean	0.457	0.382	-0.139	1.000
• •	(0.000)	(0.000)	(0.067)	

Regression results

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_k	.717	.024	29.53	0	.669	.765	***
freedom	0	.002	0.18	.857	003	.004	
ln_stud	.999	.092	10.84	0	.817	1.181	***
Constant	.94	.201	4.67	0	.542	1.337	***

Mean dependent var 8.229 SD dependent var 0.676

R-squared	0.954	Number of obs	174
F-test	1138.672	Prob > F	0.000
Akaike crit. (AIC)	-298.285	Bayesian crit. (BIC)	-285.649

^{***} p<.01, ** p<.05, * p<.1

Variance inflation factor

	VIF	1/VIF
ln k	1.215	.823
ln stud	1.207	.828
freedom	1.064	.94
Mean VIF	1.162	

Pairwise correlations

Variables	(1)	(2)	(3)	(4)
(1) ln_y	1.000			
(2) ln_k	0.978	1.000		
(3) freedom	(0.000)	0.149	1.000	
(4) ln_stud	(0.080) 0.448 (0.000)	(0.050) 0.371 (0.000)	-0.127 (0.096)	1.000

Hausman (1978) specification test

	Coef.
Chi-square test value	64.334
P-value	0

Linear regression

 Number of obs
 =
 168

 F(3, 5)
 =
 1568.53

 Prob > F
 =
 0.0000

 R-squared
 =
 0.7368

 Root MSE
 =
 .05386

(Std. Err. adjusted for 6 clusters in country_code)

Robust

		Kobust				
D.ln_y	Coef.	Std.Err.	t	P>t	[95%Conf.	Interval]
ln_k D1.	0.590	0.066	8.920	0.000	0.420	0.760
freedom D1.	-0.000	0.002	-0.220	0.835	-0.005	0.004
ln_stud D1.	0.377	0.144	2.620	0.047	0.008	0.747

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

$$F(1, 5) = 75.508$$

 $Prob > F = 0.0003$

Linear regression

Number of obs = 168

F(3, 5) = 1568.53 Prob > F = 0.0000 R-squared = 0.7368 Root MSE = .05386

(Std. Err. adjusted for 6 clusters in country_code)

Robust

D.ln_y	Coef.	Std.Err.	t	P>t	[95%Conf.	Interval]
ln_k D1.	0.590	0.066	8.920	0.000	0.420	0.760
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Wooldridge test for autocorrelation in panel data

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$$F(1, 5) = 75.508$$

 $Prob > F = 0.0003$

Prais-Winsten regression, heteroskedastic panels corrected standard errors

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_k	.728	.025	29.63	0	.68	.776	***
freedom	.002	.002	0.91	.364	002	.006	
ln_stud	.386	.087	4.42	0	.215	.556	***
Constant	1.978	.247	8.01	0	1.494	2.462	***
Mean dependent var		8.229	SD deper	ndent var		0.676	
R-squared		0.987	Number (of obs		174	
Chi-square		1147.872	Prob > cl	ni2		0.000	

^{***} p<.01, ** p<.05, * p<.1

Cross-sectional time-series FGLS regression

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_k	.746	.022	34.61	0	.703	.788	***
freedom	.003	.002	1.54	.123	001	.007	
ln_stud	.363	.083	4.37	0	.2	.526	***
Constant	1.846	.223	8.27	0	1.408	2.284	***
Mean dependent var		8.229	SD deper	ndent var		0.676	
Number of obs		174	Chi-squar	e	1550.162		

^{***} p<.01, ** p<.05, * p<.1

Linear regression

(Std. Err. adjusted for 6 clusters in country_code)

Robust

D.ln_y	Coef.	Std.Err.	t	P>t	[95%Conf.	Interval]
ln_k D1.	0.590	0.066	8.920	0.000	0.420	0.760
freedom D1.	-0.000	0.002	-0.220	0.835	-0.005	0.004
ln_stud D1.	0.377	0.144	2.620	0.047	0.008	0.747

Wooldridge test for autocorrelation in panel data

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$$F(1, 5) = 75.508$$

$$Prob > F = 0.0003$$

Prais-Winsten regression, heteroskedastic panels corrected standard errors

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ln_stud	.386	.087	4.42	0	.215	.556	***
Constant	1.978	.247	8.01	0	1.494	2.462	***
Mean dependent var		8.229	SD deper	ident var		0.676	
R-squared		0.987	Number (of obs		174	
Chi-square		1147.872	Prob > cl	ni2		0.000	

^{***} p<.01, ** p<.05, * p<.1

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freedom	.003	.002	1.54	.123	001	.007	
ln_stud	.363	.083	4.37	0	.2	.526	***
Constant	1.846	.223	8.27	0	1.408	2.284	***
Mean dependent var		8.229	SD depen	ident var		0.676	
Number of obs		174	Chi-squar	re		1550.162	

^{***} p<.01, ** p<.05, * p<.1

Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)
variables	(1)	(2)	(3)	(4)	(3)
(1) gdp_pc	1.000				
(2) k	0.979	1.000			
`,	(0.000)				
(3) freedom	0.240	0.235	1.000		
	(0.001)	(0.002)			
(4) corruption	0.276	0.230	0.379	1.000	
	(0.000)	(0.002)	(0.000)		
(5) study_mean	0.457	0.382	-0.139	0.092	1.000
	(0.000)	(0.000)	(0.067)	(0.229)	

Pairwise	correlations
I all wisc	Concianons

TT ' 1 1	(4)	(2)	(2)	(4)	(5)
Variables	(1)	(2)	(3)	(4)	(5)

(1) gdp_pc	1.000				
(2) k	0.979	1.000			
	(0.000)				
(3) freedom	0.240	0.235	1.000		
	(0.001)	(0.002)			
(4) corruption	0.276	0.230	0.379	1.000	
	(0.000)	(0.002)	(0.000)		
(5) study_mean	0.457	0.382	-0.139	0.092	1.000
	(0.000)	(0.000)	(0.067)	(0.229)	

Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)
(1) gdp_pc	1.000				
(2) k	0.979	1.000			
(2) 6 1	(0.000)	0.005	1.000		
(3) freedom	0.240 (0.001)	0.235 (0.002)	1.000		
(4) corruption	0.276	0.230	0.379	1.000	
	(0.000)	(0.002)	(0.000)		
(5) study_mean	0.457	0.382	-0.139	0.092	1.000
	(0.000)	(0.000)	(0.067)	(0.229)	

Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)
(1) gdp_pc	1.000				
(2) k	0.979 (0.000)	1.000			
(3) freedom	0.240 (0.001)	0.235 (0.002)	1.000		
(4) corruption	0.276 (0.000)	0.230 (0.002)	0.379 (0.000)	1.000	
(5) study_mean	0.457 (0.000)	0.382 (0.000)	-0.139 (0.067)	0.092 (0.229)	1.000

Regression results

Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
.8	.02	40.11	0	.761	.839	***
.001	.002	0.83	.409	002	.005	
.564	.071	7.95	0	.425	.703	***
1.126	.19	5.93	0	.754	1.498	***
	8.229	SD deper	ndent var		0.676	
	0.955	Number	of obs		174	
	3204.318	Prob > chi2			0.000	
	0.948	R-squared	d between		0.964	
	.8 .001 .564	.8 .02 .001 .002 .564 .071 1.126 .19 8.229 0.955 3204.318	8 .02 40.11 .001 .002 0.83 .564 .071 7.95 1.126 .19 5.93 8.229 SD deper 0.955 Number of 3204.318 Prob > cl	8 .02 40.11 0 .001 .002 0.83 .409 .564 .071 7.95 0 1.126 .19 5.93 0 8.229 SD dependent var 0.955 Number of obs 3204.318 Prob > chi2	.8 .02 40.11 0 .761 .001 .002 0.83 .409002 .564 .071 7.95 0 .425 1.126 .19 5.93 0 .754 8.229 SD dependent var 0.955 Number of obs 3204.318 Prob > chi2	.8 .02 40.11 0 .761 .839 .001 .002 0.83 .409002 .005 .564 .071 7.95 0 .425 .703 1.126 .19 5.93 0 .754 1.498 8.229 SD dependent var 0.676 0.955 Number of obs 174 3204.318 Prob > chi2 0.000

^{***} p<.01, ** p<.05, * p<.1

Linear regression

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_k	.836	.028	30.29	0	.765	.907	***

freedom	.001	.002	0.33	.758	004	.005	
ln_stud	.261	.044	5.94	.002	.148	.374	***
Constant	1.511	.154	9.79	0	1.114	1.908	***
Mean dependent var		8.229	SD depend	lent var		0.676	
R-squared		0.966	Number of obs			174	
F-test		730.482	Prob > F			0.000	
Akaike crit. (AIC)		-222.189	Bayesian crit. (BIC)			-209.553	

^{***} p<.01, ** p<.05, * p<.1

Regression results

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_k	.718	.024	29.39	0	.67	.766	***
ln_free	.024	.103	0.23	.816	18	.228	
ln_stud	.999	.092	10.85	0	.817	1.181	***
Constant	.857	.491	1.75	.083	113	1.827	*
Mean dependent var		8.229	SD deper	ident var		0.676	
R-squared		0.954	Number of obs			174	
F-test		1138.828	8 Prob > F		0.000		
Akaike crit. (AIC)		-298.308	Bayesian	crit. (BIC)		-285.671	

^{***} *p*<.01, ** *p*<.05, * *p*<.1

Regression results

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_k	.8	.02	40.06	0	.761	.839	***
ln_free	.084	.099	0.84	.4	111	.278	
ln_stud	.565	.071	7.96	0	.426	.704	***
Constant	.866	.463	1.87	.061	041	1.773	*
Mean dependent var		8.229	SD deper	ndent var		0.676	
Overall r-squared		0.955	Number	of obs		174	
Chi-square		3204.945	Prob > chi2			0.000	
R-squared within		0.948	R-squared	d between		0.964	

^{***} p<.01, ** p<.05, * p<.1

Hausman (1978) specification test

	Coef.
Chi-square test value	63.721
P-value	0

Regression results

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_k	.718	.024	29.39	0	.67	.766	***
ln_free	.024	.103	0.23	.816	18	.228	
ln_stud	.999	.092	10.85	0	.817	1.181	***
Constant	.857	.491	1.75	.083	113	1.827	*
Mean dependent var		8.229	SD depen	ndent var		0.676	
R-squared		0.954	Number of	of obs	174		
F-test		1138.828	Prob > F		0.000		
Akaike crit. (AIC)		-298.308	Bayesian	crit. (BIC)		-285.671	

Linear regression

Number of obs = 168 F(3, 5) = 1284.82 Prob > F = 0.0000 R-squared = 0.7368 Root MSE = .05386

(Std. Err. adjusted for 6 clusters in country_code)

Robust

D.ln_y	Coef.	Std.Err.	t	P>t	[95%Conf.	Interval]
ln_k D1.	0.589	0.067	8.850	0.000	0.418	0.761
ln_free D1.	-0.029	0.119	-0.240	0.817	-0.334	0.276
ln_stud D1.	0.378	0.144	2.630	0.047	0.008	0.747

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

F(1, 5) = 75.246Prob > F = 0.0003

Regression results

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_k	.718	.024	29.39	0	.67	.766	***
ln_free	.024	.103	0.23	.816	18	.228	
ln_stud	.999	.092	10.85	0	.817	1.181	***
Constant	.857	.491	1.75	.083	113	1.827	*
Mean dependent var 8.229		SD deper	ident var		0.676		
R-squared		0.954	Number of obs 174			174	
F-test		1138.828	Prob > F		0.000		
Akaike crit. (AIC)		-298.308	Bayesian	crit. (BIC)		-285.671	

^{***} p<.01, ** p<.05, * p<.1

Linear regression

 Number of obs
 =
 168

 F(3, 5)
 =
 1284.82

 Prob > F
 =
 0.0000

 R-squared
 =
 0.7368

 Root MSE
 =
 .05386

(Std. Err. adjusted for 6 clusters in country_code)

Robust

D.ln_y	Coef.	Std.Err.	t	P>t	[95%Conf.	Interval]
ln_k D1.	0.589	0.067	8.850	0.000	0.418	0.761
ln_free D1.	-0.029	0.119	-0.240	0.817	-0.334	0.276

 ln_stud

D1. 0.378 0.144 2.630 0.047 0.008 0.747

Wooldridge test for autocorrelation in panel data

H0: no first-order autocorrelation

$$F(1, 5) = 75.246$$

 $Prob > F = 0.0003$

Prais-Winsten regression, heteroskedastic panels corrected standard errors

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ln_k	.728	.025	29.63	0	.68	.776	***
ln_free	.118	.132	0.89	.371	141	.378	
ln_stud	.387	.087	4.45	0	.217	.558	***
Constant	1.614	.585	2.76	.006	.468	2.76	***
Mean dependent var		8.229	SD dependent var			0.676	
R-squared		0.987	Number of obs			174	
Chi-square		1147.733	Prob > cl	ni2		0.000	

^{***} p<.01, ** p<.05, * p<.1

Cross-sectional time-series FGLS regression

ln_y	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval	Sig
ln_k	.746	.022	34.62	0	.703	.788	***
ln_free	.182	.117	1.56	.119	047	.412	
ln_stud	.365	.083	4.39	0	.202	.528	***
Constant	1.281	.519	2.47	.013	.265	.265 2.298	
Mean dependent var 8.229		SD dependent var			0.676		
Number of obs		174	174 Chi-square		1550.951		

^{***} p<.01, ** p<.05, * p<.1