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 dependent var	0.676
R-squared	0.966	Number of obs	174
F-test	1595.872	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	.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*

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 dependent var	0.676
Overall r-squared	0.955	Number of obs	174
Chi-square	3204.318	Prob > chi2	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

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)

D.ln_y	Coef.	Robust 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)

D.ln_y	Coef.	Robust Std.Err.	t	P>t	[95%Conf.	Interval]
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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 dependent var	0.676
R-squared	0.987	Number of obs	174
Chi-square	1147.872	Prob > chi2	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 dependent 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
ln 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		
	(0.000)			
(3) freedom	0.133	0.149	1.000	
	(0.080)	(0.050)		
(4) ln_stud	0.448	0.371	-0.127	1.000
	(0.000)	(0.000)	(0.096)	

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)

D.ln_y	Coef.	Robust 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

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

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D1.	0.590	0.066	8.920	0.000	0.420	0.760
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F(1, 5) = 75.508
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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 dependent var	0.676
R-squared	0.987	Number of obs	174
Chi-square	1147.872	Prob > chi2	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 dependent var	0.676
Number of obs	174	Chi-square	1550.162

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

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
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

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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 dependent var			0.676	
R-squared		0.987	Number of obs			174	
Chi-square		1147.872	Prob > chi2			0.000	

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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 dependent var			0.676	
Number of obs		174	Chi-square			1550.162	

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

Pairwise correlations

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			
	(0.000)				
(3) freedom	0.240	0.235	1.000		
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	(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				
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	(0.000)				
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	(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			
	(0.000)				
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	(0.001)	(0.002)			
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	(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)	

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 dependent var	0.676
Overall r-squared	0.955	Number of obs	174
Chi-square	3204.318	Prob > chi2	0.000
R-squared within	0.948	R-squared between	0.964

**** 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 dependent 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 dependent var	0.676
R-squared	0.954	Number of obs	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

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 dependent 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 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	*

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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)

D.ln_y	Coef.	Robust 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

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 dependent var	0.676
R-squared	0.954	Number of obs	174
F-test	1138.828	Prob > F	0.000
Akaike crit. (AIC)	-298.308	Bayesian crit. (BIC)	-285.671

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D1.	-0.029	0.119	-0.240	0.817	-0.334	0.276
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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 > chi2	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	2.298	**

Mean dependent var	8.229	SD dependent var	0.676
Number of obs	174	Chi-square	1550.951

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