

# FINANCE, GROWTH, and POLITICAL INSTITUTIONS

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# Does financial deepening lead to long-run growth?

## The literature

- Lucas (1988)
- King and Livine (1993)
- Beck and Livine (2004, 2000) and others
- Rousseau and Wachtel (2011)

# What are my Contributions?

- I use a dynamic panel growth model to estimate how democratic political institutions affect the impact of financial deepening on long-term growth
- And whether the effect of democratic political institutions on the link between financial deepening and long-term growth is heterogeneous across developing countries with different income levels

# My findings

- Democracy mitigate the positive effect of financial deepening on long-term growth in developing countries
- There's no differential effect of democracy on the impact of financial deepening on long-term growth across developing countries with different income levels

# Data and variables

- 1982-2011, 5<sup>th</sup> year observation, and 79 developing countries
- 4 sources: financial deepening indicators from the IMF database, political institution measures from polity iv project and freedom house databases, and controls from the World Bank
- Variable:
  - i. GDP per capita growth and lag GDP per capita
  - ii. credit to the private sector/GDP, liquid liabilities/GDP, bank deposit/GDP, and private credit by deposit bank and other financial institutions/GDP
  - iii. Polity2, democracy, and political rights index
  - iv. Debt/GNI, trade, inflation, and net inflows of FDI

# Empirical Specification

Dynamic model

- $$y_{i,t} = \alpha y_{i,t-1} + \beta_1 FD_{i,t} + \beta_2 FD_{i,t} * Pol2_{i,t} + \beta_3 Pol2_{i,t} + \gamma' z_{i,t} + \mu_t + \eta_i + \varepsilon_{i,t}$$

$y_{i,t}$  is annual per capita GDP growth at time  $t$  in country  $i$ .  $FD_{i,t}$  is one of four measures of financial deepening.  $Pol2_{i,t}$  is polity2 measure of democracy.  $Z_{i,t}$  is the vector of standard controls.  $\mu_t$  is time fixed effects.  $\eta_i$  is country fixed effects and  $\varepsilon_{i,t}$  is the error term.

$\beta_2$  is the coefficient of interest

Sys-GMM

# Results

Dep. variable	GDP per capita growth			
	(1)	(2)	(3)	(4)
Polity2	5.249 (2.466)**	3.010 (1.817)	5.759 (2.803)**	3.268 (4.976)
Credit	0.171 (0.059)***			
Credit * polity2	-0.183 (0.071)**			
M3		0.054 (0.024)**		
M3 * Polity2		-0.059 (0.033)*		
Pcdbfin			0.177 (0.075)**	
Pcdbfin * Polity2			-0.190 (0.086)**	
Bank deposit				0.095 (0.131)
Bank deposit * Polity2				-0.094 (0.154)
log (1+inflation)	0.158 (0.327)	-0.419 (0.426)	0.108 (0.345)	-0.318 (0.420)
Trade openness	0.005 (0.009)	-0.008 (0.007)	0.006 (0.009)	-0.002 (0.007)
Gov. consumption	-0.022 (0.058)	-0.023 (0.054)	-0.041 (0.066)	-0.012 (0.087)
FDI	0.059 (0.169)	0.240 (0.046)***	0.069 (0.135)	0.121 (0.222)
Debt	-0.030 (0.073)	-0.090 (0.048)*	-0.088 (0.082)	-0.067 (0.064)
log (GDP per capita <sub>t-1</sub> )	-0.501 (0.306)	-0.092 (0.291)	-0.545 (0.350)	0.204 (0.433)
Constant	1.198 (2.415)	1.869 (2.831)	1.498 (2.473)	2.015 (3.013)
Hansen p-value	0.64	0.34	0.58	0.17
AR2 p-value	0.88	0.40	0.84	0.79
Observations	313	314	313	314
Number of countries	79	79	79	79
Number of instruments	28	50	30	22
Country fixed effects	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes

# Results

Dep. variable	GDP per capita growth			
	(1)	(2)	(3)	(4)
Freedom House	4.746 (1.725)***	3.254 (1.637)*	4.488 (2.161)**	1.391 (1.930)
Credit	0.131 (0.032)***			
Credit * Freedom House	-0.148 (0.040)***			
M3		0.049 (0.018)***		
M3 * Freedom House		-0.058 (0.028)**		
Pcdbfin			0.122 (0.056)**	
Pcdbfin * Freedom House			-0.136 (0.064)**	
Bankdp				0.016 (0.047)
Bankdp * Freedom				-0.014 (0.061)
Log (1+inflation)	0.099 (0.296)	-0.421 (0.413)	0.078 (0.298)	-0.553 (0.484)
Trade openness	-0.005 (0.009)	-0.009 (0.007)	-0.004 (0.010)	-0.005 (0.010)
Debt	-0.055 (0.065)	-0.087 (0.053)	-0.072 (0.074)	-0.077 (0.059)
Government consumption	-0.015 (0.060)	-0.031 (0.056)	-0.036 (0.065)	-0.044 (0.059)
FDI	0.182 (0.130)	0.236 (0.050)***	0.171 (0.114)	0.232 (0.051)***
log (GDP per capita <sub>t-1</sub> )	-0.370 (0.262)	-0.075 (0.281)	-0.435 (0.291)	-0.129 (0.276)
Constant	0.881 (2.095)	2.104 (2.628)	1.658 (2.186)	3.964 (2.596)
Hansen p-value	0.79	0.37	0.63	0.26
AR2 p-value	0.86	0.56	0.79	0.43
Observation	314	315	314	315
Number of countries	79	79	79	79
Number of instruments	28	50	30	50
Year fixed effects	yes	yes	yes	yes
Country fixed effects	yes	yes	yes	yes



# Results

Dep. variable	GDP per capita growth			
	(1)	(2)	(3)	(4)
Demcr2	3.041 (1.361)**	2.111 (1.358)	3.422 (1.631)**	1.580 (3.243)
Credit	0.112 (0.029)***			
Credit * Demcr2	-0.114 (0.034)***			
M3		0.041 (0.018)**		
M3 * Demcr2		-0.043 (0.024)*		
Pcdbfin			0.115 (0.042)***	
Pcdbfin * Demcr2			-0.122 (0.048)**	
Bankdp				0.047 (0.087)
Bankdp * Demcr2				-0.040 (0.108)
Trade openness	-0.002 (0.009)	-0.009 (0.008)	-0.002 (.009)	-0.003 (0.012)
Government consumption	-0.017 (0.062)	-0.032 (0.055)	-0.034 (0.065)	-0.034 (0.066)
FDI	0.118 (0.136)	0.241 (0.050)***	0.125 (0.113)	0.177 (0.115)
Debt	-0.069 (0.065)	-0.085 (0.052)	-0.080 (0.075)	-0.058 (0.069)
log (1+inflation)	0.218 (0.313)	-0.364 (0.427)	0.203 (0.321)	-0.303 (0.443)
log (GDP per capita <sub>t-1</sub> )	-0.398 (0.294)	-0.056 (0.290)	-0.515 (0.333)	-0.183 (0.399)
Constant	2.572 (2.224)	2.296 (2.658)	2.512 (2.143)	3.491 (2.428)
Hansen p-value	0.71	0.34	0.68	0.09
AR2 p-value	0.70	0.39	0.60	0.57
Observation	314	315	314	315
Number of countries	79	79	79	79
Number of instruments	28	50	30	22
Year fixed effects	yes	yes	yes	yes
Country fixed effects	yes	yes	yes	yes

# Results

Dep. variable	GDP per capita growth			
	(1)	(2)	(3)	(4)
Polity2	5.598 (2.664)**	5.166 (2.624)*	5.518 (2.624)**	5.739 (3.067)*
Credit	0.178 (0.066)***	0.171 (0.061)***	0.176 (0.060)***	0.181 (0.067)***
Credit * polity2	-0.188 (0.078)**	-0.183 (0.074)**	-0.196 (0.084)**	-0.204 (0.344)
Credit * polity2*LIC	-0.063 (0.048)			-0.053 (0.317)
Credit *polity2*LMIC		0.009 (0.024)		0.009 (0.303)
Credit * polity2 *UMIC			0.007 (0.021)	0.012 (0.301)
Trade openness	0.004 (0.009)	0.004 (0.009)	0.004 (0.009)	0.003 (0.010)
Government consumption	-0.029 (0.059)	-0.021 (0.059)	-0.023 (0.058)	0.029 (0.059)
FDI	0.063 (0.165)	0.066 (0.159)	0.062 (0.166)	0.067 (0.159)
Debt	-0.037 (0.073)	-0.036 (0.073)	-0.031 (0.073)	-0.038 (0.076)
log (1+inflation)	0.167 (0.333)	0.171 (0.328)	0.159 (0.325)	0.167 (0.348)
log (GDP per capita <sub>t-1</sub> )	-0.680 (0.371)*	-0.485 (0.320)	-0.546 (0.332)	-0.692 (0.545)
Constant	2.461 (2.727)	1.094 (2.380)	1.446 (0.485)	2.551 (3.467)
Hansen p-value	0.66	0.64	0.65	0.66
AR2 p-value	0.89	0.85	0.89	0.88
Observation	313	313	313	313
Number of countries	79	79	79	79
Number of instruments	29	29	29	31
Year fixed effects	yes	yes	yes	yes
Country fixed effects	yes	yes	yes	yes

# Summary and Conclusions

- 1) Democracy doesn't enhance the impact of financial deepening on long-term growth
- 2) The impact of democracy on the association of financial deepening and long-term growth is not different across developing countries with different income levels

THANK YOU

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