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Corruption and Reforms: A Dynamic Panel Data Study

Jeff Jacob

j-jacob@bethel.edu

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Corruption and Reforms: A Dynamic Panel Data Study

Jeff Jacob¹, Luigi Manzetti², Thomas Osang²

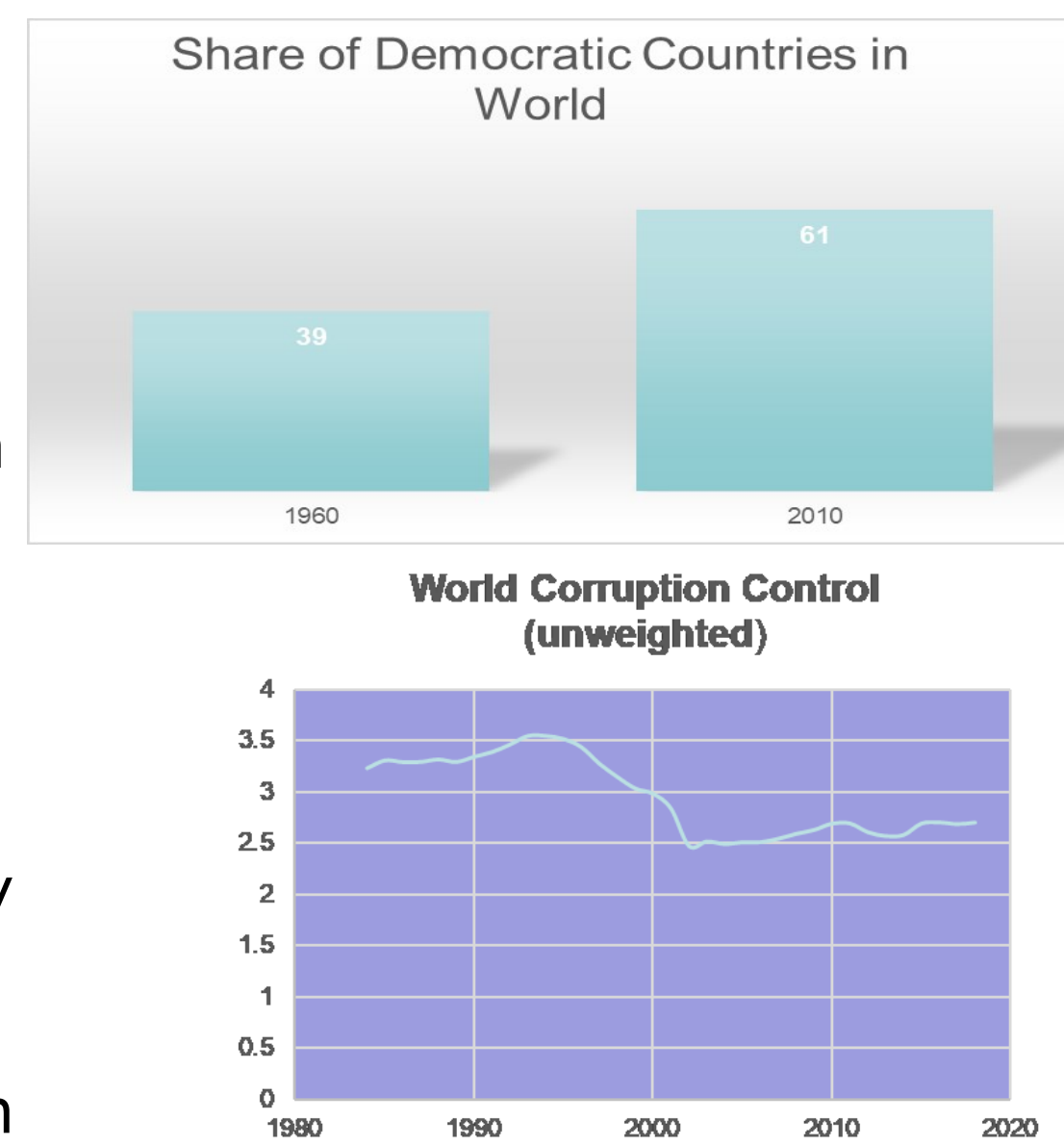
¹Department of Business, Bethel University

²Southern Methodist University, Dallas, TX



Introduction

- Corruption is a major roadblock to economic development
- Reforms may play a crucial role in corruption control
- Here, we focus on two types of reforms:
 - Political reforms = democratization
 - Economic Integration reforms:
 - Trade policies
 - International investment policies
- In a longitudinal sample of over 100 countries spanning 40 years, we study what factors, including, democracy and integration, may have a causal link with corruption



Empirical Model

Main estimation equation

$$Corr_{it} = \beta_0 + \beta_1 Corr_{i,t-1} + \beta_2 Dem_{it} + \beta_3 X_{it} + \beta_4 Z_i + v_i + \gamma_t + \mu_{i,t}$$

where

Corr: measure of corruption
 Dem: measure of democracy
 Reform is vector of economic policy variables
 X is vector of time-varying control variables
 Z is vector of time-invariant control variables
 v denotes unobserved country-specific effects
 γ denotes unobserved time effects
 μ denotes the idiosyncratic error term

$$Corr_{it} = \beta_0 + \beta_1 Corr_{i,t-1} + \beta_2 X_{it} + \beta_3 Reform_{i,t-1} * X_{it} + \beta_4 Z_i + v_i + \gamma_t + \mu_{i,t}$$

Results

Table 2: Democracy, Timing of Financial Reforms and Corruption

VARIABLES	1	2	3	4	5	6
Lag Corruption	0.536*** (0.052)	0.574*** (0.053)	0.563*** (0.049)	0.629*** (0.050)	0.561*** (0.066)	0.627*** (0.053)
FH Democ. Score	-0.056*** (0.015)	-0.053*** (0.017)				
Polity 2 Democ			-0.017* (0.010)	-0.023** (0.010)		
Democratic Capital					-0.786* (0.441)	-1.105*** (0.366)
Chin-Ito FO(t-1) X Ln FDI Sh	-0.065 (0.059)		-0.119* (0.068)		-0.116* (0.070)	
Chin-Ito FO(t-1) X Ln Trade Sh		-0.005 (0.031)		-0.011 (0.035)		0.020 (0.039)
Ln FDI Share	-0.033 (0.064)		-0.007 (0.071)		-0.031 (0.077)	
Ln Trade Share		0.004 (0.177)		0.059 (0.111)		-0.096 (0.173)
Ln GDP per capita	-0.154*** (0.042)	-0.103* (0.053)	-0.179*** (0.040)	-0.135*** (0.048)	-0.121** (0.059)	-0.050 (0.051)
Colonial: Span_Port	0.275*** (0.081)	0.252** (0.102)	0.270*** (0.081)	0.257*** (0.085)	0.267** (0.110)	0.260*** (0.089)
Legal Origin: English	0.002 (0.069)	0.004 (0.089)	-0.004 (0.068)	-0.035 (0.084)	0.061 (0.098)	0.036 (0.089)
Observations	710	705	685	678	680	675
Countries	110	109	106	105	105	104
Hansen p	0.3003	0.3348	0.3074	0.1861	0.1748	0.2514
Diff Hansen ylev p	0.5356	0.4115	0.4321	0.4392	0.3828	0.4872
Diff Hansen ydiff p	0.5565	0.2808	0.9244	0.2449	0.4126	0.5413

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Literature

Determinants of Corruption:

- Ata and Arvas, 2011- Power, opportunity and moral impurity (lack of integrity)- Malaysia
- Rehman and Naveed, 2010 - Corruption lowers GDPpc, Public spending on educ (-), unemploy't (+)
- Treisman (2000, 2007, 2014)
- Several studies
- Mainly cross-section. Looks at both, the historical and current factors.
- No coherent hypothesis.
- Basis for our paper.

Somewhat related literature: (Foreign Direct Investment) FDI and Corruption

- Gossel, 2018
- SSA region, the dependent variable is FDI and the independent variable is corruption.
- Finds that controlling corruption lowers FDI ("Helping hand") but when corruption is interacted with democracy, lowers FDI ("grabbing hand")

Our Contribution

- Cross-section time-series approach** accounts for unobserved time-invariant country-specific heterogeneity
- Dynamic panel model** captures the persistence of corruption over time
- Estimation:**
 - Systems-Generalized Method of Moments (Sys-GMM) estimation
 - Produces estimates of time-invariant covariates
 - Better than GMM in terms of asymptotic efficiency when DV is persistent
 - Use of instruments for endogenous or pre-determined covariates
- Richer Model Specification**
 - Inclusion of a variety of political reform measures
 - Explore the interaction between the timing of economic and political reforms
 - Control for the endogeneity of explanatory variables.

Dataset

- More than 150 countries, 1984-2018
- Corruption control:** ICRG data set, 1984-2018
- Democracy-** FH democracy index, Polity Score P-IV Democracy (based on access to elections; Constraints on executives; Civil liberties); Democratic Capital- cumulative measure (stock variable) of democracy
- Economic Reforms**
 - Trade Reforms: Share of tariffs in revenue
 - International Finance Reforms- Chin-Ito index of financial openness
- Other Variables
 - FDI Inflows as a % of GDP; Trade Share
 - Colonial, legal, and religion variables

Results

Table 1: Longterm determinants of corruption

VARIABLES	1	2	3	4	5	6
Lag Corruption	0.551*** (0.071)	0.605*** (0.074)	0.455*** (0.071)	0.515*** (0.088)	0.499*** (0.066)	0.518*** (0.076)
FH Democ. Score	-0.072*** (0.018)		-0.035 (0.027)			
Demo_Cap		-1.234*** (0.330)		-1.099*** (0.400)	-0.619 (0.513)	-0.807* (0.438)
Ln FDI					-0.124** (0.061)	
Ln Trade Sh						-0.073 (0.166)
Ln GDP pc	-0.137** (0.066)	-0.063 (0.069)	-0.169** (0.075)	-0.063 (0.087)	-0.118 (0.096)	-0.080 (0.076)
Legal Origin: English			0.086 (0.099)	0.158 (0.122)	0.134 (0.119)	0.114 (0.098)
Colonial: British	-0.028 (0.123)	0.036 (0.113)				
Colonial: French	-0.060 (0.155)	0.027 (0.144)				
Colonial: Spain_Port.	0.208** (0.100)	0.282*** (0.091)	0.204* (0.105)	0.301*** (0.117)	0.253** (0.120)	0.263** (0.113)
Ln Protstant %			-0.077** (0.032)	-0.074** (0.032)	-0.079** (0.035)	-0.084** (0.034)
Observations	856	792	651	620	597	602
Countries	135	123	114	108	107	107
Hansen p	0.0051	0.0548	0.1201	0.0747	0.1855	0.1194
Diff Hansen ylev p	0.0676	0.6248	0.5177	0.7209	0.4395	0.6174
Diff Hansen ydiff p	0.1494	0.8227	0.3227	0.8121	0.4304	0.2490

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Conclusions

- Past corruption matters (strong path dependence)
- Political reforms (democratization) lower corruption - *democratic capital*
- Impact of economic reforms is mixed
 - FDI/Financial Liberalization reduces corruption
 - Trade/Trade Policies do not matter
- Higher per capita income diminishes corruption - economic growth
- Historical/Cultural factors matter
 - Colonization by Spain and Portugal increases corruption
 - German and Scandinavian legal systems decrease corruption
 - % of Protestant population lowers corruption
- The timing of financial reforms matters
 - Implementing Financial sector reforms in the previous period helps FDI in the current period to lower corruption.