Financial Reforms and Corruption

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Abstract

In this paper, I assess the impact of financial reforms on corruption using a panel of 85 countries for 1984-2005. I find that several, but not all, of the policies targeted towards financial liberalization reduce corruption. Specifically, the abolition of entry barriers, credit controls, and excessive reserve requirements along with improvements in the security markets and banking supervision are associated with lower corruption.

JEL classification codes: D73; G28; O16

Keywords: Corruption; Banks; Financial Reforms; Liberalization

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1 Introduction

The positive effects of financial development and liberalization on economic outcomes such as investment and economic growth are well-reported in the empirical literature (see Levine, 2005 for a review of related literature). On the other hand, corruption has been found to negatively impact economic growth (Mauro, 1995) and to be positively associated with poverty and income inequality (Gupta et al., 2002). Linking these two strands of literature, Altunbaş and Thornton (2012) find a negative relationship between bank credit to the private sector and corruption. And, Ahlin and Pang (2008) show that the interaction between financial development and corruption has important implications for economic growth. Hence, looking at the relationship between financial liberalization and corruption may provide important insights. This paper contributes to these two strands of literature by investigating the link between financial reforms and corruption. Using an unbalanced panel of 85 underdeveloped, developing, and developed countries for 1984-2005, I find that reforms targeted towards financial liberalization also reduce corruption.

There could be several channels through which financial reforms can reduce corruption. First, corruption in the banking sector is an important obstacle to firms seeking financing and Beck et al. (2006) find that mandating banks to disclose accurate information can be an important tool to mitigate the severity of this problem. An appropriate degree of banking supervision (an important dimension of financial reforms), thus, may lower corruption in the banking sector. Second, since there is a negative association between the government ownership of banks and the rate of financial development (La Porta et al., 2002), easing the entry of private and foreign banks may also reduce corruption by increasing competition among banks and forcing them to offer cheap (corruption-free) loans making financial markets more efficient. Moreover, corruption in public sector banks may be greater because of differences in the wage structure and a greater job protection compared to the private sector.[1]

[1] The public sector wages are greater than the private sector wages in both developing (Bender, 1998)

Another important channel through which policies towards financial liberalization can impact corruption is by making markets more competitive. Financial development has been shown to (1) increase the probability an individual starts his own business, (2) promote the entry of new firms, and (3) boost competition (Guiso et al., 2004). Together an increase in the number of firms and a competitive market are likely to reduce the scope of paying bribes since paying bribes would mean a higher cost of production. Along these lines, Ades and Di Tella (1999) have shown that corruption is lower in countries where firms face greater competition. Additionally, several dimensions of financial liberalization may boost market competition and, hence, help reduce corruption. For instance, the privatization of banks is likely to enhance market competition since it increases lending (Berkowitz et al., 2014). Also, an imposition of excessive reserve requirements and mandating banks to extend subsidized credits to certain sectors adversely impact the amount of resources available for entrepreneurial activities, which will limit the number of firms and discourage competition. Consequently, financial reforms towards the abolition of excessive reserve requirements and providing greater autonomy to banks regarding credit supply are likely to increase competition. Finally, policy reforms towards developing the securities market promote savings and investment (Henry, 2000), which may further increase market competition.

2 Data and Empirical Specification

To investigate the effect of financial reforms on corruption, I estimate the following specification using the fixed effects estimator

$$Corruption_{it} = \alpha_i + \beta\, \Delta Reforms_{it} + \delta_1\, t + \delta_2\, \log(Income_{it}) + \delta_3\, \log(Income_{it})^2 + \delta_4\, Govt.\, Size + \delta_5\, Openness + \varepsilon_{it} \qquad (1)$$

and developed countries (Lucifora and Meurs, 2006), and the existing evidence suggests that public sector wages are negatively related to corruption (Svensson, 2005).

where i and t denote country and year respectively. $\Delta Reforms_{it}$ denotes the change in policy index occurring in country i between time t and time $t+1$. δ_3 captures the time trend.

The paper utilizes the International Country Risk Guide's corruption index, which captures the extent of government corruption. It takes values in the range of 0 to 6 with a greater value implying lower corruption. Abiad et al. (2010) have complied the data for financial reforms that covers 91 countries over 1973-2005. The financial reforms index takes values in the range of 0 (fully repressed) to 21 (fully liberalized). Purchasing power parity adjusted Per capita GDP, government size, and the degree of openness are taken from the World Development Indicators. Summary statistics are reported in Table 1.

3 Results

The results presented in Table 2 show that, consistent with the hypothesis, a greater degree of financial liberalization is associated with lower corruption: the coefficient of the financial reforms index is positive and statistically significant. Abiad et al. (2010) database consists of nine different dimensions of financial sector policy and I also investigate the relationship between these dimensions and corruption in columns 2-10. A greater score in each dimension implies a greater liberalization and hence a greater degree of reform.

A positive and statistically significant coefficient on entry barriers indicates a positive relationship between the removal of entry barriers (for domestic and foreign banks) and the absence of corruption. Positive and statistically significant coefficients in columns 3 and 6 indicate that both less stringent reserve requirements and a greater autonomy of banks regarding credit supply are negatively associated with corruption. Finally, corruption is also negatively associated with improvements in the securities market and banking supervision. Moreover, the time trend is negative and statistically significant in each column suggesting

that holding other factors fixed corruption has been increasing over time.

On the other hand, the absence or presence of restrictions on the expansion of bank credit and whether the government or the market determines the interest rates are not associated with corruption. Corruption is also not significantly associated with either the privatization of banks or the restrictions on international capital flow. The findings also suggest that neither government spending nor openness is significantly associated with corruption.

Several studies have implied that financial liberalization may have more favorable effects on developed economies than underdeveloped and developing ones (see Blackburn and Forgues-Puccio (2010) for a discussion). Using the classification of Abiad et al. (2010), I look at the relationship between financial reforms and corruption for the subsets of advanced and non-advanced economies. The results presented in Table 3 suggest that while financial reforms index, entry barriers, security market development, and banking supervision are associated with lower corruption in non-advanced economies, only banking supervision is associated with lower corruption in advanced economies. Though some other variables such as financial reforms index, credit controls, and directed credit are also associated with lower corruption in advanced economies, these are significant only at 15%. These findings suggest that non-advanced economies may experience greater gains from financial liberalization than advanced economies as far as corruption is concerned.

The fixed effects estimation ensures that the estimates reported in this paper are not biased due to the omission of country-specific fixed factors such as institutional, cultural, and democratic factors, which are among the most significant determinants of corruption (Treisman, 2000). Although the possibility of simultaneity cannot entirely be ruled out, the evidence suggests that the *status quo* in the financial sector policy is disturbed by influential events ("shocks"), and the liberalization progress depends on factors such as initial reforms, learning, regional diffusion, global interest rate fluctuations, balance-of-payments and banking crises, and trade openness (Abiad and Mody, 2005) rather than corruption. Nevertheless

the interpretation of these results warrant some caution.

4 Conclusions

The results of this study reveal an important concern for policymakers: corruption has been increasing over time. The World Bank seems to recognize the severity of this issue and identifies corruption as "the single greatest obstacle to economic and social development". This paper identifies several dimensions of financial liberalization that are negatively related to corruption and provides a guide to policymakers as to which policies might work best if the objective is to fight corruption. The findings of this paper suggest that the removal of entry barriers to the financial sector, easing credit controls, developing security markets, and supervising the banking system may help combat corruption.

Interestingly, out of the four dimensions of the financial reforms that are negatively related to corruption, two – namely directed credit and security markets development – have also been found to be associated with income inequality in a recent paper by Agnello et al. (2012). The results of this paper along with the findings of Agnello et al. (2012), therefore, suggest that while liberalizing the financial system, policymakers might want to prioritize some dimensions over others. Also, if financial development and the absence of corruption are substitutes for growth as suggested by Ahlin and Pang (2008), then favoring financial reforms may be a good idea. Furthermore, in a theoretical paper Blackburn and Forgues-Puccio (2010) hypothesize that financial liberalization may increase corruption by making the embezzlement of public funds more attractive for bureaucrats. The empirical evidence presented in this paper refutes their hypothesis and strengthens the case for liberalization. Future research may be targeted to deepen our understanding of the causal mechanisms and should explore why certain dimensions of financial liberalization are associated with factors like corruption and income inequality while others are not.

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Table 1: Summary statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
ICRG Corruption Index	3.466	1.394	0	6	1668
Financial Reform Index	12.838	5.71	0	21	1668
Entry Barriers	2.176	1.042	0	3	1668
Credit Controls	2.014	1.002	0	3	1668
Aggregate Credit Ceilings	0.778	0.416	0	1	1008
Interest Rate Controls	2.288	1.107	0	3	1668
Directed Credit	1.952	1.051	0	3	1668
Security Markets	1.867	1.058	0	3	1668
Privatization	1.436	1.198	0	3	1668
International Capital Flows	1.95	1.07	0	3	1668
Banking Supervision	1.107	1.007	0	3	1668
GDP Per Capita, PPP	9541.655	9517.911	190.537	47626.28	1668
Openness	35.512	24.867	4.631	200.273	1659
Size of Government	14.931	5.727	2.976	43.479	1656

PPP-adjusted GDP per capita measured in international dollars. Government size is measured as the general government final consumption expenditure (% of GDP). The share of imports of goods and service in total GDP is the measure of openness. Please refer to the main text and Abiad et al. (2010) for details on various dimensions of financial reforms.

Table 2: Financial Reforms and (the Absence of) Corruption. Dependent Variable: ICRG Corruption Index

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Financial Reforms Index	0.0507***									
	(0.0160)									
Entry Barriers		0.131***								
		(0.0430)								
Credit Controls			0.0784*							
			(0.0438)							
Credit Ceilings				0.0589						
				(0.0866)						
Interest Rate Controls					-0.0223					
					(0.0304)					
Directed Credit						0.0804*				
						(0.0413)				
Security Markets							0.147***			
							(0.0491)			
Privatization								0.00842		
								(0.0367)		
International Capital Flows									0.0155	
									(0.0374)	
Banking Supervision										0.221***
										(0.0479)
Time trend	-0.0343*	-0.0343*	-0.0346*	-0.0142	-0.0351*	-0.0345*	-0.0350*	-0.0349*	-0.0349*	-0.0356*
	(0.0186)	(0.0185)	(0.0184)	(0.0178)	(0.0184)	(0.0184)	(0.0185)	(0.0185)	(0.0185)	(0.0184)
Income	1.625	1.694	1.707	-1.003	1.712	1.706	1.676	1.704	1.704	1.547
	(1.404)	(1.395)	(1.399)	(1.021)	(1.392)	(1.395)	(1.407)	(1.395)	(1.395)	(1.385)
Income Squared	-0.112	-0.117	-0.118	-0.00317	-0.118*	-0.118	-0.115	-0.118*	-0.118	-0.108
	(0.0713)	(0.0708)	(0.0711)	(0.0580)	(0.0708)	(0.0710)	(0.0715)	(0.0709)	(0.0710)	(0.0705)
Government Size	0.0143	0.0127	0.0132	0.0317**	0.0126	0.0129	0.0128	0.0128	0.0128	0.0134
	(0.0110)	(0.0111)	(0.0112)	(0.0141)	(0.0113)	(0.0112)	(0.0111)	(0.0113)	(0.0113)	(0.0112)
Openness	0.000662	0.000551	0.000709	0.00633	0.000992	0.000597	0.00105	0.000913	0.000927	0.00137
	(0.00497)	(0.00501)	(0.00498)	(0.00644)	(0.00503)	(0.00495)	(0.00499)	(0.00503)	(0.00502)	(0.00498)
Observations	1656	1656	1656	999	1656	1656	1656	1656	1656	1656
Countries	85	85	85	53	85	85	85	85	85	85
Adjusted R^2	0.195	0.193	0.191	0.278	0.190	0.192	0.193	0.190	0.190	0.199

Fixed effects estimator. Standard errors clustered at country level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Constant not reported. A higher value of the ICRG corruption index implies lower corruption.

Table 3: Financial Reforms and (the Absence of) Corruption in Advanced and Non-Advanced Economies. Dependent Variable: ICRG Corruption Index.

	Advanced Economies	Non-Advanced Economies
	(1)	(2)
Financial Reforms Index	0.0482$^{\#}$	0.0527***
	(0.0296)	(0.0192)
Entry Barriers	0.0930	0.137***
	(0.0748)	(0.0501)
Credit Controls	0.117$^{\#}$	0.0736
	(0.0769)	(0.0516)
Credit Ceilings	0.0358	0.0839
	(0.0779)	(0.114)
Interest Rate Controls	0.0245	-0.0239
	(0.0440)	(0.0362)
Directed Credit	0.126$^{\#}$	0.0746$^{\#}$
	(0.0760)	(0.0479)
Security Markets	0.0301	0.191***
	(0.0955)	(0.0527)
Privatization	0.00548	0.00316
	(0.0775)	(0.0404)
International Capital Flows	-0.00259	0.0204
	(0.0634)	(0.0417)
Banking Supervision	0.149*	0.245***
	(0.0744)	(0.0619)

Fixed effects estimator. Standard errors clustered at country level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$, $^{\#}p < 0.15$. A higher value of the ICRG corruption index implies lower corruption. Controls: log(Income), log(Income squared), government size, openness, and time trend. Number of observations (countries) – Advanced economies: 477 (22), except for credit ceilings variable: 286 (13); Non-Advanced economies: 1179 (63), except for credit ceilings variable: 286 (40). Constant not reported.

Appendix

Table A.1: The list of countries used in this paper's analysis

Albania	Algeria	Argentina	Australia	Austria
Azerbaijan	Bangladesh	Belarus	Belgium	Bolivia
Brazil	Britain	Bulgaria	Burkina Faso	Cameroon
Canada	Chile	China	Colombia	Costa Rica
Côte d'Ivoire	Czech Republic	Denmark	Dominican Republic	Ecuador
Egypt	El Salvador	Estonia	Ethiopia	Finland
France	Germany	Ghana	Greece	Guatemala
Hong Kong	Hungary	India	Indonesia	Ireland
Israel	Italy	Jamaica	Japan	Jordan
Kazakhstan	Kenya	South Korea	Latvia	Lithuania
Madagascar	Malaysia	Mexico	Morocco	Mozambique
Netherlands	New Zealand	Nicaragua	Nigeria	Norway
Pakistan	Paraguay	Peru	Philippines	Poland
Portugal	Romania	Russia	Senegal	Singapore
South Africa	Spain	Sri Lanka	Sweden	Switzerland
Tanzania	Thailand	Tunisia	Turkey	Uganda
Ukraine	United States	Uruguay	Venezuela	Vietnam