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Corruption and financial sector performance: A cross-country analysis

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Abstract

In this paper we explore the effects of corruption on financial sector performance for a sample of 38 developed and developing economies for the period 1995-2005. Using system-GMM technique our results demonstrate that corruption undermines the efficacy of a developed financial sector. Governments, therefore, should control corruption and to improve financial sector performance in order to increase the likelihood of economic growth and prosperity.

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1. Introduction

A developed financial sector allows entrepreneurs to get funds easily to materialize their ideas and contribute to economic growth. Thus, a developed financial sector is a pre-requisite for the generation of novel ideas. Goldsmith (1969), Ragan and Zingales (1998), and Levine (2003) have clearly demonstrated that the financial sector plays a pivotal role in the development of any society. The importance of a developed financial sector, therefore, warrants our comprehending the determinants of financial sector performance. Boyd et al (2001) have empirically shown that inflation affects financial sector performance by influencing the behavior of lenders and borrowers. But inflation is also affected by the presence of corruption. Al-Marhubi (2000) argued that government uses inflation as a tool to finance deficits that are often caused by pervasive corruption. Corruption also retards financial sector performance directly. In a corrupt society borrowers are willing to borrow expecting to default or even planning to default, whereas lenders are much reluctant to lend; thus, distorting the lending-borrowing mechanism via what is known as adverse selection.

The empirical literature that we reviewed has so far investigated the effects of corruption on public and private investment, GDP per capita, GDP growth, government efficiency, foreign direct investment, foreign aid, income inequality, poverty, capital productivity, quality of infrastructure, and sovereign bond ratings. Lambsdorff, (1999) provided an excellent literature review of a large number of empirical studies on the effects of corruption. Recently, Connolly (2007) examined the impact of corruption on sovereign bond ratings.

The cross-country empirical literature, to the best of our knowledge, has not examined the relationship between corruption and financial sector performance. Using panel estimation technique this paper investigates this important relationship for a sample of 38 developed and developing economies for the period 1995-2005. The countries included in the sample are: Argentina, Australia, Austria, Belgium, Bolivia, Brazil, Canada, Chile, Colombia, Denmark, Finland, France, Germany, Greece, Honk Kong, India, Indonesia, Ireland, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Nigeria, Norway, Philippines, Portugal, Singapore, Spain, Sweden, Switzerland, Thailand, Turkey, U.K., U.S.A. and Venezuela

The study is organized as follows: Section 2 describes data sources and methodology. Section 3 presents the empirical findings and last section concludes.

2. Data Sources and Methodology

We rely on a commonly used measure of financial development, domestic credit to private sector (DCP) as a percentage of Gross Domestic Product (GDP), that existing work shows is robustly related to economic growth. Levine et al. (2000) show a robust positive relationship between DCP and the growth rate of GDP per capita. Data on DCP are taken from World Development Indicators (WDI). There is a wide variation in DCP, ranging from less than 5% in Ghana, Sierra Leone, and Uganda to more than 120% in Hong Kong, Japan, and the Netherlands. We have utilized Transparency International Corruption Perceptions Indices (TICPI) from 1995 to 2005. Data on GDP per capita (GDP/capita) based on purchasing power parity (PPP) and Trade Openness which is the sum of exports and imports

of goods and services measured as a share of GDP are also taken from WDI. Descriptive statistics of these variables are summarized in table 1.

Table 1: Descriptive Statistics

	Mean	Median	Maximum	Minimum	Std.Dev.	Skewness	Kurtosis
DCP	244.44	85.02	6631.89	8.93	935.4	5.78	34.77
TICPI	6.11	6.9	10	0.69	2.60	-0.26	1.60
(GDP/capita)	18340	21734	418890	42.07	10928.6	-0.18	1.72
Trade Openness	81.54	64.24	456.08	16.29	65.54	2.84	12.74

Total observation: 418; number of countries: 38; time period: 1995-2005. Where DCP is Domestic Credit to Private Sector, TICPI is Transparency International Corruption Perceptions Index, GDP/capita represents GDP per Capita and Trade Openness is the sum of exports and imports as a percentage of GDP.

We estimate the following single equation model using TICPI for a sample of 38 developed and developing economies for the period 1995-2005

$$(DCP)_{it} = \beta_0 + \beta_1(TICPI)_{it} + \beta_2(GDP/capita)_{it} + \beta_3(Trade\ Openness)_{it} + \beta_4(DCP)_{it-1} + U_{it} \ldots (1)$$

Where i represents number of countries and t represents time period (1995-2005). Bond and Windmeijer (2002) argued that OLS and Fixed effects techniques tend to overvalue and undervalue the coefficients of lagged dependent variables respectively. We, therefore, have used a SYS-GMM (System GMM or combined GMM) panel estimation technique to investigate the relationship between corruption and financial sector performance after controlling GDP per capita and Trade openness. GDP per capita measures the size of the country, whereas sum of exports and imports as a % GDP measures trade openness. The DCP in t-1 year also determines the value of DCP in year t. This lagged variable in the regression model captures the impact of future expectations about financial sector performance. The advantages of using panel estimation are well documented in Levine (2003).

3. Empirical Results

The regression results are presented in Table 2 and Table 3.

Table 2: Regression Results
Dependent Variable: (DCP)

	System-GMM
TICPI	5.31(64.67)***
DCP t-1	0.26 (5301.34)***
(GDP/capita)	0.001 (6.54)***
Trade Openness	0.64 (109.33)***
Number of Countries	38
Number of Observations	325
J - Statistic	36.11
Instrument rank	37.00
Jorque - Bera	129891
Probability	0.00

*** 1% level of significance. Results are adjusted for heteroskedasticity (White cross-section standard errors and covariance (d.f. corrected). Figures in parenthesis are t-values. Where DCP is Domestic Credit to Private Sector, TICPI is Transparency International Corruption Perceptions Index, GDP/cap represents GDP per Capita and Trade Openness is the sum of exports and imports as a percentage of GDP.

Table 3: Sensitivity (Robust) Analysis

Dependent Variable: DCP

	Model with 3 Instruments	*Model with 4 Instruments*	*Model with 5 Instruments*	*Model with 6 Instruments*
DCPt-1	0.25(987***)	0.25(2467***)	0.25(1985***)	0.25(3459***)
TICPI	5.12(9.97***)	5.41(28.81***)	5.67(35.12***)	5.41(30.22***)
(GDP/capita)	-0.00(-0.64)	0.00(-0.08)	0.001(1.27)	0.000(2.49**)
Trade Openness	1.13(-22.7***)	1.05(40.4***)	0.94(53.85***)	0.88(48.82***)
J-statistics	29.82	31.95	33.41	33.95
Instrumental rank	20	27	31	34

** 5% level of significance, *** 1% level of significance. Results are adjusted for heteroskedasticity (White cross-section standard errors and covariance (d.f. corrected). Figures in parenthesis are t-values. Where DCP is Domestic Credit to Private Sector, TICPI is Transparency International Corruption Perceptions Index, GDP/cap represents GDP per Capita and Trade Openness is the sum of exports and imports as a percentage of GDP.

Table 2 shows a significant positive relationship between the measure of financial sector performance and corruption index after controlling for GDP per capita and trade

openness. Our results support the hypothesis that corruption is one of the several factors that determines the performance of financial sector. A one unit increase in corruption index (which means less corruption) increases domestic credit to the private sector by 5.31 units. The results suggest that corruption negatively affects future prospects of economic growth via a developed financial sector. The coefficient of GDP per capita is significant with expected positive sign. It suggests that increase in GDP per capita increases the performance of the financial sector. Moreover, one year lag of domestic credit is another important determinant of this year domestic credit. The sensitivity analysis also confirmed that all variables are significant and do not sensitive to instrumental choice. The results are presented in table 3.

4. Conclusions

Using System-GMM, this study empirically examined the relationship between corruption and financial sector performance for a sample of 38 developed and developing countries for the period 1995-2005. The results show that corruption retards financial sector performance after controlling GDP per capita and trade openness. The results also show a positive and significant effect of last year credit on the current year credit. The sensitivity analysis also confirms that all variables are significant, but are not sensitive to instrumental choice. Our results suggest that corruption undermines the efficacy of a developed financial sector. Governments, therefore, should control corruption and bring about prosperity through improve financial sector performance.

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