International Journal of Developing Societies
Vol. 2, No. 3, 2013, 87-95
DOI: 10.11634/216817831302433

Corruption Contagion in South Asia and East Asia: An Econometric study

Rahim Quazi*, Sonja Langley and Ada Till

College of Business, Prairie View A&M University, Prairie View, TX 77446, USA
**Corresponding author: rmquazi@pvamu.edu*

Many studies have analyzed the economic consequences of corruption using alternative economic theories. A new area of research has recently emerged that explores how one country's corrupt practices spread to neighboring countries. It can be reasonably assumed that corruption is shaped by the culture or climate of doing business within a particular country, and these practices are shared to some extent by the neighboring countries. It is therefore possible for corruption to spread from one country to its neighbors, but the rate of corruption contagion should diminish with greater distance. This study estimates the impact of geographical distance on corruption for 16 emerging countries in South Asia and East Asia and finds that corruption contagion indeed diminishes with geographical distance, and that the rate of contagion is lower in East Asian countries.

Keywords: Corruption contagion, East Asia, South Asia

Introduction

History of corruption predates the dawn of the modern era. In an interesting study of the history of corruption, Noonan (1984) has documented four millennia of history of bribes and corruption in many cultures. Confucius dwelt on the necessity of ethical behavior (Mou, 2004), an indication that corruption needed to be addressed. In ancient Greece and Rome, an inspector post was created to keep market corruption in check (Noonan, 1984).

In ancient Greece, statues called the *Zanes* erected along the terrace wall at the entrance to the Olympic Stadium were a product of corruption in that their construction was financed by fines paid for bribery (Arafat, 2009). In the 4th century BC, the famous Indian philosopher and statesman Kautilya wrote about the corruption of government tax collectors. Among the lengthy list of reasons put forth to explain the fall of the Roman Empire, one suggests the power and corruptive acts of the Praetorian Guard, which, at the height of its power, auctioned off the throne of the Empire (MacMullen, 1988).

In Islamic countries during the medieval period, the system of *hisbah* was employed to control moral decay including social and economic corruption (Ketkar, et al., 2005). The Bible (Deuteronomy 16:19) cautioned against bribery; nevertheless, the Middle Ages were characterized by the pervasively corrupt Catholic Church, which engaged in rent-seeking activities at nearly all levels of church hierarchy (Ekelund, et al., 1996; Langley, 2009). Written in the 14th century, Dante's *Divine Comedy* assigns corrupt politicians to the fifth *Bolgia* of the eighth ring of Hell (Sayers, 1950).

In the modern era, corruption has become prevalent and entrenched in many parts of the world, particularly in developing countries. A recent survey of six South Asian countries found that two in three people who deal with public services said they pay bribes (Transparency International Secretariat, 2012). In Bangladesh, two-thirds of those surveyed reported paying bribes to access services to which they are already entitled. In Nepal, Pakistan, India and Sri Lanka, bribes are mostly paid to hasten economic and bureaucratic transactions (ibid).

Many studies have analyzed the economic consequences of corruption using alternative economic theories, such as rent-seeking, public choice, transaction cost, institution and social cost, property rights, socio-cultural perspectives, etc. The mainstream view is that extra costs arising from paying commissions to politicians/bureaucrats for big contracts or bribing local officials for licenses/permits, utilities connection, police protection, tax assessment, etc., raise the overall cost of doing business, lower profitability of investment, and breed inefficiencies and distortions, all of which harm the economy. Among these studies, Shleifer and Vishny (1993) found that disorganized corruption reduces economic growth; Besley and McLaren (1993) and Husted (1994) argued that corruption raises transaction costs; Mauro (1995) suggested that corruption entrenches inefficiencies; Gupta et al. (1998) found that

corruption worsens poverty and income distribution, and adversely affects education and healthcare services; Tanzi and Davoodi (1997) found that corruption reduces productivity of public investment and quality of infrastructure; and Habib and Zurawicki (2002) found that corruption creates market distortions by providing corrupt firms preferential access to lucrative markets.

Several studies have offered an alternative view that corruption can facilitate decision-making processes, which enhances efficiency. For example, Leff (1964), Huntington (1968) and Lui (1985) suggested that corruption serves as "speed money" that creates efficiency by expediting decision making and allows businesses to avoid heavy government regulations; Rashid (1981) showed that corruption can "grease" the economic system and result in a *Pareto Optimal* outcome; Tullock (1996) argued that bribes help supplement low wages in developing countries and allow their governments to keep the tax burden low; Bardhan (1997) suggested that corruption can "grease the wheels of commerce" in the presence of weak legal and regulatory frameworks; Houston (2007) found that corruption raises economic growth in countries that have weak legal frameworks; and Braguinsky (1996) argued that limited corruption can boost innovation and weaken monopoly in a competitive market, which promotes economic growth.

An interesting new area of research has recently emerged that explores the contagious nature of corruption, i.e. how one country's corrupt practices spread to another country. It can be reasonably assumed that corruption is shaped by the culture or climate of doing business within a particular country, and these practices are shared to some extent by the neighboring countries. For example, if one country is more corrupt than its neighboring country, then the less corrupt country will be exposed to the corrupt practices in the more corrupt country through a variety of channels such as immigration, tourism or trade. Due to this exposure, the less corrupt country will likely contract some of these corrupt practices from the more corrupt country, and in turn pass some of them on to its own neighboring countries. It is, thereby, theoretically possible for corruption to spread from one country to its neighbors, but the rate at which corruption spreads from the originating country to each additional country should diminish with geographical distance, as the exposure of the neighboring countries to the corrupt practices of the originating country should weaken as the distance between them grows.

This study uses an econometric model to analyze the contagious nature of corruption in 16 emerging and developing countries – seven in South Asia (Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka) and nine in East Asia (Cambodia, China, Indonesia, Laos, Malaysia, Philippines, S. Korea, Thailand, and Vietnam). The estimated results suggest that corruption is indeed contagious in the sample countries, but the rate of contagion diminishes with distance, and the contagion is lower in East Asia vis-à-vis South Asia. The research focus of this study is worthwhile as it seeks to further our knowledge of the corruption dynamics in emerging/developing countries. The rest of the paper is organized as follows: section II presents a review of the empirical literature, section III describes the methodology and data, section IV discusses the estimated results, and section V concludes the paper.

Literature Review

This is a relatively new area of research, and as such, only a few studies can be found in the literature that directly analyze the spatial spread of corruption. In a recent study, Das and DiRienzo (2012) analyzed corruption patterns in 42 countries in Africa and the Middle East. The study used the *Corruption Perceptions Index* (CPI), developed by Transparency International to measure the perceived level of corruption as a proxy variable for corruption. Using two correlation measures (Pearson and Spearman coefficients) of CPI values for each country-pair in the sample and the "great circle distance" between their capital cities, the study found that corruption is indeed contagious between neighboring countries, and the contagion rate decays as the distance between countries grows further. The study also found that the average correlation measure between the CPI values of neighboring countries with adjacent capital cities is approximately 0.23, and the impact of corrupt practices of a country on its neighbors can spread from as much as 2,743 miles to 2,797 miles across borders. The study concluded that anti-corruption policy reforms enacted in a country can create positive externalities for its neighbors and help rein in corruption within a larger geographical area. The study recommended that future studies explore if the contagious nature of corruption depends on the level of corruption, i.e. if the pattern of corruption contagion differs across countries that are more/less corrupt than other countries. Our study tests, *inter alia*, this hypothesis for less corrupt East Asian countries vis-à-vis more corrupt South Asian countries.

Among other studies, Attila (2008) used "spatial dependency" models on a measure of corruption constructed from the *Control of Corruption* indicator from the Kaufmann, Kraay and Mastruzzi (KKM, 2003) *Worldwide Governance Indicators*. Using three

different estimation techniques and biannual data for 120 developing and developed countries, this study found that a country's national level of corruption is positively correlated with its regional level of corruption (the average level of corruption in its neighboring countries), which suggests that corruption can spread from a country to its neighbors. This study also found that this corruption correlation can be explained by the level of economic development, foreign aid, and trade openness.

Becker et al. (2009) estimated a spatial econometric model for a cross-section of 123 countries and found that corruption spills across neighboring countries with common political cultures, but the level of contagion slows down as geographical distance increases. Furthermore, institutional reforms that curb corruption in one country can also generate positive spillover effects for neighboring countries.

A few studies have found that press freedom and capitalism also have similar contagious properties that spread across neighboring countries. Sobel et al. (2010) studied cross-sectional data from 102 countries and found that press freedom is contagious in nature. This study also determined that a country captures about 20% of the press freedom of its neighboring countries. Leeson et al. (2010) used panel data from over 100 countries and determined that a country typically picks up about 20% of the level of capitalism from its trade partners and neighbors.

No study has been conducted to analyze the contagious nature of corruption in the sample countries/regions selected for this study - East Asia and South Asia. Although some countries from this sample have been included in other studies as developing/emerging countries, no study has focused exclusively on East Asia vis-à-vis South Asia. Given that China and India are among the top emerging economies, this study will make an important contribution to the economic development literature by improving our knowledge of the corruption dynamics in developing economies.

Methodology and Data

The purpose of this study is to analyze the spread of corruption across neighboring countries in South Asia and East Asia on the basis of the geographical distance between them, independent of other country characteristics. Accordingly, the following cross-section model is specified:

$$\rho_{xy} = \alpha + \beta_1 D_{xy} + \beta_2 D^2_{xy} + \varepsilon$$

In the equation above, ρ_{xy} is the measure of correlation between the corruption levels of County X and Country Y, D_{xy} represents the geographical distance between the capital cities of County X and Country Y, and D^2_{xy} represents the squared distance between County X and Country Y. The *a priori* expected sign of β_1 is negative, which indicates that greater distance affects corruption contagion negatively. Consistent with the hypothesis that the rate of corruption contagion should diminish with distance (as the exposure of the neighboring countries to the corrupt practices of the originating country should weaken as the distance between them grows further), the *a priori* expected sign of β_2 is positive, which indicates that as distance between countries grows, the negative effect of distance on corruption correlation is moderated by the positive coefficient of the squared distance term.

It is probable that there exists a regional difference between corruption correlations for countries located in South Asia vis-à-vis in East Asia. Table 1 below shows that the weighted average of *Corruption Perceptions Index* (CPI) scores for East Asian and South Asian countries in the sample is 3.31 and 2.87, respectively, which suggests that East Asia is generally less corrupt than South Asia.

Table 1: Country CPI Mean Values

Country	Mean CPI Score	Number of Observations
East Asia		
Cambodia	2.08	8
China	3.30	18
Indonesia	2.32	18
Korea	4.77	18
Laos	2.28	8
Malaysia	4.96	18
Philippines	2.75	18
Thailand	3.34	18
Vietnam	2.64	16

Table 1 continued

Weighted Average	3.31	
South Asia		
Bangladesh	1.89	13
Bhutan	5.56	7
India	3.01	18
Maldives	2.68	5
Nepal	2.49	9
Pakistan	2.31	17
Sri Lanka	3.35	11
Weighted Average	2.87	

The reasons why corruption tends to flourish in some countries vis-à-vis other countries are numerous and varied. Among them, fewer years in school, a heterogeneous population, significant levels of foreign aid received (Ali and Isse, 2003), and low per capita GDP collectively assist in creating an environment in which corruption thrives. Table 2 examines the regional difference between South Asia and East Asia for four factors influencing corruption - school life expectancy (SLE), heterogeneity, per capita foreign aid, and per capita GDP.

Table 2: Factors that Influence Corruption

Country	SLE	Heterogeneity	Per Capita Foreign Aid	Per Capita Income
South Asia				
Bangladesh	8 years	Homogeneous	$1,261	$2,100
Bhutan	12 years	Heterogeneous	$119	$6,800
India	11 years	Heterogeneous	$1.7	$3,900
Maldives	13 years	Homogeneous	$138	$9,400
Nepal	9 years	Heterogeneous	$24	$1,300
Pakistan	8 years	Heterogeneous	$8	$2,900
Sri Lanka	14 years	Heterogeneous	$34	$6,200
Average	10.7 years	71%	$227	$4,657
East Asia				
Cambodia	10 years	Homogeneous	$49	$2,400
China	12 years	Homogeneous	$1.1	$9,300
Indonesia	13 years	Heterogeneous	$0.5	$5,100
Laos	10 years	Heterogeneous	$74	$3,100
Malaysia	13 years	Heterogeneous	$5	$17,200
Philippines	11 years	Heterogeneous	$0.6	$4,500
S. Korea	17 years	Homogeneous	-	$32,800
Thailand	12 years	Homogeneous	-	$10,300
Vietnam	10 years	Homogeneous	$18	$3,600
Average	12.0 years	44%	$21	$9,811

SLE is the number of years a child can expect to be enrolled in school. The average number of years of school enrollment for seven selected countries in South Asia is 10.7 years; the lowest SLE is eight years in Bangladesh and Pakistan and the highest SLE is 14 years in Sri Lanka. Average SLE in nine selected countries in East Asia is 12.0; the lowest in this group is 10 years shared by Cambodia, Laos, and Vietnam; the highest SLE of 17 years is found in S. Korea. Given our sample of countries, children/young adults in South Asia receive 1.3 years less schooling than in East Asia.

There exists a higher probability of economic agents being treated unequally and unfairly when a population is heterogeneous (Ali and Isse, 2003). The descriptor ethno-linguistic heterogeneity is designated to countries with many ethnic groups and languages. A country with one exceedingly dominant ethnic group and a dominant language is considered homogeneous. Table 2 shows South Asia to be more heterogeneous than East Asia: five out of seven, or 71%, of the selected South Asian countries are heterogeneous in their population make up, while only four out of nine, or 44%, of the selected East Asian countries are heterogeneous.

According to Ali and Isse (2003), foreign aid strengthens the power of government and hampers the expansion of a private sector. Our sample of countries in South Asia received an average of US $227 in foreign aid per capita, and the sample of countries in East Asia[1] received an average of only US $21, a difference of US $206 per person.

If corruption is driven by the need for basic requirements for survival, then low income countries should be more corrupt than high income countries. Given our sample countries, the average per capita GDP in South Asia is US $4,657 and US $9,811 in East Asia. Among the selected countries in South Asia, Nepal has the lowest per capita GDP of US $1,300 and the Maldives have the highest of US $9,400. Among the selected countries in East Asia, Cambodia has the lowest per capita GDP of US $2,400 and S. Korea has the highest of US $32,800. Our sample of countries shows that South Asia has, on average, a poorer population than East Asia.

Each of the four factors examined in Table 2 supports the suggestion that South Asia has a higher propensity for corruption than East Asia. In order to test this regional difference in corruption contagion between countries in South Asia and East Asia, two regional dummy variables are added to the regression model. Accordingly, the model is re-specified as follows: $\rho_{xy} = \alpha + \beta_1 D_{xy} + \beta_2 D^2_{xy} + Region_{S.\,Asia} + Region_{E.\,Asia} + \varepsilon$

In the re-specified equation, $Region_{S.\,Asia}$ takes the value of 1 if both countries in a pair are located in South Asia and 0 otherwise (i.e. one or both countries are located in East Asia). Likewise $Region_{E.\,Asia}$ takes the value of 1 if both countries in a pair are located in East Asia and 0 otherwise (i.e. one or both countries are located in South Asia).

Although the precise definition of corruption may be debatable, many studies, e.g. Wei (2000), Habib and Zurawicki (2002), Zhao et al. (2003), Voyer and Beamish (2004), Ketkar et al. (2005), Egger and Winner (2006), and Das and DiRienzo (2012) have used the *Corruption Perceptions Index* (CPI) published by the Transparency International as a reliable measure of corruption. There are other measures of corruption, e.g. the International Country Risk Guide from Political Risk Services (ICRG-PRS), however, those measures focus more on the political risk of corruption (Egger and Winner, 2006). The CPI index defines corruption as the "misuse of public power for private benefit" and uses survey data to measure the perceived levels of public sector corruption in more than 176 countries (Transparency International, 2012). The CPI scores are based on 13 different opinion surveys of public, business experts, and analysts, and assessments from 12 different institutions, such as African Development Bank, Economist Intelligence Unit, International Institute for Management Development, Political and Economic Risk Consultancy, and World Bank. The index scores countries from 0 (most corrupt) to 10 (most clean), so a higher CPI score reflects less corruption[2].

In line with the current literature, this study uses the *Corruption Perceptions Index* (CPI) as a proxy variable for corruption[3]. Correlation coefficients of the CPI values (1995-2012) are calculated for each unique country pair. For example, correlation coefficients are calculated for the CPI values for Bangladesh and India, Bangladesh and China, and so on, which yields a 16 x 16 correlation matrix (note: there are 16 countries in the sample). The relatively small number of CPI observations available for each country (maximum of 18 years) poses a statistical challenge, as the widely accepted Pearson correlation measure requires the assumption of normality. To ensure robustness of the estimation results, three other nonparametric measures of correlation -- Spearman rank correlation, Kendall's Tau A and Kendall's Tau B are also calculated[4]. The correlation matrix for these four types of correlation measures (presented in Table 3 below) shows that these measures are almost perfectly correlated with one another. The estimated results should therefore not be unduly distorted by the selection of any particular measure of correlation. To measure the geographical distance between neighboring countries, the "great circle distance" (which measures the shortest distance between two points on a map) between the capitals of each unique country pair is calculated[5].

Table 3: Correlation Matrix for Four Types of Correlation Measures

	Pearson	Spearman	Kendall's Tau-A	Kendall's Tau-B
Pearson	1.000			
Spearman	0.936	1.000		
Kendall's Tau-A	0.925	0.994	1.000	
Kendall's Tau-B	0.926	0.994	0.999	1.000

Results

Table 1 (presented in section III) lists the sample countries, their mean CPI scores (1995-2012) and the number of years the CPI scores are available for each country. The CPI scores are available for the maximum number of years (18) for seven countries in the sample; however, for a handful of countries, the CPI scores are missing for several years. There are five countries in the sample with a low count of available annual CPI scores -- Bhutan - 7, Cambodia - 8, Laos - 8, Maldives – 5, and Nepal - 9. The low counts of available CPI observations for nearly one-third of the sample countries reduced the statistical significance of some estimated results. The correlation coefficients for many country-pair CPI scores turned out statistically insignificant regardless of the correlation measure used; these country-pairs were dropped from the regression model. The model was ultimately estimated with only those country-pair correlation coefficients that turned out statistically significant for at least one of the four correlation measures (Pearson, Spearman, Kendall's Tau A and Kendall's Tau B), which reduced the sample size from 120 country-pairs to 45 country-pairs.

Table 4.a (shown in the next page) presents the estimated regression results of corruption contagion in South Asia and East Asia. Since the dependent variable (correlation between country-pair CPI scores) was constructed with four different correlation measures, the regression model is also estimated with each one of these four correlation measures as the dependent variable; hence, four sets of regression results are reported in Model a-d. The estimated results (coefficients and t statistics) are remarkably robust across four models, which is expected given the almost perfect correlation among the four correlation measures (see the correlation matrix in Table 3 above).

Table 4.a: Estimating Corruption Contagion in South Asia and East Asia

	Model a	Model b	Model c	Model d
	Pearson Corr.	Spearman Corr.	Kendall's Tau A	Kendall's Tau B
Constant	1.28 (2.94)	1.34 (3.22)	1.04 (3.28)	1.15 (3.31)
Distance	-0.0009** (-2.02)	-0.0009** (-2.04)	-0.0007** (-2.14)	-0.0008** (-2.12)
Distance^2	0.00000023* (1.94)	0.0000002* (1.83)	0.00000017* (1.92)	0.00000018* (1.88)
East Asia	-0.42** (-2.33)	-0.40** (-2.34)	-0.30** (-2.33)	-0.34** (-2.36)
South Asia	0.15 (0.44)	0.11 (0.34)	0.09 (0.38)	0.09 (0.34)
N	45	45	45	45
F (4, 40)	2.10*	2.09*	2.17*	2.19*
Adjusted R^2	0.09	0.09	0.10	0.10

* significant at 10% level of significance; **significant at 5% level of significance

The estimated coefficients of "distance" and "squared distance" turned out statistically significant with the correct *a priori* signs. The negative coefficient of "distance" suggests that correlation between CPI values (i.e. corruption contagion) decreases as geographical distance grows between countries. The positive coefficient of "squared distance" suggests that the rate of contagion gradually diminishes over greater geographical distance – this result indicates that as geographical distance between countries grows, fewer interactions and exchanges between them occur, and as a result the contagion/spread of corruption gradually decreases.

The regional dummy variable for East Asia turned out statistically highly significant with a negative coefficient, which suggests that corruption contagion is lower for East Asian country-pairs vis-à-vis country-pairs that comprise at least one South Asian country. As discussed previously, South Asia has a higher propensity for corruption than East Asia. Given that corruption contagion is found to be lower in less corrupt East Asian countries, this result supports the hypothesis that corrupt practices spread less within regions that are less corrupt.

The regional dummy variable for South Asian country-pairs turned out positive but statistically insignificant. The positive sign of this coefficient is expected, given that the coefficient of the regional dummy for East Asian country-pairs turned out negative. The statistical insignificance is most likely due to the extremely small sample of South Asian country-pairs included in estimation (only 3 out of 45 country-pairs). A larger sample of South Asian country-pairs would likely yield a statistically significant positive coefficient. Table 4.b (presented in the next page) presents regression results from models that were re-estimated without the regional dummy variable for South Asia. The re-estimated results are almost identical to the original set of results reported in Table 4.a, which further demonstrates robustness of the estimated results.

Table 4.b: Estimating Corruption Contagion in South Asia and East Asia

	Model a	Model b	Model c	Model d
	Pearson Corr.	Spearman Corr.	Kendall's Tau A	Kendall's Tau B
Constant	1.31 (3.09)	1.36 (3.36)	1.06 (3.43)	1.17 (3.45)
Distance	-0.0009** (-2.05)	-0.0009** (-2.06)	-0.0007** (-2.16)	-0.0008** (-2.15)
Distance^2	0.00000023* (1.94)	0.0000002* (1.83)	0.00000016* (1.93)	0.00000018* (1.89)
East Asia	-0.44** (-2.58)	-0.42** (-2.56)	-0.32** (-2.56)	-0.35** (-2.58)
N	45	45	45	45
F (3, 41)	2.79*	2.81*	2.91**	2.94**
Adjusted R^2	0.11	0.11	0.12	0.12

* significant at 10% level of significance; **significant at 5% level of significance

In addition to the individually significant estimated coefficients in all regression models (except for the regional dummy for South Asia), the *F statistics* turned out statistically significant in all models, which suggests the estimated coefficients are also jointly significant. Furthermore, the usual diagnostic tests for *heteroscedasticity* and omitted variables do not indicate the presence of any model specification bias[6]. However, a possible limitation of this study is that the models exhibit low explanatory power, as evidenced by the low values of adjusted R^2. This low explanatory power is due to the fact that the primary objective of this study is to explore corruption contagion across geographical distance, independent of country-specific factors. However, some of these country characteristics, such as socio-economic factors, political institutions, etc. can explain the incidence of corruption. Inclusion of these variables to develop more comprehensive regression models can possibly enhance the models' explanatory power, which presents an avenue of further research.

Conclusion

Using cross-section data from a sample of 16 emerging countries in South Asia and East Asia, this study finds that corruption can spread from a country through its borders to the neighboring countries, but

the rate at which corruption contagion affects neighboring countries diminishes over greater geographical distance. These results suggest that a highly corrupt country is likely to pass on its corrupt practices to neighboring countries that are within its close proximity, and the neighboring countries will in turn pass on some of the corrupt practices to other countries within their close proximity, but the rate of transfer of corrupt practices will diminish with each additional country. This study also finds that the rate of corruption contagion is lower in less corrupt East Asia vis-à-vis the more corrupt South Asia, which suggests that corrupt practices spread less among neighboring countries within regions that are less corrupt.

These results also suggest that if corruption in a country can cause negative externalities for neighboring countries, then anti-corruption policies designed to curb corruption can also create positive externalities. Therefore, corruption-afflicted countries should not view corruption as their isolated problem, rather they should join forces to address corruption as a regional burden. Institutional reforms should be formed and coordinated with neighboring countries, as all countries can mutually benefit from the positive spillover effects of their neighbors' success in fighting corruption.

This study improves our understanding of the role played by geographical proximity in explaining the contagious nature of corruption. A deeper understanding of the corruption dynamics is crucial for devising strategies to promote long-term economic development -- a course that holds much at stake not only for South Asia and East Asia but also for developing countries in general.

Notes

1. South Korea and Thailand did not receive any foreign aid during the sample period.
2. The CPI scale was recently modified to 0 (highest level of perceived corruption) – 100 (lowest level of perceived corruption).
3. Following the methodology used in Attila (2008), this study used a second proxy measure of corruption - the *Control of Corruption* indicator from the *Worldwide Governance Indicators (WGI)*, developed by the World Bank. This indicator captures "perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as *capture* of the state by elites and private interests" (WGI, 2012). However, the estimated results showed weak statistical properties and were dropped from further consideration.
4. For a detailed discussion of parametric vs. nonparametric correlation measures, see Conover (1999).
5. For the "great circle" distance calculator, see: http://www.timeanddate.com/worldclock/distance.html
6. Diagnostic details are available from the authors.

References

Ali, A. M. & Isse, S. H. (2003). Determinants of Economic Corruption: A Cross-Country Comparison. Cato Journal, Vol. 22/3, pp. 449-466.

Arafat, K. W. (2009). Treasure, Treasuries and Value in Pausanias. Classical Quarterly, Vol. 59/2, pp. 578-592.

Attila, G. (2008). Is Corruption Contagious? An Econometric Analysis. Department of International Economics, Norsk Utenrikspolitisk Institutt Working Paper 742.

Bardhan, P. (1997). Corruption and Development: A Review of Issues. Journal of Economic Literature, Vol. 35(3), 1320-1346.

Becker, S., Egger, P. & Seidel, T. (2009). Common Political Culture: Evidence on Regional Corruption Contagion. European Journal of Political Economy, Vol. 25, pp. 300-310.

Besley, T. & McLaren, J. (1993). Taxes and Bribery: The Role of Wage Incentives. Economic Journal, Vol. 103, pp. 119-141.

Braguinsky, S. (1996). Corruption and Schumpeterian Growth in Different Economic Environments. Contemporary Economic Policy, Vol. 14(3), pp. 14-25.

Conover, W. (1999). Practical Nonparametric Statistics. 3rd ed. New York: John Wiley & Sons.

Das, J. & DiRienzo, C. (2012). Spatial Decay of Corruption in Africa and the Middle East.

Economic Papers, Vol. 31(4), pp. 508-514.

Egger, P. & Winner, H. (2006). How Corruption Influences Foreign Direct Investment: A Panel Data Study. Economic Development and Cultural Change, Vol. 54(2), pp. 459-486.

Ekelund, R. B, Tollison, R. D., Anderson, G. M., Hebert, R. F. & Davidson, A. B. (1999). Sacred Trust: The Medieval Church as an Economic Firm. Oxford University Press.

Gupta, S., Davoodi, H. & Alonso-Terme, R. (1998). Does Corruption Affect Income Inequality and Poverty? IMF Working Paper, Vol. 98/76, pp. 1-41.

Habib, M. & Zurawicki, L. (2002). Corruption and Foreign Direct Investment. Journal of International Business Studies, Vol. 33(2), pp. 291-307.

Houston, D. (2007). Can Corruption Ever Improve an Economy? Cato Journal, Vol. 27(3), pp. 325-342.

Huntington, S. (1968). Political Order in Changing Societies. New Haven, CT: Yale University Press.

Husted, B. (1994). Honor among Thieves: A Transaction-Cost Interpretation of Corruption in Third World Countries. Business Ethics Quarterly, Vol. IV, pp. 17-27.

Ketkar, K., Murtuza, A. & Ketkar, S. (2005). Impact of Corruption of Foreign Direct Investment and Tax Revenues. Journal of Public Budgeting Accounting and Financial Management, Vol. 17(3), pp. 313-340.

Langley, S. (2009). An Economic Analysis of the Early Medieval Church: Technology, Consanguinity, and the Sale of Marriage Dispensations. LAP Lambert Academic Publishing.

Leeson, P., Sobel, R. & Dean, A. (2010). Contagious Capitalism. West Virginia University Working Paper Series.

Leff, N. (1964). Economic Development through Bureaucratic Corruption. American Behavioral Scientist, Vol. 8(3), 8-14.

Lui, F. (1985). An Equilibrium Queuing Model of Bribery. Journal of Political Economy, Vol. 93(4), pp. 760-81.

MacMullen, R. (1988). Corruption and the Decline of Rome. New Haven: Yale University Press.

Mauro, P. (1995). Corruption and Growth. The Quarterly Journal of Economics, Vol. 110(3), pp. 681-712.

Mou, B. (2004). A Reexamination of the Structure and Content of Confucius' Version of the Golden Rule. Philosophy East and West, Vol. 54/2, pp. 218 – 248.

Noonan, J. (1984). Bribes. Berkeley, CA: University of California Press.

Rashid, S. (1981). Public Utilities in Egalitarian LDC's: The Role of Bribery in Achieving Pareto Efficiency. Kyklos, Vol. 34, pp. 448-460.

Sayers, D. L. (translator) (reprint edition 1950). Dante Alighieri: The Divine Comedy, Part I: Hell. Penguin Classics.

Shleifer, A. & Vishny, R. (1993). Corruption. The Quarterly Journal of Economics, Vol. 108(3), pp. 599-617.

Sobel, R., Dutta, N. & Sanjunkta, R. (2010). Beyond Borders: Is Media Freedom Contagious? Kyklos, Vol. 63(1), pp. 133-143.

Tanzi, V. & Davoodi, H. (1997). Corruption, Public Investment, and Growth. IMF Working Paper, Vol. 97/139, pp. 1-23.

Transparency International (2012). Corruption Perceptions Index. Berlin: Transparency International. Retrieved from http://www.transparency.org/policy_research/surveys_indices/cpi/2012

Transparency International Secretariat (2012). South Asia: Corruption Plagues Daily Life. Retrieved from http://www.transparency.org/news/pressrelease/20120116_south_asia

Tullock, G. (1996). Corruption Theory and Practice. Contemporary Economic Policy, Vol. 14, pp. 6-13.

Voyer, P. & Beamish, P. (2004). The Effect of Corruption on Japanese Foreign Direct Investment. Journal of Business Ethics, Vol. 50(3), pp. 211-224.

Wei, S. (2000). How Taxing Is Corruption on International Investors? *Review of Economics and Statistics*, Vol. 82(1), 1-11.

Worldwide Governance Indicators (2012). Retrieved from http://info.worldbank.org/governance/wgi/index.asp

Zhao, J., Kim, S. & Du, J. (2003). The Impact of Corruption and Transparency on Foreign Direct Investment: An Empirical Analysis. Management International Review, Vol. 43(1), pp. 41-62.