CORRUPTION AND HUMAN DEVELOPMENT
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Corruption, defined as the misuse of public power (office) for private benefit, is most likely to occur where public and private sectors meet. In other words, it occurs where public officials have a direct responsibility for the provision of a public service or application of specific regulations (Rose-Ackerman 1997: 31). Corruption tends to emerge when an organization or a public official has monopoly power over a good or service that generates rent, has the discretionary power to decide who will receive it, and is not accountable (Klitgaard 1988: 75).

Corruption's roots are grounded in a country's social and cultural history, political and economic development, bureaucratic traditions and policies. Tanzi (1998) argues that there are direct and indirect factors that promote corruption. Direct factors include regulations and authorizations, taxation, spending decisions, provision of goods and services at below market prices, and financing political parties. On the other hand, quality of bureaucracy, level of public sector wages, penalty systems, institutional controls, and transparency of rules, laws, and processes are the indirect factors that promote corruption.

Corruption is a symptom of deep institutional weaknesses and leads to inefficient economic, social, and political outcomes. It reduces economic growth, retards long-term foreign and domestic investments, enhances inflation, depreciates national currency, reduces expenditures for education and health, increases military expenditures, misallocates talent to rent-seeking activities, pushes firms underground, distorts markets and the allocation of resources, increases income inequality and poverty, reduces tax revenue, increases child and infant mortality rates, distorts the fundamental role of the government (on enforcement of contracts and protection of property

rights), and undermines the legitimacy of government and of the market economy.

There are two opposing approaches in the literature on corruption, regarding the impact of corruption: efficiency enhancing and efficiency reducing. Advocates of the efficiency-enhancing approach, like Leff (1964), Huntington (1968), Friedrich (1972), and Nye (1967) argue that corruption greases the wheels of business and commerce and facilitates economic growth and investment. Thus, corruption increases efficiency in an economy.

Advocates of the efficiency-reducing approach, like McMullan (1961), Krueger (1974), Myrdal (1968), Shleifer and Vishny (1993), Tanzi and Davoodi (1997), and Mauro (1995) claim that corruption slows down the wheels of business and commerce. Consequently, it hinders economic growth and distorts the allocation of resources. As a result, it has a damaging impact on efficiency.

In recent years, especially after 1995, there have been numerous empirical studies about the impact of corruption. A summary of these empirical studies is reported in Table 1.

Viewing corruption as an illegal tax, Vinod (1999: 601) estimates that a corrupt act worth $1 imposes a $1.67 burden on the economy. Mauro (1996), Ades and Di Tella (1997), and Tanzi and Davoodi (1997) find a negative relationship between investments and corruption. Mauro (1996), Leite and Weideman (1999), Tanzi and Davoodi (2000), and Abed and Davoodi (2000) find a negative association between real per capita GDP growth and corruption. Mo (2001) investigates the relationship between corruption and economic growth (GDP growth). His empirical analysis reveals that a 1 percent increase in the corruption level reduces the growth by about 0.72 percent. Examining the impact of corruption on foreign direct investment (FDI), Wei (2000), Drabek and Payne (1999), and Habib and Zurawicki (2001) find that corruption is a deterrent factor for foreign investors. Al-Marhubi (2000) investigates the relationship between inflation and corruption and finds a positive relationship. Bahmani-Oskooee and Nasir (2002) analyze the impact of the corruption on real exchange rate. Their empirical study covering 65 countries shows that countries with higher levels of corruption tend to have a real depreciation in their currency. Gupta, de Mello, and Sharan (2001) find a positive relationship between corruption and military expenditure. Gupta, Davoodi, and Alonso-Terme (1998) find that high corruption increases income inequality and poverty by reducing economic growth. In brief, the foregoing empirical studies suggest that the economic costs of corruption are immense.

TABLE 1

IMPACT OF CORRUPTION: A LITERATURE SUMMARY

Authors	Impact on	Finding
Mauro (1996)	Real per capita GDP growth	−0.3 to −1.8 percentage points
Leite and Weideman (1999)	Real per capita GDP growth	−0.7 to −1.2 percentage points
Tanzi and Davoodi (2000)	Real per capital GDP growth	−0.6 percentage point
Abed and Davoodi (2000)	Real per capital GDP growth	−1 to −1.3 percentage points
Mauro (1996)	Ratio of investment to GDP	−1 to −2.8 percentage points
Mauro (1998)	Ratio of public education spending to GDP	−0.7 to −0.9 percentage points
Mauro (1998)	Ratio of public health spending to GDP	−0.6 to −1.7 percentage points
Gupta, Davoodi, and Alonso-Terme (1998)	Income inequality (Gini coefficient)	+0.9 to 2.1 Gini points
Gupta, Davoodi, and Alonso-Terme (1998)	Income growth of the poor	−2 to −10 percentage points
Ghura (1998)	Ratio of tax revenues to GDP	−1 to −2.9 percentage points
Tanzi and Davoodi (2000)	Measures of government revenues to GDP ratio	−0.1 to −4.5 percentage points
Gupta, de Mello, and Sharan (2001)	Ratio of military spending to GDP	+0.32 percentage points

TABLE 1 (*continued*)

IMPACT OF CORRUPTION: A LITERATURE SUMMARY

Authors	Impact on	Finding
Gupta, Davoodi, and Tiongson (2000)	Child mortality rate	+1.1 to 2.7 deaths per 1000 live births
Gupta, Davoodi, and Tiongson (2000)	Primary student dropout rate	+1.4 to 4.8 percentage points
Tanzi and Davoodi (1997)	Ratio of public investment to GDP	+0.5 percentage point
Tanzi and Davoodi (1997)	Percent of paved roads in good condition	–2.2 to –3.9 percentage points
Al-Marhubi (2000)	Inflation	+0.17 to 0.26 points
Mo (2001)	Economic growth	–0.545 percentage point
Bahmani-Oskooee and Nasir (2002)	Real exchange rate	–0.03 percentage point
Habib and Zurawicki (2001)	Foreign direct investment	–0.51 percentage point

SOURCE: Transparency International (2001: 256).

The purpose of this article is to investigate the impact of corruption on human development. Many authors have studied the effect of corruption on different macroeconomic variables, but only a few studies have investigated the relationship between corruption and human development conceptually and empirically. Qizilbash (2001) examines the corruption-human development relationship conceptually. Akhter (2004) investigates the nexus between corruption and human development empirically by using a full information maximum likelihood approach. He argues that higher economic globalization increases the level of economic freedom, which in turn improves human development. Higher economic globalization also reduces the level of corruption, which enhances the level of human development.

Theoretical Arguments

Corruption is mainly a governance issue and is widespread around the world. It exists in all countries, cultures, and religions to different extents. Although there is no agreement in the literature on how to

define the phenomenon of corruption, it is generally defined as "the abuse of public office for private gain" (World Bank 1997: 8):

> Public office is abused for private gain when an official accepts, solicits, or extorts a bribe. It is also abused when private agents actively offer bribes to circumvent public policies and processes for competitive advantage and profit. Public office can also be abused for private benefit even if no bribery occurs, through patronage and nepotism, the theft of state assets, or the diversion of state revenues.

Human development is defined as "expanding the choices people have to lead lives that they value" (Human Development Report 2001: 9). Expanding choices can be achieved only by creation of human capabilities that can be increased through development of human resources—for example, good health and nutrition, education, and skill training. As measured by the Human Development Index (HDI) published by the United Nations Development Program, human development contains three vital aspects of socioeconomic development: health, education, and standard of living. The HDI is based on three indicators, all of which are given equal weight (Human Development Report 2001: 240):

- Longevity, as measured by the life expectancy (at birth) index;
- Educational attainment, as measured by an index evaluating a combination of adult literacy (two-thirds weight) and the combined gross primary, secondary, and tertiary enrolment ratio (one-third weight);
- Standard of living and access to resources, as measured by an index calculating real GDP per capita in terms of purchasing power parity (PPP).

Does corruption affect the human development? If so, how? Do less corrupt countries tend to have a higher level of human development than more corrupt countries? There are a number of reasons why human development may be affected by corruption. As the literature review indicates, corruption can indirectly affect human development by lowering economic growth and incentives to invest. Different empirical studies show that corruption influences the resources spent on education and health. Mauro (1998) finds that corruption reduces government expenditure on education and health. Mauro claims that public officials do not want to spend more on education and health because those spending programs offer less opportunity for rent seeking. Similarly, Gupta, Davoodi, and Alonso-Terme (1998: 29) show that corruption reduces the level of social spending, fosters education inequality, lowers secondary schooling,

and causes unequal distribution of land. Moreover, they find that corruption increases income inequality: a one-standard deviation increase in the growth rate of corruption reduces income growth of the poor by 7.8 percentage points per year. Rose-Ackerman (1997: 33) argues, "Corruption also tends to distort the allocation of economic benefits, favoring the haves over the have-nots leading to a less equitable income distribution. A share of the country's wealth is distributed to insiders and corrupt bidders, contributing to inequalities in wealth."

Table 2 indicates the effects of corruption on poverty through a variety of channels.

TABLE 2
### A SYNTHESIS MATRIX: CORRUPTION AND POVERTY

"Immediate" Causes of Poverty	How Corruption Effects "Immediate" Causes of Poverty
Lower investment and growth	Unsound economic/institutional policies due to vested interests
	Distorted allocation of public expenditures/investments
	Low human capital accumulation
	Elite corporate interests capture laws and distort policymaking
	Absence of rule of law and property rights
	Governance obstacles to private sector development
Poor have smaller share in growth	State capture by elite of government policies and resource allocation
	Regressiveness of bribery "tax" on small firms and the poor
	Regressiveness in public expenditures and investments
	Unequal income distribution
Impaired access to public services	Bribery imposes regressive tax and impairs access and quality of basic services for health, education, and justice
	Political capture by elites of access to particular services
Lack of health and education	Low human capital accumulation
	Lower quality of education and health care

SOURCE: Thomas et al. (2000: 147).

Gupta, Davoodi, and Tiongson (2000) argue that corruption affects health care and education services in two ways: (1) corruption may increase the cost of these services, and (2) corruption may lower the quality of these services. Gupta, Davoodi, and Tiongson's empirical analysis reveals that corruption increases child and infant mortality rates, increases the percentage of low-birth weight babies in total births, and increases dropout rates in primary school. Kaufmann, Kraay, and Zoido-Lobaton (1999) also find that corruption reduces life expectancy and literacy and increases infant mortality rates.

Good governance is crucial to human development because, without it, power will almost certainly be used in ways that do not support and sustain overall human development. As shown in Figure 1, by impeding growth and reducing social spending such as those on education and health, corruption adversely affects human development.

FIGURE 1.
CORRUPTION AND HUMAN DEVELOPMENT
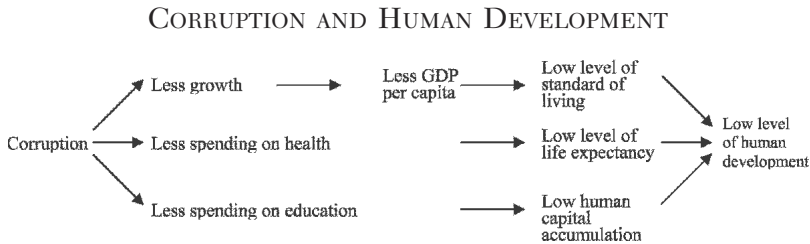
Methodology, Model, and Data Description

The empirical analysis used in this article is based on the HDI and its potential determinants in 63 countries.[1] This study basically postulates that human development is a function of the urbanization rate, economic freedom, democracy, and corruption.

The 1998 HDI is used as the dependent variable. As explained above, the HDI measures a country's achievements in three aspects

[1]The 63 countries are Argentina, Australia, Austria, Belgium, Bolivia, Botswana, Brazil, Cameroon, Canada, Chile, China, Colombia, Costa Rica, Cote d'Ivoire, Denmark, Ecuador, Egypt, El Salvador, Finland, France, Greece, Guatemala, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Jordan, Kenya, Malawi, Malaysia, Mauritius, Mexico, Morocco, Netherlands, New Zealand, Nicaragua, Norway, Pakistan, Peru, Philippines, Portugal, Senegal, Singapore, South Africa, South Korea, Spain, Sweden, Switzerland, Thailand, Tunisia, Turkey, United Kingdom, United States, Uruguay, Venezuela, Zambia, and Zimbabwe.

of human development: longevity, knowledge, and a decent standard of living. It ranks countries on a scale from 0 to 1. A score of 0 indicates the lowest level of human development while 1 represents the highest level of human development.

In order to investigate the impact of corruption on human development, I use data on corruption from three different sources for the corruption index (CI). These are the Corruption Perception Index (CPI) compiled by Transparency International (TI), International Country Risk Guide's (ICRG) corruption index compiled by Political Risk Services (PRS), and the corruption index that is constructed by Kaufmann, Kraay, and Mastruzzi (2003).

In this study, I used TI's 1998 CPI. TI's corruption perception indexes are based on a "poll of polls," indicating impressions of business people, the local population of relevant countries, and risk analysts who have been surveyed. CPI ranges from 0 to 10, with 10 indicating a highly clean country and 0 indicating a highly corrupt country. This index is rescaled here by subtracting country scores from 10 so that higher values correspond with higher perceived levels of corruption.

ICRG's corruption index is constructed by the PRS of East Syracuse, New York. It indicates the opinion of analysts on each country regarding the extent to which high government officials are likely to demand special payments, and illegal payments generally expected throughout lower levels of government in the form of bribes connected with import and export licenses, exchange controls, tax assessment, policy protection, or loans. It ranks nations on a scale from 0 to 6. A score of 0 represents maximum corruption level, while 6 indicates minimum corruption level. In this study, monthly data are averaged to obtain annual scores for the corruption index for the period 1991–97. ICRG's corruption index is rescaled by subtracting country scores from 6 so that higher values correspond with higher levels of corruption.

The 1998 corruption index prepared by Kaufmann, Kraay, and Mastruzzi (2003) ranks countries on a scale from –2.5 (high corruption) to 2.5 (low corruption). This index is also rescaled here by subtracting country scores from 2.5 so that higher values correspond with higher corruption levels.

Economic freedom (EF) data are taken from the Heritage Foundation's 1998 Economic Freedom Index. The Heritage Foundation defines economic freedom as "the absence of government coercion or constraint on the production, distribution, or consumption of goods and services beyond the extent necessary for citizens to protect and

maintain liberty itself" (www.heritage org). The index of economic freedom is an equally weighted average from 50 variables from 10 broad categories of indicators that determine the degree of economic freedom in a country. These variables include trade policy, fiscal burden of government, government intervention in the economy, monetary policy, capital flows and foreign investment, banking and finance, wages and prices, property rights, regulation, and black market activity. Each variable is scaled from 1 to 5 where a score of 1 indicates maximum level of economic freedom and a score of 5 indicates minimum level of economic freedom. This index is also rescaled here by subtracting country scores from 5 so that higher values correspond with higher economic freedom levels.

For the democracy variable (DEM), Freedom House's *Freedom in the World Survey* (www.freedomhouse.org) for 1998 is used. This survey measures freedom by taking into consideration political rights and civil liberties. Political rights help people to participate freely in the political process. These rights include the right to vote and compete for public office and to elect representatives who have a decisive vote on public policies. Civil liberties include the freedom of press, freedom of association, freedom of religion, and freedom of speech. The freedom index (both political rights and civil liberties) ranges from 1 (full democracy) to 7 (no democracy). Freedom House considers countries with scores of between 1 and 2.5 as "free," those scoring between 3 and 5.5 as "partly free," and those scoring between 5.5 and 7 as "unfree." The democracy variable is calculated by taking the average of political rights and civil liberties. The freedom index is rescaled by subtracting country scores from 7 so that higher values correspond with higher democracy level.

The urbanization (UR) data for 1998 are taken from the World Bank Internet database. Descriptive statistics about data and the correlation matrix are provided in Table 3 and Table 4, respectively.

For cross-section estimation, the time span for the variables under estimation should be the same. In this study, the time span for all the variables is the same (1998), except ICRG's corruption index. This index covers the period 1991–97. Since this index or at least its relative magnitude does not change radically in such a short period, it is used in the model.

The relationship between human development (HD) and corruption is estimated using the following regression equation:

$$(1) \quad HD_i = \alpha_0 + \alpha_1 UR_i + \alpha_2 EF_i + \alpha_3 DEM_i + \alpha_4 CI_i + \mu RD + u_i \, ,$$

where i indexes the countries in the sample, RD denotes a vector of regional dummies—European Union membership (EUM), Latin

TABLE 3
DESCRIPTIVE STATISTICS

	HD	COR1	COR2	COR3	UR	EF	DEM	D_{AF}	D_{LA}	D_{EUM}
Mean	0.76	4.74	1.84	2.01	64.50	2.32	4.28	0.16	0.25	0.28
Median	0.78	5.40	2.30	2.46	66.14	2.35	5.00	0.00	0.00	0.00
Maximum	0.93	8.60	3.61	4.00	100.00	3.60	6.00	1.00	1.00	1.00
Minimum	0.38	0.00	−0.08	0.00	20.96	1.00	0.50	0.00	0.00	0.00
Std. Dev.	0.15	2.51	1.21	1.19	20.35	0.58	1.68	0.37	0.43	0.45
Observations	63	63	63	63	63	63	63	63	63	63

TABLE 4
CORRELATION MATRIX

	HD	COR1	COR2	COR3	UR	EF	DEM	D_{AF}	D_{LA}	D_{EUM}
HD	1									
COR1	-0.72	1								
COR2	-0.80	0.97	1							
COR3	-0.73	0.86	0.87	1						
UR	0.76	-0.56	-0.60	-0.50	1					
EF	0.76	-0.72	-0.76	-0.57	0.61	1				
DEM	0.60	-0.52	-0.57	-0.50	0.47	0.61	1			
D_{AF}	-0.69	0.28	0.37	0.33	-0.47	-0.48	-0.510	1		
D_{LA}	-0.11	0.40	0.42	0.41	0.08	-0.22	0.004	-0.26	1	
D_{EUM}	0.39	-0.37	-0.42	-0.47	0.21	0.27	0.560	-0.18	-0.28	1

America (LA), and Africa (AF), respectively—and u_i represents a disturbance term with the usual classical properties.

Urbanization is a natural part of development. Residing in urban areas not only provides more opportunities for higher incomes but also better access to schooling, health care, and other social services. As a result, the expected sign of the coefficient of urbanization is positive ($\alpha_1 > 0$).

Economic freedom protects private property, removes barriers that restrict transactions, encourages entrepreneurship, and increases economic activities. As the involvement of people in economic activities increases, the standard of living also increases. Therefore, the expected sign of the coefficient of economic freedom is positive ($\alpha_2 > 0$).

Political freedom and participation are closely related to human development. According to Human Development Report (2002: 51), "People without political freedom such as being able to join associations and to form and express opinions have fewer choices in life." Democratic governance protects human rights, promotes wider participation in the institutions and the rules that affect people's lives, and achieves more equitable economic and social outcomes. Without political freedom people cannot claim their economic and social rights. As a result, democracy enhances human development. Thus, the expected sign of the coefficient of democracy is positive ($\alpha_3 > 0$).

As the literature survey indicates, economic development suffers from corruption. Therefore, it can be claimed that human development will also be negatively affected. Thus, the expected signs of the coefficients of the corruption indexes are negative ($\alpha_4 < 0$).

The sign of the coefficient of the African dummy variable is expected to be negative ($\mu < 0$) because Africa has important disadvantages compared with other regions (like endless civil wars, lack of democracy, and social and economic problems). Similar to the African dummy variable, the sign of the coefficient of the Latin America dummy variable is also expected to be negative ($\mu < 0$). Like African countries, most of the Latin American countries have heavy social, economic, and political problems. As the European Union countries are developed economically, politically, and socially, the expected sign of the European Union membership dummy variable is positive ($\mu > 0$).

Empirical Results

In order to test the hypothesis that countries with higher levels of corruption have lower levels of development, the simple correlations between corruption indexes and HD (as measured by the 1998 HDI)

are examined from Table 4. As expected, the association is negative and significant, suggesting that higher levels of corruption do lower human development.

Figures 2(a), 2(b) and 2(c) are the scatter plots of TI's Corruption Perception Index, Kaufmann, Kraay, and Mastruzzi's (2003) corruption index, and PRS's ICRG corruption index. The simple regression lines in all figures indicate a negative relationship between corruption indexes and human development.

FIGURE 2

RELATIONSHIP BETWEEN THE HUMAN DEVELOPMENT INDEX AND THE CORRUPTION INDEXES
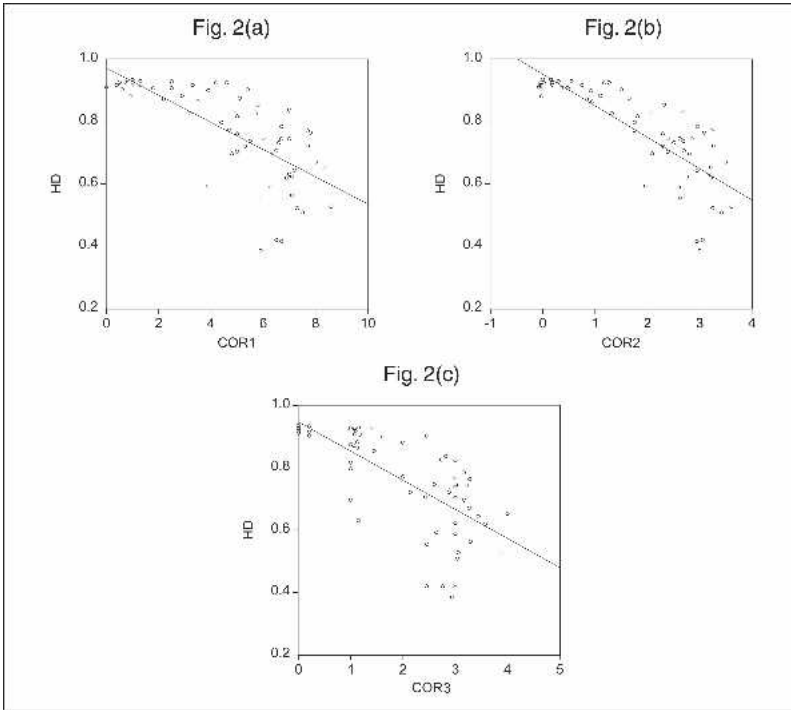
The method of ordinary least squares (OLS) is used to estimate equation (1). The regression results are reported in Table 5. Since the data are cross-sectional involving heterogeneity of countries (developed and developing), a priori, one would expect heteroscedasticity in the error variance. But, White's heteroscedasticity (with cross terms)

TABLE 5

ORDINARY LEAST SQUARES. DEPENDENT VARIABLE: HUMAN DEVELOPMENT INDEX, 1998

	Model A	Model B	Model C	Model D	Model E	Model F	Model G
Constant	0.411	0.524	0.455	0.457	0.628	0.702	0.606
	(4.808)***	(6.316)***	(7.319)***	(9.609)***	(8.565)***	(10.285)***	(11.291)***
UR	0.003	0.002	0.002	0.002	0.002	0.002	0.002
	(4.636)***	(4.528)***	(4.705)***	(5.282)***	(4.293)***	(3.902)***	(4.275)***
EF	0.074	0.048	0.078	0.062	0.034	0.019	0.050
	(2.586)***	(1.774)*	(3.370)***	(3.011)***	(1.581)	(0.978)	(2.736)***
DEM	0.011	0.008	0.007				
	(1.510)	(1.219)	(1.084)				
COR1	-0.013				-0.015		
	(-2.216)**				(-2.941)***		
COR2		-0.048				-0.051	
		(-3.803)***				(-4.486)***	
COR3			-0.041				-0.039
			(-4.263)***				(-4.353)***
D_{EUM}				0.044	0.034	0.023	0.021
				(2.221)**	(1.814)*	(1.350)	(1.206)
D_{AF}				-0.153	-0.154	-0.138	-0.139
				(-5.544)***	(-5.952)***	(-5.746)***	(-5.746)***
D_{LA}				-0.054	-0.027	-0.005	-0.013
				(-2.314)**	(-1.154)	(-0.234)	(-0.592)

Adjusted R^2	0.74	0.78	0.79	0.82	0.84	0.86	0.86
F-statistic	43.443***	52.674***	56.260***	55.907***	54.512***	66.149***	64.953***
White's hetero-scedasticity test (with cross terms)	1.209	1.173	0.997	0.943	0.977	1.351	1.906
Observations	63	63	63	63	63	63	63

NOTES: *, **, and *** denote significance at 10 percent, 5 percent, and 1 percent, respectively.

test is insignificant indicating that there is no need to correct for this problem in the estimations.

As shown in Table 5, models A, B, and C are the estimates of equation (1) which includes the four variables considered important for human development. Together, the four variables in model A explain 74 percent of the variance in the HDI. Of these, urbanization (UR), economic freedom (EF), and corruption (COR1) are statistically significant, but democracy (DEM) is not statistically significant in models A, B, and C. In other words, there is a positive association between human development, urbanization, and economic freedom, and negative association between human development and corruption.

The positive association between economic freedom and human development suggests that more economic freedom enhances human development. For example, a one-point increase in the economic freedom index increases human development by 0.074 points in model A.

The statistically significant positive association between urbanization and human development in all models suggest that an increase in urbanization rate enhances human development. For example, a one-point increase in the urbanization rate increases human development by 0.002 points in model C.

All indexes of corruption enter models A, B, and C with negative and statistically significant coefficient estimates suggesting that highly corrupt countries tend to have low levels of human development. In model A, the first measure of corruption variable, COR1, is included. COR1 is significant and negatively affects human development. For example, a one-point increase in the corruption index (COR1) reduces human development by 0.013 points in model A. Models B and C contain the second and the third measures of corruption variables, namely, COR2 and COR3. Like the COR1 variable, COR2 and COR3 are statistically significant and negatively affect human development. For example, a one-point increase in the corruption indexes COR 2 and COR 3 reduces human development by 0.048 and 0.041 points, respectively.

As shown in Table 5, equation (1) is reestimated by excluding democracy (DEM), which is insignificant in models A, B, and C. Models D, E, F, and G contain urbanization, economic freedom, corruption, and regional dummies.

All of the variables that enter models D, E, F, and G have the expected signs, but not all variables are statistically significant in models E, F, and G. Model D contains economic freedom (EF), urbanization rate (UR), and regional dummies (D_{EUM}, D_{AF}, D_{LA}). All of the variables are significant. The statistically significant positive asso-

ciation between urbanization, economic freedom, and human development suggest that an increase in urbanization rate and economic freedom enhances human development. For example, a one-point increase in the urbanization rate and economic freedom increases human development by 0.002 and 0.062 points, respectively, in model D. Regional dummies aimed to capture the regional effects in model D have expected signs and are statistically significant. The European Union membership dummy variable has a positive effect on human development, whereas African and Latin American dummies have a negative effect.

All the corruption indexes enter models E, F, and G with negative and statistically significant coefficient estimates suggesting that highly corrupt countries tend to have low levels of human development. In model E, the first measure of corruption variable, COR1, is included. COR1 is significant and negatively affects human development. For example, a one-point increase in the corruption index reduces human development by 0.015 points in model E. Models F and G contain the second and third measures of corruption—namely, COR2 and COR3. Like the COR1 variable, COR2 and COR3 are statistically significant and negatively affect human development. For example, a one-point increase in the corruption indexes COR 2 and COR 3 reduces human development by 0.051 and 0.039 points, respectively.

Empirical results of models E, F, and G show that the urbanization variable is statistically significant and positively affects human development. Economic freedom is statistically significant only in model G. All of the regional dummies have the expected signs but not all are statistically significant. The African dummy variable is statistically significant and negatively affects human development. This result indicates that there are other variables affecting human development in Africa that are not fully captured in the analysis. The European Union membership dummy is statistically significant and positively affects human development in model E, but is insignificant in models F and G. The Latin American dummy variable has the expected negative sign but is statistically insignificant in models E, F, and G.

Conclusion

Recent empirical studies have revealed that corruption is responsible for low economic growth, less foreign and domestic investment, high inflation, currency depreciation, low expenditures for education and health, high military expenditures, high income inequality and poverty, less tax revenue, and high child and infant mortality rates.

This study explores the relationship between corruption and hu-

man development in a sample of 63 countries. In order to test the impact of corruption on human development, three different corruption indexes are used. Test results reveal that there is a statistically significant negative relationship between corruption indexes and human development. Empirical evidence of the study suggests that more corrupt countries tend to have lower levels of human development. In brief, this study extends the list of negative consequences of corruption and argues that corruption in all its aspects retards human development.

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