Determinants of Corruption: A Cross-National Analysis

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ABSTRACT: The background literature survey points to the fact that the degree of corruption is a function of multiple factors of a society. Thus, it is imperative to take a more comprehensive and cross-disciplinary approach to understand the complete picture of corruption. The research findings indicate economic freedom, socio-political stability, tradition of law abidance and national cultures are the major variables that dictate the degree of corruption. This study expands the existing knowledge about the determinants of corruption and provides incremental information to help the policy makers fight against this cancerous social disease.

INTRODUCTION
The worldwide spread of corruption has been recognized as one of the darker sides of globalization. As Glynn, Kobrin, and Naim (1997) argue, corruption impedes economic development and distorts international trade and investment flow. It also undermines the very base of multilateralism, which is the backbone of free world trade. Recently, there has been a dramatic increase in the number of cross-border mergers and acquisitions (M&As) and strategic alliances. The strategic alliances and cross-border M&As depend more on mutual trust than on the traditional firm. Different norms and standards of business ethics can significantly reduce the level of this mutual trust and belief, preventing the establishment and maintenance of internationally accepted “rules of the game.” This is the reason why so many international agencies, including the World Bank and OECD, denounce corruption as one of the major problems faced by a globalized world economy, and recently started to take the initiative in combating corruption.

However, fighting against corruption is not an easy task because corruption is a very complex and intertwined social phenomenon. A consensus from the survey of the previous literature points to the fact that the degree of corruption is a function of multiple factors, including almost every aspect of society. Given this, it is surprising to find a paucity of cross-disciplinary research that

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simultaneously examines the various aspects of corruption. Thus, the main thrust of this research is to take a more comprehensive and cross-disciplinary approach to understand the major determinants of this multifaceted social and economic phenomenon.

**BACKGROUND RESEARCH**

Corruption has been defined in many different ways. Even though many articles devote their entirety to this subject alone (Heidenheimer, Johnston and Levine, 1989; Gardiner, 1993; Dolan, McKeown & Carlson, 1988), there is little consensus about its definition. However, Johnston (1996) provides an excellent typology for the definition of corruption. He identifies two different strands in the literature. The first strand (Nye, 1967; Friedrich, 1966; Van Klaveren, 1989; Heidenheimer, 1989) focuses on the behavioral aspects of corruption. These behavior-focused definitions generally hold the notion that corruption is the abuse of public office, powers, or resources for private gain. The second strand focuses more on principal-agent-client relationships (e.g., Rose-Akerman, 1978; Klitgaard, 1988). These researchers pay more attention to the interactions among the parties involved: a principal (an individual who is in charge of carrying out a public function), an agent (an individual who actually performs the operation of the agency), and a client (a private individual with whom the agent interacts). Even if the second approach provides us with a clearer picture of the complex nature of corruption, it is very difficult to draw an operational definition of corruption from this approach. Thus, we decided to use the first approach, which offers the most commonly accepted operational definition of corruption: “the abuse of public power for private benefit.”

There is a proliferation of literature on corruption in general. However, many researchers recently pay a greater attention to the causes and antecedents of corruption in an attempt to develop effective tools to fight against it. Kraay and Van Rijickeghem (1995) and Haque and Sahay (1996) found out that having an income that is low forces individuals to find alternative sources of income, even if those sources are illegal. A group of researchers (Swamy, Knack, Lee and Azfar, 1999; Venerisris and Gupta, 1986; Gupta, 1990; Alesina and Perotti, 1996) attribute inequitable distribution to corruption. Many researchers argue that various economic regulations, such as tax policy (Webster and Charap, 1993; Novitzky, Novitzky and Stone, 1995), tariff (Pritchett and Sethi, 1994), price controls (Mauro, 1997), government subsidies (Clements, Hugouenq, Schwartz , 1995), as well as multiple exchange rate systems and foreign exchange control (Levine and Renelt, 1992) can lead to rent seeking behavior by public officials. Rose-Akerman (1997) found that under public regulatory programs, government officials can deliberately delay or harass people by an arbitrary application or interpretation of the law and
discretionary judgment in an attempt to seek personal gain. Alesina and Perotti (1996) point out that socio-political instability, by creating uncertainty in the society, increase corruption. Many researchers attribute a weak legal system to widespread corruption, particularly in many developing countries (Tanzi, 1998; Gray, 1997; Sanjian, 1994). A group of researchers also suggest poor quality of government officials as another important source of corruption in a society (Tanzi, 1998; Klimo, 1997; Rauch and Evans, 2000). Most recently, Zhao, Kim and Du (2003) found a negative relationship between the level of corruption and inward foreign direct investment.

However, as McDonald (1994) argues, a recognizable absence in the empirical studies on the causes of corruption is the lack of attention paid to the saliency of cultural values as antecedents of corruption. Only a limited number of researchers recognize national culture as a potential source of corruption. Shleifer and Vishny (1993) argue that the degree of heterogeneity in a society in terms of ethnicity and language is positively correlated to the degree of corruption. Vitell, Nwachukwu and Barnes (1993) also discussed cultural aspects of corruption using Hofstede’s (1983b) cultural dimensions. However, most of the research that discusses the cultural aspects of corruption has been anecdotal and descriptive at best, excepting the recent Husted (1999) study.

**RESEARCH HYPOTHESES**

Since the background literature focusing on the causes of corruption reveals that the degree of corruption is a function of multiple factors (such as the economic conditions, the degree of government intervention in the private economy, the legitimacy of the legal system, socio-political stability, and national culture), a set of hypotheses is developed below.

**National Income**

As Lesnik and Blanc (1990) describe, scarcity is the father of corruption. The level of income could be one of the major economic variables that affect the level of corruption through its impact on scarcity. In many poor developing countries, people don’t have enough financial resources to support their families in a normal way. Economic difficulties in poor countries often result in a blurring effect between law-abiding and criminal behavior. They do not have the luxury to think about what is legal or not. As Staw & Szwajkowski (1975) argue, people will understandably take any action, including engaging in illegal activities, when they experience difficulty acquiring the resources necessary for survival.

The situation puts pressure on public servants as well to find alternative sources of income. Along the line of efficiency-wage mechanisms, Kraay and Van Rijckeghem (1995) found that when civil servants are not paid enough, they are forced to use their position and power to seek rent. As Leiken
(1996) points out, when government does not pay civil servants decent salaries, they can’t buy a layer of insulation against patronage and bribery. In some cases, once a government subscribes to the view that civil servants earn sufficient income from corruption, they may reduce civil servants pay as a consequence (Lambsdorff, 1998). This can cause a vicious cycle in some countries and encourages illegal activity by civil servants. Following this line of reasoning, hypothesis #1 is proposed below.

H1: The lower its national income, the higher the degree of corruption in a country.

**Income disparity**

Swamy, Knack, Lee, and Azfar (1999) point out that it is possible that social cohesion may be lower and hence corruption may be higher in countries where income inequality is high. Gupta (1990) also found a significant relationship between income disparity and political instability, which may eventually lead to corruption by creating social discontent and uncertainty in the politico-economic environment.

The concept of distributive justice and fairness may vary from culture to culture; however, as Greenberg (1987) argues, the most espoused concept of “fair” distribution is one in which outcomes are commensurate with inputs. When outcomes are perceived as unfair, individuals may attempt to restore balance by engaging in undesirable behaviors (e.g., Cowherd and Levine, 1992). In many countries, even if national income increases rapidly, lower class income may not increase proportionately. Thus, as Olson (1963) argues, the inequitable income distribution could become a destabilizing force, leading to political instability and corruption.

Merton’s (1957) “structural strain” theory of deviance also suggests that individuals or groups that are placed low in stratification systems feel that they are denied access to their goals through legitimate means. The resulting “strain” forces them to resort to deviant means. The majority of people in high income disparity countries, who feel trapped in “structural strain,” seek deviant means such as bribery to achieve their financial goals. Following this line of thought, hypothesis #2 is proposed below.

H2: The higher the inequality of its income distribution, the higher the degree of corruption in a country.

**Economic Freedom**

Staw and Szwajkowski (1975) found that private firms dealing with less munificent environments engaged in a higher number of illegal activities. Tax policies (Novitzky, Novitzky and Stone, 1995), price controls (Mauro, 1997), multiple exchange rate systems, and foreign exchange controls (Levine and Renelt, 1992), and rules on government subsidies (Clements, Hugouenq, Schwartz , 1995) are typical examples of
government regulations that can lead to rent seeking behaviors.

Alam (1995) argues that corruption occurs because the government has a monopoly power over certain resources. Government officials who hold this monopoly power may refuse or delay the authorization of certain economic activities in order to extract bribes from those who need authorizations or permits (Tanzi, 1998). Bribery is also often used as “speed money” to skip cumbersome regulatory procedures and as grease for the wheels in over-regulated societies, such as found in many developing countries (Brademas & Heimann, 1998). When too many regulations and rules frequently impede free economic activities, this creates a breeding ground for rent-seeking behavior by public officials and increases the level of corruption. Following this line of thought, hypothesis #3 is proposed below.

**H3**: The less economic freedom (the more regulation), the higher the degree of corruption in a country.

**Socio-Political Instability**

Another major source of corruption is overall socio-political instability, which can be viewed as a “threat to the property rights of individuals” in a society. When social unrest is widespread, the probability of the government being overthrown is higher, making the course of future economic policy and protection of property rights more uncertain. The occurrence of attempted coups or successful coups indicates a propensity to abandon the existing policy and regulation and, therefore, in principle, creates a threat to established social status and property rights.

Socio-political instability, per se, may not directly cause corruption. However, as Alesina and Perotti (1996) point out, socio-political instability, by creating unrest and uncertainty in the socio-economic environment, increases the overall level of corruption. In politically unstable countries where there is much civil unrest, people will feel the need to preserve their status and properties. The concept of “status strain” introduced by Lipset and Raab (1970) can explain how people behave when they fear losing their status. This fear of status decline is caused when those who are socially well-established feel threatened. Escalated anxiety and fear from this “status strain” in politically unstable countries will put pressure on the people to do anything possible in order to protect their social status and property—including corrupt behaviors.

Shleifer and Vishny (1993) suggest that the ephemeralism of public official tenure caused by socio-political instability makes civil servants irresponsible and tempts them to get involved in some form of illicit rent seeking behaviors. They know that these rent seeking behaviors, even if illegal, will enable them to build a substantial amount of
wealth that can protect them and maintain their social status even after they lose their jobs. Thus, a higher socio-political instability, through its impact on uncertainty and anxiety in the society, creates a more corrupt environment. Based on the above reasoning, hypothesis #4 is proposed below.

H4: The higher its socio-political instability, the higher the degree of corruption in a country.

**Legitimacy of Legal System**

Many researchers find a significant association between the rule of law and the level of corruption within a society. Becker (1968) argues that one of the major factors that can influence the level of illegal activity in a society is the probability that those who commit crimes will be apprehended. A low chance of a perpetrator being apprehended and/or convicted due to a weak legal system indirectly encourages corruption by creating a favorable environment for corruption.

Sanjian (1994) suggests that there is a serious correlation between the level of corruption and people’s disrespect for authority and the legal system. Stolz (1998) indicates that chronic ambivalence on the part of the law-abiding toward the law and legal system blurs the line between legal and illegal behavior and influences the overall level of corruption. Berman (1977) points out that the widespread daily illegal activities and corruption in a country like Russia is attributed to traditional Russian Orthodox ideals and their peasant’s view of the criminal as the “unfortunate one”—a victim of society and system for whom the society should share the guilt.

Thus, the “legitimacy of legal system” that reflects the overall strength of the legal system and the degree of society’s respect and tradition to accept the established legal system as a means to adjudicate disputes can be directly related to the overall level of corruption in the society. Based on this line of thought, hypothesis #5 is proposed below.

H5: The weaker the legitimacy of its legal system, the higher the degree of corruption in a country.

**Bureaucratic Quality**

As Rose-Akerman (1997) points out, the level of corruption is partly a function of honesty and integrity of public officials. If government officials (the principal and the agent) who hold a great amount of power lose their integrity and cave into the temptation of bribery, the whole society can become rapidly corrupted. As Tanzi (1998) argues, the quality of bureaucracy varies greatly among countries. In some, public sector jobs hold a great deal of prestige and status. In others, they do not. Klimo (1997) indicates that tradition and its effect on the pride that individuals have in working for the government explain why some bureaucracies are much more efficient and much less vulnerable to corruption than others.
Recent research by Rauch and Evans (2000) indicates that the less recruitment and promotion are based on merit, the higher the extent of corruption. In order to stop wide spread corruption among the bureaucracy, the quality of bureaucracy should be at least “legal—rational,” using Weber’s (1978) term. In this context, the quality of bureaucracy can be another shock absorber, which tends to minimize widespread corruption in a society. Following this line of thought, hypothesis # 6 is proposed below.

H6: The lower its bureaucratic quality, the higher the degree of corruption in a country.

Cultural Variables

There are four major pioneering research projects aimed directly at identifying cultural dimensions of value and developing cultural indices. Those are the projects of Hofstede (1983b), Schwartz (1992), Trompenaars and Hampden-Turner (1998) and House, et.al. (forthcoming). Schwartz (1992) and Trompenaars and Hampden-Tuner (1998) offer a richer reflection of national core culture at a theoretical level. The only problem is their limited sample size. House’s project is more extensive. However, its focus on leadership/organizational effectiveness makes it somewhat difficult to use for the present study. In that context, Hofstede’s work (1983b) is still the most useful, primarily because of its sample size, even though it has been criticized for its methodology and the interpretation of the data.

Power distance

Power distance can be defined as the extent to which the less powerful members of the organizations in a society expect and accept the unequal distribution of power (Hofstede, 1983b). In high power distance cultures, the illegal application of power is rarely challenged by the non-power holder. As Cohen and Nelson (1994) argue, unequal power distribution between power holders and non-power holders in this type of culture discourages subordinates from questioning authority. Any whistle-blowing initiated by subordinates against their superior will be viewed as disloyalty or a challenge to authority, and the society would not be very sympathetic to the whistle blower who betrayed his superior.

Victor and Cullen (1988) indicate that in high power distance cultures, not only would the superior be less tolerant to whistle blowing behavior but also try to retaliate using all of his power. High power distance cultures, in which subordinates cannot blow a whistle for fear of retaliation, facilitate the environment for a “crime of obedience” as noted by Kelman and Hamilton (1989). People in high power distance cultures assume that superior orders override any moral considerations that might apply in other situations, freeing them of responsibility for their actions. This can create a more deleterious
environment for corruption. Following this line of thought, hypothesis #7 is proposed below.

H7: The higher the power distance, the higher the degree of corruption in a country.

**Individualism-Collectivism**

Individualism and collectivism constructs have been widely used and discussed in many contexts in many fields of social studies. However, there are several major characteristics in collectivist cultures that can potentially influence the overall level of corruption in a society—such as conformity (an individual’s emotional dependence on his group), obedience, loyalty, and the significance of in-groups.

Pressure for conformity among the in-group members can significantly influence overall levels of corruption in a society through its impact on obedience and loyalty to the group. Triandis (1994) points out that one of the attributes of an “allocentric” culture, which is more prevalent in a collectivist culture, is obedience, which makes it easier to attain conformity. Acquiescence and loyalty is often needed to attain conformity. It also makes criticism, opposition, and whistle-blowing more difficult in collective culture.

Cultural values can also lead to certain normative beliefs, such as notions about social justice versus personal obligation. Cohen and Nelson (1994) argue that in collective cultures, where priority is given to the family members or friends, obligation and loyalty to intimate in-group members may become a more important ethical standard to observe than social justice. This type of culture holds different norms and standards for justice for two different groups (the in-group and the out-group) and easily facilitates the negotiate of justice for familial duty or loyalty based on in-group membership. In individualistic cultures, where individual rights are paramount, equitable administration of justice becomes a central ethical theme. Because the individual is motivated by his personal goals and interests in individualistic cultures, cooperation and conspiracy, which are often necessary for widespread corruption, can be more difficult in individualistic cultures than in collective cultures. Along this line of thought, hypothesis #8 is proposed below.

H8: The more collective in its culture, the higher the degree of corruption in a country.

**Masculine-Feminine**

As Hofstede (1983a, 1983b) indicates, masculine cultures focus more on quantity of life and emphasize independence and achievement (power, wealth, and status), whereas, feminine cultures stress quality of life and value interdependence, relationships and the welfare of other people. As Vitell, Nwachukwu and Barnes (1993) argue, societies that are characterized as masculine encourage individuals, especially males, to be ambitious, be
competitive, and strive to achieve material success.

Scale (big) and speed (fast) are also venerated values in masculine cultures. Being fast is seen as being efficient and being big is considered to be great (Hofstede, 1983a). However, in many cases, “big” and “fast” achievements are only possible through illegal or abnormal processes. An impatient drive for big and fast achievement is sometimes blamed for wide spread corruption in a country (Rhee, 1999.) In order to achieve a goal faster than others, people feel pressured to provide “grease money” (Bardemas and Heimann, 1998). In this type of culture, people value speedy and substantial achievement more than legitimacy and social justice. Less social stigma is attached to those who get caught in pursuit of fast and big success. They may simply be considered unlucky.

Ostentatious manliness, which is emphasized among the male members of a masculine culture, can also play a significant role in mental programming at an ethical crossroad (Hofstede, 1983a) for decision making. It can push one to favor a “now or never” kind of attitude to achieve financial goals in a “big and fast” way. If one is too hesitant or too reluctant to take a chance to attain what is desired, one may be criticized as being cowardly or lacking confidence. Thus, even though we should exercise every effort not to conflate the characteristics of each gender with this particular cultural dimension, the values prevalent in a masculine culture can create a more unwholesome environment for corruption. Based on this reasoning, hypothesis #9 is proposed below.

H9: The higher the degree of masculinity in its culture, the higher the degree of corruption in a country.

Uncertainty Avoidance

Uncertainty avoidance centers on how societies deal with the unknown aspects of its future. In high uncertainty avoidance cultures, the uncertainty inherent in life is felt as a continuous threat that must be fought and a primary focus of the society is how to prevent anxiety and uncertainty in individuals’ lives.

People in high uncertainty avoidance cultures have a greater concern for security in their lives and, therefore, have a strong inner urge to search for instruments to control their future life (Hofstede, 1983b). They will take actions to reduce uncertainty in life, including engaging in illegal activities, which aid in their survival. Reducing uncertainty to ensure survival is of greater importance than legitimacy in high-risk avoidance cultures. Furthermore, in a high avoidance country, the greater fear of uncertainty and anxiety can cause more “status strain” (Lipset and Raab, 1970) and “structural strain” (Merton, 1957) than in a low avoidance country. Even if they perceive the same amount of anxiety and uncertainty in their lives, the people in high uncertainty avoidance cultures suffer more from it. This additional suffering will put pressure on them to
work harder to search for ways to relieve this anxiety and uncertainty. Often, their lifetime experiences persuade them that one of the most effective instruments to deal with uncertainty in their future lives is a substantial amount of wealth. This puts a considerable amount of pressure on them to do anything to build wealth—including illicit behaviors like corruption that offers an opportunity to build a substantial amount of material wealth. Along this line of thought, hypothesis #10 is proposed below.

H10: The higher the degree of uncertainty avoidance in its culture, the higher the degree of corruption in a country.

**DATA SOURCES**

Several different data sources are available for the degree of corruption in a country. One of them is the CPI (Corruption Perception Index) developed by Transparency International, which ranks 85 countries and has been published annually since 1995. The validity and reliability of the CPI index has been endorsed by Lancaster and Montinola (1997), and the index has been widely used in recent studies (e.g., Husted, 1999; Swamy, Knack, Lee, Azfar, 1999). However, the “reversed” scale of TI’s CPI index (Corruption free = 10 and total corruption = 0) can cause a problem when interpreting statistical results. Extra caution will be needed to interpret the coefficient signs in statistical results because a negative coefficient sign means that the factor is positively related to degree of corruption in a country.

For national income, GNP per capita data is used to eliminate the size effect. The data for these variables are drawn from the World Development Indicators published by the World Bank (1999). For income disparity, we decided to use the income share of the top 20 percent of the population rather than using the GINI index, which has been a weak predictor in recent studies (e.g., Gupta, 1990; Husted, 1999). Alesina and Perotti’s (1996) Socio-Political Index (SPI index) is used for socio-political stability because of its focus on political instability as a threat to property rights. However, the original index values were re-scaled by assigning a value of zero to the most stable country, which had an original index of -11.76 and then assigning other countries increasingly positive values to represent greater instability. For economic freedom, the 1999 Index of Economic Freedom (IEF) published by Heritage Foundation and the Wall Street Journal was used. The IEF index is a good proxy for the overall degree of government intervention in an economy, because it contains detailed information about the degree of government regulations on prices, international trade, capital flows, taxation, foreign investments, foreign exchange control and banking/insurance. For bureaucratic quality, the IRIS data set compiled by the PRS group is used since their bureaucratic quality index represents not only the overall quality of
bureaucracy but also reflects the degree to which a country has an established mechanism to ensure the quality of the bureaucracy. For the legitimacy of legal system component, we use the IRIS data for the “rule of law” as a proxy. The data set represents the strength of the legal system and the degree of a society’s dependence on law and order tradition to settle claims against physical forces/illegal means, which coincides with our operational definition of the variable.

DATA ANALYSIS AND DISCUSSION

The binding constraint on the number of countries investigated is sheer data availability. The CPI index is available for 85 countries and Hofstede’s cultural indices are available only for 50 countries. The total number of countries for which all the data are available for the 10 variables in the first model A is limited only to 30. However, when we drop three variables which turn out to be insignificant in the first model, the total number of samples in the second model B (with seven variables) increases to 37. This is because model B has less variables and more countries in the data pool are qualified to be included in model B.

Pearson product moment coefficients of correlation were calculated between all the variables. Since Bureaucratic Quality (BURO) has a high correlation with three other variables (GNP; r=0.79, IND; r=0.80, LAW; r=0.80), this variable is dropped from the model. GNP also displays a relatively high level of correlation with other variables (REVSPI, EFREE, LAW and IND). The high correlation between GNP and Individualism (IND) was already discussed in Hofstede’s (1983b) study. The correlation between GNP and the remaining three variables suggests a possible mediating effect of GNP on corruption through these variables.

To test our hypotheses, a series of multiple regressions was conducted based on two models (model A and B). Model A includes all variables except bureaucratic quality {GNP/capita (GNP), Revised Socio-Political Instability (REVSPI), Economic Freedom (ECONFREE), Uncertainty Avoidance Index (UAI), Individualism Index (IND), Power Distance Index (PDI), Masculine Index (MAS), Legitimacy of Legal System (LAW), Upper 20 percentile of Income (HIGH20).} In order to check for heteroskedasticity of an unknown form, which can be a potential source of noise when using cross sectional data, White’s (1980) heteroskedasticity-consistent covariance matrix estimator was used. The results from this test are reported in Table 1, shown on the next page.

The adjusted R² of this model A is 0.8977 and the F statistics for overall fitness of the model is 29.2880 (p<0.0000). Three variables (ECONFREE, PDI and MAS) are significant at p<0.001 level and one variable (REVSPI) is significant at p < 0.05. We did not find any significant relationship between the level of corruption and five remaining
Table 1 (Model A): Multiple Regression Analysis
White Heteroskedasticity-Consistent Estimator of the Coefficient Covariances

Dependent Variable: REVCPI (Revised Corruption Perception Indices)
Method: Least Squares
R²: 0.929476 Adjusted R²: 0.897740 Included observation: 30

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<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
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* significant at 0.05 level  
** significant at 0.01 level  
*** significant at 0.001 level

REVCPI = Revised Corruption Perception Index  
GNP = GNP per capita  
REVSPI = Revised socio-political instability  
ECONFREE = Economic Freedom  
UAI = Uncertainty Avoidance Index  
IND = Individualism-Collectivism Index  
PDI = Power Distance Index  
MAS = Masculine-Feminine Index  
LAW = Legitimacy of legal system  
HIGH20 = Upper 20% of Income distribution

variables (GNP, UAI, IND, LAW and HIGH20) at the level of p= 0.05. These results could not support hypotheses #1, #2, #5, #8, and #10. Particularly, insignificance of GNP as an explanatory variable was somewhat perplexing because it is quite contrary to what Husted’s (1999) found. However, the high level of correlations between GNP and two other variables (REVSPI and ECONFREE) that are found to be significant suggests the possibility of a mediating effect of GNP on corruption through these variables. It is conceivable that low national income can breed socio-political instability and, thereby, lead to a higher level of corruption through social unrest and uncertainty in the society. Advanced economy with high national income can be more munificent in implementing policy and impose fewer regulations, which will produce fewer chances for rent seeking behaviors.

Model B contains six variables, excluding those three variables that turn out to be least significant in model A, in order to ensure an optimal balance between the degree of freedom problem (small samples) and the explanatory power of the model. The results of regression analysis on
Table 2 (Model B): Multiple Regression Analysis
White Heteroskedasticity-Consistent Standard Errors & Covariance

Dependent Variable: REVCPI (Revised Corruption Perception Indices)
Method: Least Squares
\( R^2 \): 0.928203 \hspace{1em} \text{Adjusted } R^2 : 0.913843 \hspace{1em} \text{Included Observations:} 37

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<th>Std. Error</th>
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</tr>
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<td>C</td>
<td>-2.266487</td>
<td>1.328701</td>
<td>-1.705792</td>
<td>0.0984</td>
</tr>
</tbody>
</table>

* significant at 0.10 level \hspace{1em} ** significant at 0.01 level \hspace{1em} *** significant at 0.001 level \hspace{1em} ****significant at 0.0001 level

White Heteroskedasticity Test:
F-statistic 0.739755 \hspace{1em} Probability 0.701065
Obs* R-squared 9.990284 \hspace{1em} Probability 0.616813

model B using White’s (1980) heteroskedasticity-consistent covariance matrix estimator are reported in Table 2.

Since the reported \( P \) values for both the F statistic (0.701065) and Obs* R-squared (0.616813) are significantly larger than the cut off point 0.05, it indicates that the model does not suffer from any serious heteroskedasticity problems. The adjusted \( R^2 \) for model B (0.913843) is even higher than that of model A. Overall, the results are very strong given the small number of observations and different sources of noises in the data set. In this model, five variables (REVSP1, ECONFREE, PDI, MAS, and LAW) out of six are significant at \( p<0.001 \) level.

Finally, in order to understand the relative significance of the variables in the model, a stepwise regression and a set of standardized coefficients of the variables were calculated and are reported in Table 3 shown on the next page.

The results of the stepwise regression (incremental \( R^2 \) and associated F value) indicates that five (LAW, PDI, REVSP1, ECONFREE, and MAS) of the six explanatory variables pass the F-ratio threshold (Probability of F to enter\( < = 0.05 \), to remove \( >= 0.100 \)) associated with a last-to-be entered assumption. A set of standardized coefficients and their
Table 3: Stepwise Regression Analysis and Standardized Coefficients
Criteria: Probability of F statistic to enter; <=0.05, to remove; >=0.10

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R2</th>
<th>R (change)</th>
<th>R (adjstd)</th>
<th>F (change)</th>
<th>Standzd Coeff.</th>
<th>T value</th>
<th>Collinearity Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.818</td>
<td>0.669</td>
<td>0.669</td>
<td>0.660</td>
<td>70.839</td>
<td>-0.255</td>
<td>-3.190</td>
<td>0.399</td>
<td>2.507</td>
</tr>
<tr>
<td>2</td>
<td>0.878</td>
<td>0.771</td>
<td>0.101</td>
<td>0.757</td>
<td>15.043</td>
<td>0.246</td>
<td>3.589</td>
<td>0.539</td>
<td>1.855</td>
</tr>
<tr>
<td>3</td>
<td>0.914</td>
<td>0.836</td>
<td>0.065</td>
<td>0.821</td>
<td>13.198</td>
<td>0.322</td>
<td>5.264</td>
<td>0.681</td>
<td>1.468</td>
</tr>
<tr>
<td>4</td>
<td>0.938</td>
<td>0.880</td>
<td>0.044</td>
<td>0.865</td>
<td>11.767</td>
<td>0.316</td>
<td>4.504</td>
<td>0.516</td>
<td>1.939</td>
</tr>
<tr>
<td>5</td>
<td>0.960</td>
<td>0.921</td>
<td>0.041</td>
<td>0.908</td>
<td>16.098</td>
<td>0.207</td>
<td>4.012</td>
<td>0.958</td>
<td>1.044</td>
</tr>
</tbody>
</table>

Model 1: LAW
Model 2: LAW, PDI
Model 3: LAW, PDI, REVSPI
Model 4: LAW, PDI, REVSPI, ECONFREE
Model 5: LAW, PDI, REVSPI, ECONFREE, MAS
associated $t$ statistics for those five variables provide some clue regarding the relative importance of each variable in the model. The variable that displays the highest $t$ statistic is REVSPI followed by ECONFRE, MAS, PDI and LAW in descending order. The collinearity statistics of the variables in Table 3 also reveal relatively low VIF, less than the suggested cut-off point five, which indicates the model does not suffer any serious multicollinearity problem.

A series of hypotheses were tested for each explanatory variable in model B. First of all, the $p$ value and the sign of the coefficient of REVSPI (socio-political stability) reported in Table 2 strongly support hypothesis # 4. The socio-political instability brews uncertainty and anxiety in the society and this escalated anxiety and fear will put pressure on the people to do anything possible to protect their status in the future regardless of its legality. The research results also indicate that the degree of economic freedom (EFREE) is another major element that can influence the degree of corruption. The sign of the coefficient supports our hypothesis # 3, that the less freedom (more regulation) individuals have in their economic activities, the more likely they are to be corrupt.

Another major variable that can explain a significant portion of variance in the degree of corruption is the Power Distance Index (PDI). The statistical results and the sign of the coefficient of this variable support our hypothesis # 7, that high power distance cultures are likely to be more corrupt than low power distance cultures.

The legitimacy of legal system (LAW) was significant and its negative coefficient supports out hypothesis # 5, that the countries with established law and order tradition are likely to be less corrupt.

Masculine-Feminine Index (MAS) is significant and its positive coefficient supports our hypothesis # 9, that masculine cultures are likely to be more corrupt than feminine cultures.

**CONCLUSION**

This study corroborates the belief that the overall level of corruption is a reflection of multiple aspects of a society. Since the degree of economic freedom is identified in this research as one of the major variables influencing the level of corruption, deregulation and decentralization of government activities can be an effective remedy in the fight against corruption. As the degree of corruption is also significantly related to the legitimacy of the legal system, establishment of a reliable and legitimate legal system and a law-abiding tradition are indispensable to checking corruption. Socio-political stability is another major deterrent that can check widespread corruption because instability in the system escalates social unrest and anxiety in a society, which will lead to more “status strain”. The results of this study also confirm Husted’s (1999) finding that culture is still the major factor
influencing the level of corruption. Although Sternberg (1994) concluded
that the development of universally acceptable norms and principles of
business ethics is possible and rejected
the idea of cultural relativism in the
area of business ethics, the research
findings indicate that corruption in a
country is still very much a culture-
bound phenomenon.

Consequently, the research
findings suggest that institutional/
regulatory measures without socio-
cultural reformation may not be
successful in reducing the overall level
of corruption. As Leiken (1996)
correctly argues, when corruption is
systemic, administrative reforms do
not suffice if there is no overall and
persistent social reform that changes
the relevant aspects of national culture
and the epistemology of the people
in the society. The research findings
suggest that fighting corruption
require a tenacious, holistic, and
multidimensional approach to induce
an overall social reform, which will
gradually transform the nature of the
whole society.

This corroborates the time-
honored Santhanam Committee’s
(1964) conclusion and the Review
Committee’s report of the most
revered Independent Commission
Against Corruption of Hong Kong
(1994) that it is possible to deal
quickly with some forms of
corruption but it is, in general, a long-
term problem which requires a firm
resolution and persistent effort to
change the nature of the society over
many years to come.

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