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Cost of Corruption: A Survey of the Literature

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EXECUTIVE SUMMARY

Essentially, this literature review can be categorized into two strands. The first strand of studies is empirical based in the sense that they have used either a time series/panel data approach to examining the impact of corruption. The second strand of studies use a survey-based approach to collecting data on corruption and use it to examine its impact of the macro-economy, individuals, and society.

There are two features of this literature that are worth noting at the outset. First, the literature is either macroeconomic or microeconomic in nature. The macroeconomic set of studies examines the impact of corruption on the economy as a whole and considers impacts on economic growth, while the microeconomic set of studies focuses on the impact on individuals and communities (or society), such as the impact on income inequality or impact on poverty. Second, a subset of studies is theoretical in nature; in other words, they do not analyse data on corruption *per se*.

The literature on corruption in the Pacific is entirely on the form of corruption and how it may affect national developments in the region. This study has concentrated on the costs of corruption and we find almost no attempt to empirically ascertain the actual costs of various forms of corruption in the Pacific.

There are four main lessons learned from the literature. First, in terms of practical implications, the exact costs of corruption on the individuals and the society remain unknown to a large degree. The findings of the literature are very broad in the sense that the authors say that income inequality increases or poverty increases, or people obtain less access to key infrastructure when corruption rises. However, the real dollar value of the impact of corruption from, say an increase in poverty, is unknown. This is also a limitation of the existing literature. It seems that a survey-based research will also be incapable to providing such specific answers in terms of the costs of corruption.

However, a survey-based research focussed on deriving the costs of corruption maybe possible for selected regions or groups of interest, such as for people living in squatter settlements or the unemployed group, etc. This should be the focus of work on the Pacific Island countries (PICs). While it is generally reported that due to increasing political instability, countries such as Fiji, the Solomon Island, PNG, and Vanuatu, have moved away from democracy and that corruption has increased, there are no specific studies that examine the impact of such corruption on the functioning of the non-government organisations, on poverty and unemployment, on food security, and other indicators of the social fabric of the society, such as crime rates and domestic violence.

Second, theory-based research, while clearly having a microeconomic focus with welfare enhancing implications, is of limited use since none have been tested using real data. Hence, not much can be inferred from these theoretical models of the impact of corruption. One approach maybe to use some of these theory-based models and apply them to data from the PICs. This will serve two purposes. First, it will provide a test of the existing theories and hence will demonstrate their applicability in terms of practical implications. Second, they might offer fresh insights on welfare enhancing issues in the region.

Third, findings on the cost of corruption generally point to the loss in foreign direct investment (FDI). This has a direct impact on people and communities since FDI is used as a source of creating employment for the local people. If FDI is reduced as a result of corruption, then the microeconomic effects are serious in that people will be jobless, and those already on the margins of poverty will fall into poverty. So corruption that reduces FDI can be seen as fostering income inequality, widening poverty, and creating unemployment. The long-term effects of this can be serious since persistent corruption leads to persistent falls in FDI. If this deprives a country of employment-generating employment, it can result in a stressful society in which crime rates, including domestic violence, can flourish, disturbing the social fabric of the society. To a large extent such a trend is noticeable in many PICs, although its empirical link to corruption needs to be justified. For example, over the last decade or so, FDI to many of the PICs has declined;

exports have declined and foreign reserves have declined.

In light of reduced government income, national debts have increased. Due to lack of investment and exports, unemployment has risen to over 20 per cent in many PICs and poverty has risen to over 30 per cent. Due to rising unemployment and poverty, crime rates have risen and social insecurity has increased. These are signs that many of the PICs are economically and socially unstable. How much of this instability can be attributed to corruption is an empirical issue, and we believe that future work in the region should focus on this.

Fourth, the literature survey has pointed out that corruption has led to distortionary tax collection mechanisms. Two issues on this front have emerged: (a) tax collections are not 100 per cent; in fact they are significantly less than optimum; and (b) the rich end up paying less taxes, hence the rich obviously benefit from corruption and they are seen as fostering corruption in the society for self-gain. The implications of this are twofold. First, the inability of the state to collect taxes efficiently and optimally means less income for the government. Less income for government means less expenditure in critical areas, such as health, education, water, electricity and roads. Second, the distortionary nature of taxation systems, a result for corrupt practices, means that income inequality has widened, putting more stress on the society.

In the PICs, both income weak tax collecting mechanisms and rising income equality are common. One issue faced by the state is how to optimise tax collections, with tax evasion, particularly from the corporate sector and rich individuals, a major issue. The inability to devise an efficient tax collection system has been one of the reasons for declining government revenues (and increasing budget deficits). Income inequality has also risen in the region, and it is likely to be one of the main reasons for the rise in crime rates and escalating social problems such as domestic violence in the PICs. It follows that future research should also focus on this.

In terms of implications for the Pacific region, there are enough signals as indicated from rising social and economic insecurity that corruption has played a role in creating at least

some measure of instability in the region. Before one proceeds to the planning and policy stage, these issues—in particular the link between corruption and social degradation in the PICs—need to be empirically ascertained. Hence, our literature review here seems to suggest avenues for additional work on the PICs, which we have outlined in detail.

1.0 Introduction

In this study, we review the literature on the cost of corruption. Essentially, this literature can be categorized into two strands. The first strand of studies is empirical based in the sense that they have used either a time series/panel data approach

to examining the impact of corruption. The second strand of studies use a survey-based approach to collecting data on corruption and use it to examine its impact of the macro-economy, individuals, and society.

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The plan of this article is as follows. In section 2, we provide an overview of the key findings in terms of the cost of corruption, key approaches (or methods) used to study the cost of corruption, and this section concludes with a discussion of the strengths and weaknesses of the applied methodology. In section 3, we provide a discussion of the magnitude of work on costs of corruption conducted on the different regions of the globe. In section 4, we summarise the key lessons learnt from the literature on costs of corruption. In section 5, we discuss work related to poverty and food security resulting from higher incidence of corruption. In section 6, we identify the key gaps in the extant literature and discuss the main implications of the literature for costs of corruption in PICs. In the final section, we provide some concluding remarks.

2.0 Overview of key findings and methodology

2.1 Cost of corruption to communities/societies

Corruption is believed to affect a variety of economic indicators, such as government expenditure, total investment, capital flows and foreign direct investment, international trade, foreign aid, and especially GDP per capita or in other words, the economic growth of a nation. The levels of corruption have undergone considerable changes in recent years where some countries have succeeded in reducing corruption while others experienced an increase. Per capita GDP is regarded as a condensed measure that aggregates several economic effects of corruption. GDP is hardly viewed as a genuine indicator of welfare, and it reflects the welfare costs of corruption only in a rudimentary and imperfect way. According to Lambsdorff (2003), corruption includes many different types of behaviour. Some behaviours, like simulated blockage created by public officials, may cause substantial time and effort and the greasing of palms on the part of citizens to get access to public services.

Corruption is also defined as misuse of public office for private gain and it is often suggestive of wider governance problems. In addition to the direct financial costs of corruption (higher costs of contracts and public services, loss of public funds due to theft or misuse of government facilities and assets), there are substantial costs related to time devoted to corrupt practices as well, especially in the case of the security sector and human costs (e.g. threats, intimidation, and victimization by security forces). Widespread corruption dissuades and deforms private investment. Perhaps most important are the undesirable implications of corruption, and popular activity of widespread corruption for the effective performance, integrity and authenticity of the state. In addition, as the extent of corruption increases, the deterrent effect of imposing penalties on crime tends to be weakened. When corruption is prevalent, social norms can no longer take an adequate consent against a corrupt officer and so prevalent corruption tends to cause a significant mass effect to strengthen the extent of corruption, which indeed will result in

higher rather than lower crime rate.

Bribery is another aspect of corruption which is largely spread in every region. It has been studied by Batabyal and Yoo (2007), who argue that bribery is profitable for citizens with a high opportunity cost of time. They found a significant amount of corruption pertaining to the public allocation of goods where people have to wait in queue to obtain the good that is being allocated by the government. In addition, in the tax collection mechanism both the taxpayer and a tax inspector are found to be corruptible. In this scenario, the richest have most to gain from evading taxes and are least vulnerable to extortion (because it is harder to credibly over-report their incomes). The poor, on the other hand, have few taxes to evade and their incomes can more plausibly be over-reported. Inducing honesty in the collection of progressive taxes can be costly, implying an additional source of inefficiency associated with the pursuit of equity goals.

It is also been noted from the related literature that corruption is higher in a more competitive environment. It is not that boost in competition is not desirable, but it need to be remembered that a cost allied with tougher competition may be higher corruption, and that it is reasonable to expect that growth will be accompanied by corruption will grow together in certain markets.

Furthermore, corruption is putting the security of the community and the society as a whole at risk. The linkage between military expenditure and corruption suggests that: first, the efficiency of the military is being impaired by corruption, which impacts upon expenditure. Countries are simply not getting the quality of military services that they are paying for and this has impacts on the ability of a country to defend itself against internal as well as external threats. This may lead to an increase in corruption in other areas of political and business life beyond defence. It is also possible that there could be impacts on the major arms exporting countries, as there is a tendency for some companies to engage in corrupt practices in some areas of the world.

Hence, the cost of corruption to community/society is adverse. It makes people lose trust in each other, there is no humanity left between the people in the society. People who

have money can afford to live happily in the corrupted environment and ones who are poor get poorer day by day. Society also loses trust in government bodies, they lose respect for the government officials and the civil service they get is undesirable as there is high chance of misallocation of resources and the misuse of government expenditure. There is no true way of earning money, children suffer as they are unable to obtain better education, and people suffer due to lack of food security. Thus, this all leads to high rate of unemployment, high rate of poverty, which leads to high rate of crime in the society. Community/society feels insecure when military and government both are found to be corrupted.

2.2 Methods and estimation techniques used to measure corruption

There are two approaches of measurement used to measure corruption: (1) macroeconomic approach, such as panel data models and time series models; and (2) microeconomic approach, such as cross-sectional data modelling, questionnaire surveys, and theoretical models—at least the majority of them have a micro-level implication.

Table 1, reports the number of different approaches used in the extent literature. Most of the studies used microeconomic approach, either based on a theoretical framework or based on questionnaire surveys. Mostly, the surveys involve questionnaire design and are based on a face-to-face interview on randomly selected samples. The theoretical approach is mostly grounded in economic theory, mainly microeconomic theory of welfare enhancing growth.

Table 1: Number of studies by different approach

	Panel	Time series	Cross-sectional	Theoretical approach	survey
South Asian region			1	1	2
East Asian and the Pacific region				1	4
European and Central Asian region	1				1
Latin America and Caribbean region				1	3
North America		1			
Sub-Saharan African region				1	1
Mixed region	4		1	6	
Total	5	1	2	10	11

2.3 *Strengths and weaknesses of measuring the cost of corruption*

The major weakness of measuring the cost of corruption is the measurement error itself. In most of the studies it is found that there is some limitation in measuring data or obtaining data for the empirical analysis. For example, Honorati and Mengistae (2007) failed to address a particular problem in their data that potentially reduces the advantages of the ADL-GMM estimation framework is that only two observations on each business environment variable made in two three-year intervals over the six year period covered by the production and investment series. The problem has been solved by assuming that the value of a business environment variable for a firm during a survey year is the best predictor of the true value of the same indicator for the preceding two years for which production data were collected as part of the same survey. This obviously introduces measurement errors into the specifications estimated. It also means that the effective number of natural instruments the business environment variables in the systems GMM framework is quite limited. The authors have sought to address this problem by using city

or location averages of institutional variables and as additional excluded instruments.

Groenendijk (1997) showed the main weakness of his model to be collecting together disutilities of different individuals. The monitoring costs and the outstanding losses are disutilities of the principal. The bonding costs, however, are borne by the agent. It is also argued that the bonding costs are disutilities of the principal because it is likely that the agent meets the bonding expenditures using the payment he/she gets from the principal in return for looking after the principal's interests. Whether the agent uses these resources, or he uses other resources to pay for these bonding expenditures, is not relevant: they are a disutility of the agent.

Furthermore, the studies that are based on microeconomic approach, such as questionnaire surveys or those that use theoretical models do not show the precise or specific results. Microeconomic approach is always driven by choices; for example, while conducting surveys, there is a need to choose a sample out of large population. Data collected from the sample is analyzed and evaluated to produce results; the results for the whole population rely on what the sample result reveals. Results for the whole population are assumed to be true as what is shown by the sample result.

Another issue with the survey-based studies is the efficiency, truthfulness and honesty of the respondents. It is assumed that whatever information is given by the respondents is true whereas the respondents can be biased in filling the questionnaire and giving biased answers when interviewed. There is no way or approach of measuring the honesty and trust of the respondents. The same is true about theoretical models, where the whole study is based on few readings of history, case studies, government reports and the news articles, which are insufficient to produce results for the whole population or generalize the result for the nation.

Time factor is another problem faced in measuring the cost of corruption. The survey data is time consuming to collect and analyse. Surveys need to be conducted over a long time before the results can be produced. It is very common that surveys take 2-3 years to

collect reasonable data; by the time this data is analysed, evaluated and presented in a form sufficient for policy deliberations, many more changes happen in the society. The results then do not give a clear picture of what is happening in the present and what can be expected in future.

According to the literature, there are a very small number of studies done to measure the cost of corruption. And also it has been noted that studies are very rare on each region. There is a need for more studies to draw the consensus of results. There is not even a study that compares and contrasts its results with different regions and the globe as a whole. There is a need to measure the cost of corruption in each region and the whole globe to understand the impact of corruption to our society/community and to predict what can be expected in future.

3.0 Regional distribution of studies on costs of corruption

A summary of the literature review is provided in the Appendix. The idea is to identify the work that has been done. Our approach in reviewing the extant literature is twofold. First, we classify studies by different regions, and second, we divide these studies into two categories: one relating to studies based on microeconomic approach and two studies based on macroeconomic approach (refer table 2).

Table 2: number of studies by different region using macro/micro economic approach

Region	Macroeconomic	Microeconomic
South Asia	0	4
East Asia and the Pacific	0	5
European and Central Asian	1	2
Latin America and Caribbean	0	4
North America	1	0
Sub-Saharan African	0	2
Mixed region	4	7
Total	6	24

From altogether 30 studies that we review, 24 studies are based on a microeconomic approach, such as where data is obtained through conducting surveys, and a relatively small number of theoretical based research papers. Six of them are based on macroeconomic approach where the panel data model or time series approach is utilized. In sum, of the 30 studies, 22 follow a microeconomic approach to examining the costs of corruption.

Furthermore, it is been noted that most of the studies are done based on mixed region. There are altogether 11 out of 30 studies (i.e. 36.7 percent) done on mixed region, meaning no specific country is given in these study or that the countries are picked from different regions. A total of six, four, three, two, and one study is done for East Asian and the Pacific region, Latin American and Caribbean region, Europe and Central Asian and South Asian region, Sub-Saharan African region and north American region, respectively.

4.0 Overview of the literature

4.1 Studies on the South Asian Region

A joint informal publication of staff of ADB, DFID, UNDP, UNODC and WB (2007) provides background on corruption in Afghanistan and lessons from international experience, highlights key policy issues, lays out a suggested roadmap for action, and proposes a work program-including an anti-corruption strategy forming part of the Afghanistan National Development Strategy (ANDS). They did not follow a specific methodology and make use of literature on the subject from different sources e.g. World Bank Statistics, survey of perceptions of corruption conducted in 2006 by Integrity Watch Afghanistan etc. Based on available indicators, Afghanistan appears to fall near the bottom internationally in terms of the seriousness of its corruption problem. The very large opium economy is widely considered to be the most important source of corruption in the country. Widespread corruption deters and distorts private investment. Perhaps

most important, are the adverse implications of corruption, and popular perceptions of widespread corruption, for the effective functioning, credibility and legitimacy of the state.

Davis (2004) presents empirical information regarding the types and magnitudes of corrupt behaviors documented in water supply and sanitation service provision in several South Asian localities. He also examines the strengths and weaknesses of current strategies to reduce corruption among several public water and sanitation bureaucracies in South Asia, drawing on interviews and focus group discussions with more than 350 staff and 730 customers in both urban and rural contexts, as well as from meetings with more than 320 elected officials, researchers, activists, journalists, and development professionals. His findings show that it is encouraging that even in this challenging operational environment we documented several strategies that do appear to have reduced corruption in service delivery. Among these, every one shared two drivers: one which altered accountability networks in service provision, and one which changed the attitudes of service providers in a way that increased the moral cost to them of misconduct.

Honorati and Mengistae (2007) estimate a structural dynamic business investment equation and an error correction model of fixed assets growth on a sample of predominantly small and mid-size manufacturers in India. They used firm level data from the 2002 and 2005 waves of the Firm Analysis and Competitiveness Survey of India (FACS survey) of the World Bank and the confederation of Indian industry in order to help quantify the effect of all four factors namely, labour regulation, power shortages, access to finance, and corruption on manufacturing growth in India. Their results show that excessive regulation, power shortages and problems of access to finance are significant influences on business investment rates as an instance of the importance of 'contracting institutions' in the current performance of India's manufacturing industries.

4.2 *Studies on the East Asian and the Pacific Region*

Kuncoro (2004) outlines and tests a model in which firms seek to reduce the cost of taxes

and regulatory compliance by offering bribes to government officials by conducting surveys through interviews in Afghanistan. Of 1808 firms interviewed, 1333 respondents said they had paid bribes in 2001, while the rest claimed not to have done so. Separate post-survey interviews were also conducted with the hotels and the restaurants association, the small business association and a branch of the local chamber of commerce and industry and also with a small number of firms chosen randomly from outside the main sample in six districts across Indonesia to check the accuracy of survey results. According to results, manufacturing firms tend to pay lower bribes than service firms, while agri-business is in between; the urban-based firms appear to have somewhat higher bribe rates than those in non-urban areas Exporters have slightly lower bribe rates than non-exporters, and foreign firms have higher rates than those that are domestically owned. Firms in oil-rich districts are likely to pay higher bribes than those in non-oil districts. Competition between arms of the bureaucracy for bribe income seems to be a result of decentralisation, but the analysis suggests that this competition would lead to a spreading of bribes among a larger number of officials rather than to a significant increase in their total amount. Hence, Local governments may be able to raise more revenue by reducing the number of taxes and regulations and using part of the increased revenue to raise the salaries of officials, while devoting more effort to restraining corrupt behaviour. But progress may be blocked by central government tax officials increasing their demands for bribes.

Kuncoro (2006) analyses the local business environment in Indonesia after decentralization to quantify the adverse effects of bribe uncertainty on firms by analysing two firm-level surveys: the 2001 and 2003 CODB surveys. He used a method based on standard theory in economic analysis that a firm would engage in negotiation if the burden is sufficiently high, and only if the marginal effectiveness of bribes after taking into account uncertainty exceeds the marginal cost of bribes in negotiation. His findings suggest that uncertainty plays a significant role in affecting bribe level where uncertainty variable is constructed; there is also an indication that some fragmentation of bribe collection system has taken place.

Olken (2007) presents a randomized field experiment on reducing corruption in over 600 Indonesian village road projects. He used the data from four types of surveys; each designed by the author and conducted specifically as part of the project. A key-informant survey, covering baseline characteristics about the village and the village implementation team; a meeting survey containing data on the attendees and a first-hand report of discussions at the accountability meetings; a household survey, containing data on household participation in and perceptions of the project; and a final engineering field survey, used to measure corruption in the project. This measurement was conducted in all villages (both treatment and control) and is completely separate from the audits conducted by BPKP as part of the audit treatment. His findings reveal that increasing government audits from 4 percent of projects to 100 percent reduced missing expenditures, as measured by discrepancies between official project costs and an independent engineers' estimate of costs, by eight percentage points. By contrast, increasing grassroots participation in monitoring had little average impact, reducing missing expenditures only in situations with limited free-rider problems and limited elite capture. Hence, the results suggest that traditional top-down monitoring can play an important role in reducing corruption, even in a highly corrupt environment.

Choi (2007) provides a critical analysis of the causality between network structures and administrative corruption by adopting an organizational network approach in the Japanese bureaucracy. To investigate the cause and consequences of administrative corruption in Japan, he relied on qualitative research combined with case studies and ethnographic analysis. He used and interprets information on administrative corruption obtained primarily from government documents, reports of international organizations, archival information from newspapers and magazines. He found that amakudari- and zoku-driven network relationships, which have been reinforced by socio-cultural bases, are vertically and exclusively structured and substantiate corruption in administration. Thus, policy making on the basis of such network relations not only results in mismanagement in administration and the distortion of the market disciplines but also delegitimizes the governance system by destroying public trust in government. He suggests that bringing greater heterogeneity and citizen participation to administration

through diversity management and e-government would reduce administrative corruption in Japanese governance.

Olken (2006) examines the degree to which the corruption in developing countries may impair the ability of governments to redistribute wealth among their citizens. His examination is based on a large anti-poverty program in Indonesia that distributed subsidized rice to poor households. He estimated the extent of corruption in the program by comparing administrative data on the amount of rice distributed with survey data on the amount actually received by households. His findings reveal that on average, at least 18% of the rice appears to have disappeared where ethnically heterogeneous and sparsely populated areas are more likely to be missing rice. He then used conservative assumptions for the marginal cost of public funds and estimated that the welfare losses from this corruption may have been large enough to offset the potential welfare gains imposed substantial limitations on developing countries' redistribution efforts, and hence, help explaining the low level of transfer programs in developing countries.

Abe and Wilson (2008) examine the impact of reducing corruption and improving transparency to lower trade costs in the Asia Pacific Economic Cooperation (APEC) region. Based on the econometric estimates— a computable general equilibrium model and database from Global Trade Analysis Project (GTAP), they found a significant potential for trade and welfare gains for APEC members, with increased transparency and lower levels of corruption. Results also suggest that trade in the region would increase by 11 percent and global welfare would expand by \$406 billion by raising transparency to the average in the region. Hence, most of the increase in welfare would take place in member economies undertaking reform.

4.3 *Studies on the European and Central Asian region*

Tekin-Koru (2006) presents an empirical assessment of the relationship between corruption and the ownership structure of foreign direct investment (FDI) receipts by Turkey where he used two forms of ownership structures: joined venture and wholly

owned subsidiary. He used a dataset which has information on the ownership structure of inward FDI in Turkey for a panel of 88 source countries between 1990 and 2000 where the main focus is given to Turkey. His results indicate a strong negative impact of corruption on joint ventures, particularly for the ones originating from developed countries. As the degree of dissimilarity between corruption levels in the source country and Turkey diverges, the share of foreign ownership declines which lends support to the transaction cost approach which emphasizes the expected increase in costs of sharing ownership in corrupt environments.

The research based on survey by the chartered Institute of Building (2006) examined respondent's views on corruption within the UK construction industry. It consisted of 1404 respondents who worked in a variety of sectors within the industry. The main focus of the survey was to look at respondent's perceptions of corruption as well as their personal experience of it. They found that there was a great deal of variation in the way that respondents perceived corruption as well as in how extensive they thought it was. Many respondents had had direct experience of corruption: for example, 41% had been offered a bribe on at least one occasion. The results of the survey portrays that there is a degree of corruption present in many areas of the UK construction industry and there is some disagreement of where networking and the development of harmonious working relationship stop and corruption starts. It is clear that those who responded are aware of the issues, but there are clear indications of degrees of tolerance to some practices that some would regard as corrupt and the majority of respondents felt strongly that more needs to be done by both the industry and the government to contest this.

Ciocchini *et al.* (2003) study the relationship between corruption and borrowing costs for governments and firms in emerging markets. They used data on bonds traded in the global market during 1990s, along with survey data on corruption compiled by transparency International and showed that countries that are perceived as more corrupt must pay a higher risk premium when issuing bonds. They conducted univariate regressions of launch spreads (in logs) on corruption series by running OLS regressions. Their results reveal that the global bond market ascribes a significant cost to corruption;

an improvement in the corruption score from the level of Lithuania to that of the Czech Republic lowers the bond spread by about one-fifth. They found this true even after controlling for macroeconomic effects that are correlated with corruption. They found little evidence that investors became more receptive to corruption in the wake of the Asian financial crisis.

4.4 Studies on the Latin America and Caribbean region

Quiroz (2003) examines the specific cycles, causal factors and long-term costs of administrative corruption in Cuba during the nineteenth century. The study first analyses the roots of colonial bureaucratic corruption in the early part of the century when unofficial rules shielding illegal slave trade and other unruly loyalist transgressions defeated previous efforts at administrative reform. His study is based on historical in nature. He concluded from the history of Cuba that corrupt gained inimical to general public interest was not a consequence of cultural constants, but of unreconstructed institutional flaws and weaknesses. He highlights that the risks of engaging in bureaucratic corruption diminished under the systematic condoning of administrative faults, collusive allowance of illegal slave trafficking, and a code of illegal rewards expected by loyalist officials opposing colonial reform. Despite some little anticorruption inventiveness, the prosecution and reprimand of corrupt officials was lax. The inherent, yet significant, financial, institutional and political costs of corruption added to the failure of Spanish imperial dominion over Cuba and left a detrimental burden and legacy for Cuban civil society.

Transparency International Corruption Fighters' Tool Kit (2003) making use of the tool National Survey on Corruption and Good Governance (NSCG), enabling monetary aggregates to be constructed to determine the cost of corruption for Mexican households and the share that this represents of their budget. The methodology consisted of a sample of 16000 households. From this total, 13790 interviews were obtained nationally. All the results were collated and analysed independently by a group of academic and specialists. The survey showed that Colima was the federal state with the lowest level of corruption

in public services in 2001. The disparity between states, and the need to look for a deeper explanation of the results, prompted TM to manage, together with the Government of Colima and the State University, the “Conference to Make Good Governance a Reality in Mexico”. Some 32 specialists took part in this event. Eight discussion groups were held covering a range of topics related to the fight against corruption and good governance. The forum attracted the presence of the President of the Republic, the Federal Secretaries from the Comptroller’s Office, Education, Tourism, Defense, as well as state and municipal authorities from the areas of education and control. The forum also enabled a frank dialogue between civil society organisations, private companies and other experts.

Seligson (2002) uses national sample survey data, with a total of over 9,000 from four Latin American countries (namely, El Salvador, Nicaragua, Bolivia and Paraguay) to test the effect of corruption experiences on belief in the legitimacy of the political system. He finds that independent of socioeconomic, demographic and partisan identification, exposure to corruption erodes belief in the political system and reduces interpersonal trust. His findings provide the evidence that seems very clear that at least in these four countries, that corruption carries with it important political costs.

Kaufmann (2008) explores the price and quantity components of the relationship between governance and service delivery using micro-level survey data. Using responses from 1123 Peruvian public officials and 1696 Peruvian households they focused on the costs of bad governance and the relative importance of various governance determinants on access to public services. Their results provide evidence that suggests that for certain basic services, low income users pay a larger share of their income than richer ones. Moreover, low-income users are more likely to be dejected and not to seek a service than richer ones, especially when in need of an essential service (education, water and the police). Thus, bribery emerges to twice reprimand poorer users, acting as both a regressive tax and as a discriminating means for access to essential services. Furthermore, they found that individual characteristics, such as education and age, matter in the decision of whether or not to seek a service when needed: higher education achievements and middle-income users are allied with a higher probability not to seek a public service.

Governance, measured as trust in state institutions, also manipulates the user's behavior and knowledge to report corruption and social network increases the probability to be discouraged.

4.5 *Study on the North American region*

Depken and Lafountain (2006) empirically investigate the effect of public corruption in the United States on the state bond ratings. Using data for US states from 1995 through 2000, they found that a state's bond rating is inversely related to the level of public corruption in that state, after controlling for other economic influences. The effect is found to be economically as well as statistically significant. Thus, the evidence they provided is consistent with the hypothesis that the more corrupt a government, the riskier are the bonds it issues. They used Rubinfeld's (1973) estimates to calculate the implied increase in the interest rate it pays on those bonds. Their findings also show that public projects financed with state debt cost more in states with more corruption than in states with less corruption. In other words, public corruption creates a negative pecuniary externality for a government's constituents.

4.6 *Studies on the Sub-Saharan African region*

Fisman and Svensson (2007) study the relationship between bribery payments, taxes and firm growth. They used unique data set that contains information on the estimated bribe payments of Ugandan firms over the period 1995-1997. All data used is from the Ugandan Industrial Enterprise Survey initiated by the World Bank primarily to collect data on the constraints facing private enterprises in Uganda. A total of 243 firms were interviewed in 5 locations, in 14 different industries. Their findings suggest that there is a strong, robust, and negative relationship between bribery rates and the short-run growth rates of Ugandan firms, where the effect is much larger than the retarding effect of taxation.

Auriol and Blanc (2008) focused on public utilities services located in poor countries

with a special attention to capture and corruption issues. Due to lack of data availability on water and electricity in Sub-Saharan African, the testing was based on available empirical evidence on industrial organisation, mainly from World Bank and French Development Agency reports and publications. They completed the relevant information on industrial organisation structure with case studies and empirical studies on prices and on demand. Their findings show that the social cost of corrupted privatization is non-monotone in the opportunity cost of public funds. Because of the fiscal loss it represents, privatizing profit centers of public firms entails huge social costs in very poor countries.

4.7 *Studies based on a mixture of regions*

Mauro (1995) examined the impact of corruption on a wide range of variables for 70 countries. His study was based on cross-sectional data for the period 1980-1983 and the data was collected using standard questionnaires. He found that in countries where bureaucratic regulations were very cumbersome, corruption reduced economic growth. He also found that corruption also reduced investment in several of the developing countries.

Groenendijk (1997) uses a theoretical model to examine the plausible impacts of corruption. In particular, his study is based on a principle-agent model. The behavior of these principles and agents are analysed in terms of costs and benefits. The model is applied to political corruption in representative democracies. In this model the principal is thought to engage in “monitoring”, which covers a variety of activities, and the agent is sometimes expected to “bond”, e.g. the agent is expected to expend resources to guarantee his principal that he will not take actions that will harm him. The agency problem is then to minimize the agency costs. While principle-agent models provide an opportunity to limit corruption, given that work is performed in teams which are strictly monitored by the principal, the existence of corruption can have significant cost effects such as cost of suppressing corruption and cost to the society from recovering the cost of lost resources.

Cuervo-Cazurra (2008) uses a panel data approach to examine the impact of corruption on foreign direct investment (FDI) in transition economies. He used a double-log model with quasi-fixed-effects and a one-year lag to analyze the data. He found that corruption has a negative impact on foreign direct investment (FDI). However, transition economies show high levels of corruption and also high levels of FDI. It is argued that it is not the level but rather the type of corruption that affects FDI in transition economies. Pervasive corruption, or corruption that is widely present, acts as a deterrent to FDI because it increases the known costs of investing, while arbitrary corruption, or corruption that is uncertain, does not have such a deterring influence because it becomes part of the uncertainty of operating in transition economies. In transition economies, investors prefer to deal with an unknown evil – arbitrary corruption – rather than a known one – pervasive corruption.

Chang *et al.* (2000) further investigate the impact of “causal corruption” between the arresting officer and the criminal on the efficiency of law enforcement using model set up by Bowles and Garoupa (1997) [B-G]. The key of their result lies in the so-called “snowballing” character of social norms. They interpreted that the additional costs inflicted on a caught corrupt officer in the B-G model as the psychological costs, and they incorporated social norms in the police officer community into these psychological costs. B-G shows that the disincentive effect of raising fines on crime will be diluted but not perverted in the presence of corruption. Hence, due to the snowballing character of social norms, raising fines could be counterproductive in put off crimes if the *status quo* corruption is prevalent. The clear implication of their result for policy is that, for the positive efficiency of a criminal penalty to exist, it is necessary to first put corruption under control.

Batabyal and Yoo (2007) examine the nexus between corruption, bribery and wait times in the public allocation of goods in developing countries. They used queuing theory to analyse models in which a good is allocated publicly, first a non-pre-emptive corruption regime and then in a pre-emptive corruption regime. For both regimes they computed expected wait times in queue for citizens who pay bribes and for those who do not and

then these wait times are used to demonstrate that bribery is profitable for type 1 citizens (Type I - are the high opportunity cost of time citizens pay bribe to server; Type II – citizens of the low opportunity cost of time citizens and these citizens do not pay bribe). Also they concluded that high and low opportunity cost of time citizens will have conflicting preferences as far as the corruption regime is concerned.

Hindriks *et al.* (1999) examine the implications of corruptibility and the potential abuse of authority for the effects and optimal design of (potentially non-linear) tax collection schemes by developing and exploring a model of the encounter between a taxpayer and a tax inspector, both potentially corruptible, within the setting of a very general form of tax collection mechanism; a mechanism that is ultimately a matter for choice by the government. There are three key aspects of the generality that they modelled. Firstly, they allowed for the possibility of extortion: the tax inspector can report, or threaten the taxpayer that he will report, a taxable income higher than the true one. Secondly, is the remuneration of tax inspectors and finally in order to address distributional issues they allowed for non-linear tax schedules. Their two main findings from this study are that the impact of evasion and corruption is unambiguously regressive under tax schemes of broadly the kind often observed. The richest have most to gain from evading taxes and are least vulnerable to extortion (because it is harder to credibly over-report their incomes); the poor, on the other hand, have few taxes to evade and their incomes can more plausibly be over-reported. Inducing honesty in the collection of progressive taxes can be costly, implying an additional source of inefficiency associated with the pursuit of equity goals. Intuitively, the government can levy progressive taxes without reducing its own payoff by creating countervailing incentives in the form of commissions: the parties are tempted to understate income to evade progressive taxes, and tempted to overstate income to raise the commission payments. Arranging an appropriate balance between the two, however, incurs a real resource cost.

Fredriksson *et al.* (2004) investigate the effect of corruption and industry sector size on energy policy outcomes using dynamic panel data set on the energy intensity of 11 sectors in 12 OECD countries over the period 1982-1999. Their results provide strong

evidence that generally supports the main predictions of their theory: (i) greater corruptibility of policy makers reduces energy policy stringency; (ii) greater lobby group coordination costs (increased industry sector size) result in more stringent energy policy; and (iii) workers' and capital owners' lobbying efforts on energy policy are negatively related.

Hudson and Jones (2008) analyse the determinants of the number of military personnel, military expenditure and arms imports using a panel data of all available countries from 1984-2006. Using regression analysis, they found that the number of military personnel increases with the degree of external threat and with mobilization. There is evidence for both economies of scale and the existence of 'ghost soldiers'. Expenditure on military, increases with the degree of internal threat and the size of the country. Arms imports increase with the degree of external threat, GDP per capita and corruption. Finally, both arms imports and military expenditure impact upon corruption.

Gupta *et al.* (2001) test empirically whether corruption relates with high levels of military spending. The empirical analysis based on data for up to 120 countries during 1985-1998, using cross-section and panel regression techniques. The results suggest that corruption is associated with higher military spending as a share of both GDP and total government spending, as well as with arms procurement in relation to GDP and total government spending. Their results reveal the strong evidence that defense spending may be used as a component of an indicator of the quality of governance.

4.8. A Summary of the Key Lessons Learnt from the literature

The main issue seems to be that the exact costs of corruption on the individuals and the society have not been thoroughly researched. Hence, one limitation of this literature is the absence of knowledge on the costs of different types of corruption. We, for instance, do not know what is the impact of corruption on the economy as a whole or on different sectors and institutions of the state. We are also not aware of the cost of corruption to the society and the well-being of communities.

Furthermore, while the literature points out to a myriad of theoretical work on corruption, the key limitation of this strand of the literature is that the theoretical models have not been tested using real data. In light of this, the applicability of extant theoretical models to issues such as the real costs of corruption remains unexplored.

Moreover, on the positive aspect of this review, we do find strong evidence that supports the hypothesis that corruption impedes foreign direct investment (FDI). In the economic growth literature, empirical evidence is well documented supporting a positive association between FDI and economic growth. It follows that any negative shock to FDI, such as that emanating from corruption, which reduces FDI, will have a negative effect on economic growth. This is likely to affect the entire economy, its key sectors, and the society at large.

Lastly, the literature suggests that an upshot of corruption is distortionary tax collection mechanism. This, in our view, drawing on the wider literature on public finance, has implications for the financial position of the government. Inadequate tax collection implies less than optimum revenue for government, and hence a budget deficit. This in turn has implications for national debt, in that more borrowing becomes necessary to pay for economy's expenses. This puts pressure on citizens, either through higher individual direct tax (income tax) or indirect taxes (goods and services tax). The citizens suffer through higher cost of living in general.

5.0 Impact of corruption on poverty and food security

There are a relatively small number of studies that have examined the impact of corruption on poverty and food security directly. Since the purpose of this report is to focus on microeconomic impacts of corruption, in this section we specifically deal with those studies that have examined poverty and food security issues emanating from growing incidence of corruption.

A key message emerging from the literature is that corruption by itself does not produce poverty; rather, corruption has direct consequences on the economic, including governance factors and social functioning of institutions and the state that in turn produce poverty. For example, corruption reduces governance capacity by weakening political institutions and citizen participation, leading to lower quality government services and infrastructure. Corruption reduces trust, and trust is a key component of social capital. There is an overall net effect of a decline in social capital. When people lose trust in the institutions, their productivity declines, which hurts economic and social development.

In a study by N'Zue and N'Guessan (2005), the authors focus on the role of corruption on poverty for a panel of 18 African countries using a panel dataset. They find that corruption leads to poverty, which in turn affects economic growth of the African countries.

Akçay (2006) tests whether corruption improves or worsens human development for a panel of 63 countries. He finds that more corrupt countries tend to have lower levels of human development. This generally implies that more corrupt countries will have greater incidence of poverty and will perform poorly on several health and education indicators.

In a survey of good governance and corruption on Latin American countries, Transparency International (2006) found:

Rich and micro-enterprises spend large share of their income on bribes, thus for the poor the marginal utility of a currency unit paid as a bribe is greater than the non-poor since they are unable to meet their basic food needs;

The kinds of services in which bribes are common are more important to the poor;

In the provision of many services, public officials are more likely to disadvantage the low-resource users, which are mainly the poor, and ask them for bribes;

Males tend to be more disadvantaged from corruption than females given that in Latin

America, it is the males who are involved in completing transactions.

These findings can be seen as creating to the degradation of the social fabric of the society and fostering poverty.

Another study by Razafindrakoto and Roubaud (2007) examine the impact of corruption on poverty for 18 Sub-Saharan African countries using house hold survey datasets. They find that corruption hurts the poor most since they interact with institutions most and the poor when discouraged due to corruption give in to corruption easily.

Finally, Aziz (2001) points out that corruption and bad governance are critical issues for food security. He argues that regardless of the financial resources available for ensuring food security, if corruption exists in the delivery and distribution of food in developing countries, then ensuring food security will not be possible. He argues for greater research on ascertaining the role of corruption in food security.

6.0 Key lessons learned from the literature and implications for Pacific Island Countries

The literature on corruption in the Pacific is entirely on the form of corruption and how it may affect national developments in the region (see Lamour 2007a, 2007b, 2006a, 2006b, and 2004). This study has concentrated on the costs of corruption and we find almost no attempt to empirically ascertain the actual costs of various forms of corruption in the Pacific.

There are four main lessons learned from the literature. First, in terms of practical implications, the exact costs of corruption on the individuals and the society remain unknown to a large degree. The findings of the literature are very broad in the sense that the authors say that income inequality increases or poverty increases or people obtain less access to key infrastructure when corruption rises. However, the real dollar value of the impact of corruption from say an increase in poverty is unknown. This is also a limitation

of the literature. It seems that a survey-based research will also be inadequate to providing such specific answers in terms of the costs of corruption. However, a survey based research focussed on deriving the costs of corruption maybe possible for selected regions of groups of interest, such as for people living in squatter settlements or the unemployed group, etc. This should be the focus of work on the Pacific Island countries (PICs). While it is generally reported that due to increasing incidence of political instability, a number of countries, such as Fiji, the Solomon Island, PNG, and Vanuatu have moved away from democracy and that corruption has increased, there are no specific studies that examine the impact of such corruption on the functioning of the non-government organisations, on poverty and unemployment, on food security, and other indicators of the social fabric of the society, such as crime rates and domestic violence.

Second, the theory based research while clearly having a microeconomic focus with welfare enhancing implications, are not of much use since none of them have been tested using real data. Hence, not much can be inferred from these theoretical models of the impact of corruption. Once approach maybe to use some of these theory-based models and apply them to data from the PICs. This will serve two purposes. First, it will provide a test of the existing theories and hence will demonstrate their applicability in terms of practical implications. Second, they might offer fresh insights on welfare enhancing issues in the region.

Third, generally the findings on the cost of corruption point to the loss in foreign direct investment (FDI). This has a direct impact on people and the communities. FDI is used as a source of creating employment for the local people. If FDI is reduced as a result of corruption then the microeconomic effects are serious in that people will be jobless, and those already on the margins of poverty will fall into poverty. So, corruption, which reduces FDI, can be seen as fostering income inequality, widening poverty, and creating unemployment. Of course, the long-term effects of this can be serious if persistent corruption leads to persistent falls in FDI, or if it deprives a country of employment-generating employment. It can result in a situation of social stress. A stressful society is one in which crime rates, including domestic violence, can flourish, disturbing the social

fabric of the society. To a large extent such as trend is noticeable in many PICs, although its empirical link to corruption needs to be justified. For example, over the last decade or so, FDI to many of the PICs has declined; exports have declined; foreign reserves have declined. In light of reduced government income, national debts have increased; due to lack of investment and exports, unemployment has risen to over 20 per cent in many PICs and poverty has risen to over 30 per cent in many PICs. Due to rising unemployment and poverty, crime rates have risen and social insecurity has increased. These are signs that many of the PICs are economically and socially unstable. How much of this instability can be attributed to corruption is an empirical issue, and we believe that future work in the region should focus on this.

Fourth, the literature survey has pointed out that corruption has led to distortionary tax collection mechanisms. Two issues on this front have emerged: (a) tax collections are not 100 per cent, in fact they are significant less than optimum; and (b) the rich end up paying less taxes compared with the more, hence the rich obviously benefit from corruption and they are seen as fostering corruption in the society for self-gain. The implications of this are twofold. First, the inability of the state of collect taxes efficiently and optimally means less income for the government. Less income for government means less expenditure in critical areas, such as health, education, water, electricity and roads. Second, the distortionary nature of taxation systems, a result for corrupt practices, means that income inequality has widened, putting more stress on the society. A stressful society is a source of violence and social insecurity. In the PICs, both income weak tax collecting mechanisms and rising income equality are common. One issue faced by the state is how to optimise tax collections, with tax evasion particularly from the corporate sector and rich individuals a major issue. The inability to devise such an efficient tax collection system has been one of the reasons for declining government revenues (and increasing budget deficits). Income inequality has also risen in the region, and it is likely to be one of the main reasons for the rise in crime rates and escalating social problems such as domestic violence in the PICs. It follows that future research should also focus on this.

It follows that in terms of implications for the Pacific region, there are enough signals as

indicated from rising social and economic insecurity that corruption has a role to play in the regions instability. Before one proceeds to the planning and policy stage, these issues—in particular the link between corruption and social degradation in the PICs—need to be empirically ascertained. Hence, our literature review here seems to suggest avenues for additional work on the PICs, which we have outlined in detail in this section.

In sum, based on our review of the literature, two ideas can be taken forward in terms of future research with case studies on PICs. First, while there are a number of theoretical micro-economic models, none of these models are tested using real data. These models can either be tested using time series data or survey data. Second, while the literature is rich in terms of corruption and its role in economic growth and development, it is weak when it comes to ascertaining the real costs of corruption. No research to-date has estimated the real cost of corruption. As much as this exercise is challenging, it is crucial for understanding how the states key institutions and indeed the key macroeconomic sectors function when exposed to corruption. It follows that a study on PICs that considers the cost of corruption in detail is needed.

7. Concluding remarks

In this survey, we examine those studies that have examined the cost of corruption. Essentially, this literature has either taken a microeconomic or a macroeconomic approach to examining the cost of corruption, with around 80 per cent of studies based on a micro-approach. This strand of the literature has been a focus of this survey and involves mostly survey-based research. A small number of studies have taken a theoretical approach to discerning the likely effects of corruption.

The main message from these studies is that cost of corruption imposes a significant cost to society and individuals. Corruption widens income inequality, which then becomes the root causes of social and economic instability, both at the national level as well as at the individual and community levels.

The main limitations of this literature are that none of the studies examine the exact cost of corruption. The second limitation is that there are a relatively small number of studies that examine the impact of corruption on poverty and food security. These areas are avenues for future research. These issues are relevant to the Pacific Island countries, where not much applied work on corruption on communities and societies has been done.

References

Abe, K. and Wilson, J.S., (2008). Governance, Corruption, and Trade in the Asia Pacific Region. Policy Research Working Paper 4731.

Akçay, S., (2006) Corruption and human development, *Cato Journal*, 26, 29-48.

Auriol, E. and Blanc, A., (2008). Capture and corruption in public utilities: The cases of water and electricity in Sub-Saharan Africa. *Utility Policy*, 1-14.

Aziz, T.A., (2001) The Impact of corruption on food security, A panel discussion on “Governance and food security: Acting in the public interest? IFPRI, Bonn, Germany.

Batabyal, A.A. and Yoo, S.J., (2007). Corruption, Bribery, and Wait Times in the Public Allocation of Goods in Developing Countries. *Review of Development Economics* 11:3, 507-517.

Buchner, S., Freytag, A., Gonzalez, L.G. and Guth, W., (2008). Bribery and public procurement: an experimental study. *Public Choice* 137, 103-117.

Celentani, M., and Ganuza, J., (2002). Corruption and competition in procurement. *European Economic Review* 46, 1273-1303.

Chang, J., Lai, C., and Yang, C.C., (2000). Bribery and public procurement: an experimental study. *International Review of Law and Economics* 20, 35-51.

Chetwynd, E., Chetwynd, F., and Spector, B., (2003) Corruption and Poverty: A review of recent literature, *Management Systems International*, Washington, D.C.

Choi, J., (2007). Governance Structure and Administrative Corruption in Japan: An Organizational Network Approach. *Public Administration Review*, 930-942.

Ciocchini, F., Durbin, E., and Ng, D.T.C., (2003). Does corruption increase emerging market bond spreads? *Journal of Economics and Business* 55, 503-528.

Cuervo-Cazurra, A., (2008), Better the devil you don't know: Types of corruption and FDI in transition economies. *Journal of International Management* 14, 12-27.

Davis, J., (2004). Corruption in Public Service Delivery: Experience from South Asia's Water and Sanitation Sector. *World Development* 32, 53-71.

Depken, C.A. and Lafountain, C.L. (2006). Fiscal consequences of Public corruption: Empirical evidence from State bond ratings. *Public Choice* 126, 75-85.

Fisman, R. and Svensson, J., (2007). Are corruption and taxation really harmful to growth? Firm level evidence. *Journal of Development Economics* 83, 63-75.

Fredriksson, P.G., Vollebergh, H.R.J. and Dijkgraaf, E., (2004). Corruption and energy efficiency in OECD countries: theory and evidence. *Journal of Environmental Economics and Management* 47, 207-231.

Groenendijk, N., (1997). A principal-agent model of corruption. *Crime Law and Social Change* 27, 207-229.

Gupta, S., Mello, L. and Sharan, R., (2001). Corruption and military spending. *European, Journal of Political Economy* 17, 740-777.

Hindriks, J. Keen, M., Muthoo, A., (1999). Corruption, extortion and evasion.

Journal of Public Economics 74, 395-430.

Honorati, M. and Mengistae, T., (2007). Corruption, Business Environment, and Small Business Fixed Investment in India. Policy Research Working Paper, 4356.

Hudson, J. and Jones, P., (2008). Corruption and military expenditure: A “No cost to the King”. Defence and Peace Economics, 19: 6, 387 -403.

Kaufmann, D., Montoriol-Garriga, J. and Recanatini, F., (2008). How does Bribery affect public service delivery? Policy Research Working Paper, 4492.

Kuncoro, A., (2004). Bribery in Indonesia: Some evidence from micro-level data, Bulletin of Indonesian Economic Studies 40:3, 329-354.

Kuncoro, A., (2006). Corruption and business Uncertainty in Indonesia. ASEAN Economic Bulletin 23:1 11-30.

Lamour, P. (2007a), ‘Corruption and the concept of ‘Culture’: evidence from the Pacific Islands’ CRIME LAW AND SOCIAL CHANGE Vol. 48 Nos. 3-5
December 2007

Lamour, P., (2007b) ‘International Action against corruption in the Pacific Islands: Policy Transfer, Coercion and Effectiveness’ ASIAN JOURNAL OF POLITICAL SCIENCE 25(1): 1-16

Lamour, P., and M. Barcham, (2006a) ‘National Integrity Systems in Small Pacific Island States’ PUBLIC ADMINISTRATION AND DEVELOPMENT 26: 1-12

Lamour, P., (2006b) ‘Knowledge Management in Anti Corruption Agencies’ Policy Dialogue: PACIFIC ECONOMIC BULLETIN 21(2): 169-176

Lamour, P. (2004) 'Institutional Transfer and Aid delivery' PACIFIC ECONOMIC BULLETIN 19(2): 104-112

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

N'Zue, FF., and N'Guessan, C.J.F., (2006) The causality between corruption, poverty and growth: A panel data analysis, Working Paper Series, 2006/1, Secretariat for Institutional Support for Economic Research in Africa, Ontario, Canada.

Olken, B.A., (2007). Monitoring Corruption: Evidence from a Field Experiment in Indonesia. *Journal of Political Economy* 115:2, 200-249.

Olken, B.A., (2006). Corruption and the costs of redistribution: Micro evidence from Indonesia. *Journal of Public Economics* 90, 853-870.

Quiroz, A.W., (2003). Implicit Costs of Empire: Bureaucratic Corruption in Nineteenth-Century Cuba. *Journal of Latin American Studies* 35,473-511.

Razafindrakoto, M., and Roubaud, F., (2007) Corruption, institutional discredit, and exclusion of the poor: A poverty trap, AFRO Barometer Working Paper No.86, Paris, France

Seligson, M.A., (2002). The Impact of Corruption on Regime Legitimacy: A Comparative Study of Four Latin American Countries. *The journal of politics* 64:2, 408-433.

Tekin-Koru, A., (2006). Corruption and the ownership composition of the multinational firm at the time of entry: Evidence from Turkey. *Journal of Economics and Finance* 30:2, 251-269.

Transparency International Corruption Fighters' Tool Kit (2003). VII-88 – VII-100.

APPENDIX: SUMMARY OF THE LITERATURE

Studies on the South Asian Region

Author(s) Methodology/Data Main Findings

Staff of ADB, DFID, UNDP, UNODC and WB (2007) make use of literature on the subject from different sources e.g. World Bank Statistics, survey of perceptions of corruption conducted in 2006 by Integrity Watch Afghanistan etc. Based on available indicators, Afghanistan appears to fall near the bottom internationally in terms of the seriousness of its corruption problem. The very large opium economy is widely considered to be the most important source of corruption in the country. Widespread corruption deters and distorts private investment. Perhaps most important, are the adverse implications of corruption, and popular perceptions of widespread corruption, for the effective functioning, credibility and legitimacy of the state.

Davis (2004): Survey based (drawing on interviews and focus group discussions with more than 350 staff and 730 customers in both urban and rural contexts, as well as from meetings with more than 320 elected officials, researchers, activists, journalists, and development professional in several south Asian localities). His findings show that it is encouraging that even in this challenging operational environment we documented several strategies that do appear to have reduced corruption in service delivery. Among these, every one shared two drivers: one which altered accountability networks in service provision, and one which changed the attitudes of service providers in a way that increased the moral cost to them of misconduct.

Honorati and Mengistae (2007): Cross-sectional approach (They used level data from the 2002 and 2005 waves of the Firm Analysis and Competitiveness Survey of India (FACS survey) of the World Bank and the confederation of Indian industry in order to help quantify the effect of all four factors namely, labour regulation, power shortages, access to finance and corruption on manufacturing growth in India.) Their results show that excessive regulation, power shortages and problems of access to finance are significant influences on business investment rates as an instance of the importance of

‘contracting institutions’ in the current performance of India’s manufacturing industries.

Studies on the East Asian and the Pacific Region

Kuncoro (2004): Survey based (Of 1808 firms interviewed, 1333 respondents said they had paid bribes in 2001, while the rest claimed not to have done so. Separate post-survey interviews was also conducted with the hotels and the restaurants association, the small business association and a branch of the local chamber of commerce and industry in Afghanistan) Manufacturing firms tend to pay lower bribes than service firms, while agribusiness is in between; the urban-based firms appear to have somewhat higher bribe rates than those in non-urban areas Exporters have slightly lower bribe rates than non-exporters, and foreign firms have higher rates than those that are domestically owned. Firms in oil-rich districts are likely to pay higher bribes than those in non-oil districts. Competition between arms of the bureaucracy for bribe income seems to be a result of decentralisation, but the analysis suggests that this competition would lead to a spreading of bribes among a larger number of officials rather than to a significant increase in their total amount. Hence, Local governments may be able to raise more revenue by reducing the number of taxes and regulations and using part of the increased revenue to raise the salaries of officials, while devoting more effort to restraining corrupt behaviour. But progress may be blocked by central government tax officials increasing their demands for bribes.

Kuncoro (2006): Survey based (two firm-level surveys: the 2001 and 2003 CODB surveys) His findings suggest that uncertainty plays a significant role in affecting bribe level where uncertainty variable is constructed; there is also an indication that some fragmentation of bribe collection system has taken place.

Olken (2007): Survey based (randomized field experiment on reducing corruption in over 600 Indonesian village road projects. He used the data from four types of surveys; each designed by the author and conducted specifically as part of the project. A key-informant survey, covering baseline characteristics about the village and the village implementation team; a meeting survey, containing data on the attendees and a first-hand report of

discussions at the accountability meetings; a household survey, containing data on household participation in and perceptions of the project; and a final engineering field survey, used to measure corruption in the project.) His findings reveal that increasing government audits from 4 percent of projects to 100 percent reduced missing expenditures, as measured by discrepancies between official project costs and an independent engineers' estimate of costs, by eight percentage points. By contrast, increasing grassroots participation in monitoring had little average impact, reducing missing expenditures only in situations with limited free-rider problems and limited elite capture. Hence, the results suggest that traditional top-down monitoring can play an important role in reducing corruption, even in a highly corrupt environment.

Choi (2007), used qualitative research combined with case studies and ethnographic analysis and also he used information on administrative corruption obtained primarily from government documents, reports of international organizations, archival information from newspapers and magazines. He found that amakudari- and zoku-driven network relationships, which have been reinforced by sociocultural bases, are vertically and exclusively structured and substantiate corruption in administration. Thus, policy making on the basis of such network relations not only results in mismanagement in administration and the distortion of the market disciplines but also delegitimizes the governance system by destroying public trust in government. He suggests that bringing greater heterogeneity and citizen participation to administration through diversity management and e-government would reduce administrative corruption in Japanese governance.

Olken (2006): Survey based (His examination is based on a large anti-poverty program in Indonesia that distributed subsidized rice to poor households. He estimated the extent of corruption in the program by comparing administrative data on the amount of rice distributed with survey data on the amount actually received by households.) His findings reveal that on average, at least 18% of the rice appears to have disappeared where ethnically heterogeneous and sparsely populated areas are more likely to be missing rice. He then used conservative assumptions for the marginal cost of public funds

and estimated that the welfare losses from this corruption may have been large enough to offset the potential welfare gains imposed substantial limitations on developing countries' redistribution efforts, and hence, help explaining the low level of transfer programs in developing countries.

Abe and Wilson (2008), based on the econometric estimates : a computable general equilibrium model and database from Global Trade Analysis Project (GTAP)

They found a significant potential trade and welfare gains for APEC members, with increased transparency and lower levels of corruption. Results also suggest that trade in the region would increase by 11 percent and global welfare would expand by \$406 billion by raising transparency to the average in the region. Hence, most of the increase in welfare would take place in member economies undertaking reform.

Studies on the European and Central Asian region

Tekin-Koru (2006), used data set which has information on the ownership structure of inward FDI in Turkey for a panel of 88 source countries between 1990 and 2000 where the main focus is given to Turkey.

His results indicate a strong negative impact of corruption on joint ventures, particularly for the ones originating from developed countries. As the degree of dissimilarity between corruption levels in the source country and Turkey diverges, the share of foreign ownership declines which lends support to the transaction cost approach which emphasizes the expected increase in costs of sharing ownership in corrupt environments.

Chartered Institute of Building (2006) Survey based (It consisted of 1404 respondents who worked in a variety of sectors within the UK construction industry. The main focus of survey is to look at respondent's perceptions of corruption as well as their personal experience of it.) They found that there was a great deal of variation in the way that respondents perceived corruption as well as in how extensive they thought it was. Many respondents had had direct experience of corruption, for example 41% had been offered a

bribe on at least one occasion. The results of the survey portrays that there is a degree of corruption present in many areas of the UK construction industry and there is some disagreement of where networking and the development of harmonious working relationship stop and corruption starts. It is clear that those who responded are aware of the issues, but there are clear indications of degrees of tolerance to some practices that some would regard as corrupt and the majority of respondents fell strongly that more needs to be done by both the industry and the government to contest this.

Ciocchini et al., (2003), used data on bonds traded in the global market during 1990s, along with survey data on corruption compiled by transparency International and conducted univariate regressions of launch spreads (in logs) on corruption series by running OLS regressions.

Their results reveal that the global bond market ascribes a significant cost to corruption; an improvement in the corruption score from the level of Lithuania to that of the Czech Republic lowers the bond spread by about one-fifth. This found this true even after controlling for macroeconomic effects that are correlated with corruption. They found little evidence that investors became more receptive to corruption in the wake of the Asian financial crisis

Studies on Latin America and Caribbean

Quiroz (2003), study is based on historical in nature – theory based. He concluded from the history of Cuba that corrupt gained inimical to general public interest was not a consequence of cultural constants, but of unreconstructed institutional flaws and weaknesses. He highlights that the risks of engaging in bureaucratic corruption diminished under the systematic condoning of administrative faults, collusive allowance of illegal slave trafficking, and a code of illegal rewards expected by loyalist officials opposing colonial reform. Despite some little anticorruption inventiveness, the prosecution and reprimand of corrupt officials was lax. The inherent, yet significant, financial, institutional and political costs of corruption added to the failure of Spanish

imperial dominion over Cuba and left a detrimental burden and legacy for Cuban civil society.

Transparency International Corruption Fighters' Tool Kit (2003), survey based on a sample of 16000 households. From this total, 13790 interviews were obtained nationally). The survey showed that Colima was the federal state with the lowest level of corruption in public services in 2001. The disparity between states, and the need to look for a deeper explanation of the results, prompted TM to manage, together with the Government of Colima and the State University, the "Conference to Make Good Governance a Reality in Mexico". Some 32 specialists took part in this event. Eight discussion groups were held covering a range of topics related to the fight against corruption and good governance. The forum attracted the presence of the President of the Republic, the Federal Secretaries from the Comptroller's Office, Education, Tourism, Defense, as well as state and municipal authorities from the areas of education and control. The forum also enabled a frank dialogue between civil society organisations, private companies and other experts.

Seligson (2002): Survey based (with a total N of over 9,000 from four Latin American countries (namely, El Salvador, Nicaragua, Bolivia and Paraguay)) He finds that independent of socioeconomic, demographic and partisan identification, exposure to corruption erodes belief in the political system and reduces interpersonal trust. His findings provide the evidence that seems very clear that at least these four countries, that corruption carries with it important political costs.

Kaufmann (2008): Survey based (responses from 1123 Peruvian public officials and 1696 Peruvian households they focused on the costs of bad governance and the relative importance of various governance determinants on access to public services.) Their results provide evidence that suggests that for certain basic services low income users pay a larger share of their income than richer ones. Moreover, low-income users are more likely to be dejected and not to seek a service than richer ones especially when in need of an essential service (as education, water and the police). Thus, bribery emerges to reprimand twice poorer users, both acting as a regressive tax and as a discriminating

means for access to essential services. Furthermore, they found that individual characteristics, such as education and age, matter in the decision of whether or not to seek a service when needed: higher education achievements and middle-income users are allied with a higher probability not to seek a public service. Governance, measured as trust in state institutions, also manipulates the user's behavior and knowledge to report corruption and social network increases the probability to be discouraged.

Study on North American region

Depken and Lafountain (2006), using data for US states from 1995 through 2000. (Time series). They used Rubinfield's (1973) estimates to calculate the implied increase in the interest rate it pays on those bonds They found that a state's bond rating is inversely related to the level of public corruption in that state, after controlling for other economic influences. The effect is found to be economically as well as statistically significant. Thus, the evidence they provided is consistent with the hypothesis that the more corrupt a government, the riskier are the bonds it issues. Their findings also show that public projects financed with state debt cost more in states with more corruption than that in states with less corruption. In other words, public corruption creates a negative pecuniary externality for a government's constituents

Studies on the Sub-Saharan African region

Fisman and Svensson (2007): Survey based (All data used is from the Ugandan Industrial Enterprise Survey initiated by the World Bank primarily to collect data on the constraints facing private enterprises in Uganda. A total of 243 firms were interviewed in 5 locations, in 14 different industries.) Their findings suggest that there is a strong, robust, and negative relationship between bribery rates and the short-run growth rates of Ugandan firms, where the effect is much larger than the retarding effect of taxation.

Auriol and Blanc (2008): Due to lack of data availability on water and electricity in Sub-Saharan African, the testing was based on available empirical evidence on industrial organisation, mainly from World Bank and French Development Agency reports and publications – theory based. Their findings show that the social cost of corrupted

privatization is non-monotone in the opportunity cost of public funds. Because of the fiscal loss it represents, privatizing profit centers of public firms entails huge social costs in very poor countries

Studies on a mixture of regions

Mauro (1995), study was based on cross-sectional data for the period 1980-1983 and the data was collected using standard questionnaires. He found that in countries where bureaucratic regulations were very cumbersome, corruption reduced economic growth. He also found that corruption also reduced investment in several of the developing countries.

Groenendijk (1997), the theoretical model (his study is based on a principle-agent model) In this model the principal is thought to engage in “monitoring”, which covers a variety of activities, and the agent is sometimes expected to “bond”, e.g. the agent is expected to expend resources to guarantee his principal that he will not take actions that will harm him. The agency problem is then to minimize the agency costs. While principle-agent models provide an opportunity to limit corruption, given that work is performed in teams which are strictly monitored by the principal, the existence of corruption can have significant cost effects such as cost of suppressing corruption and cost to the society from recovering the cost of lost resources.

Cuervo-Cazurra (2008): Panel data approach - he used double-log model with quasi-fixed-effects and a one-year lag to analyze the data. He found that corruption has a negative impact on foreign direct investment (FDI). However, transition economies show high levels of corruption and also high levels of FDI. It is argued that it is not the level but rather the type of corruption that affects FDI in transition economies. Pervasive corruption, or corruption that is widely present, acts as a deterrent to FDI because it increases the known costs of investing, while arbitrary corruption, or corruption that is uncertain, does not have such a deterring influence because it becomes part of the uncertainty of operating in transition economies. In transition economies, investors prefer to deal with an unknown evil – arbitrary corruption – rather than a known one – pervasive

corruption.

Chang et al., (2000), using model set up by Bowles and Garoupa (1997) [B-G]. (theoretical based). The key of their result lies in the so-called “snowballing” character of social norms. They interpreted that the additional costs inflicted on a caught corrupt officer in the B-G model as the psychological costs, and they incorporated social norms in the police officer community into these psychological costs. B-G shows that the disincentive effect of raising fines on crime will be diluted but not perverted in the presence of corruption. Hence, due to the snowballing character of social norms, raising fines could be counterproductive in put off crimes if the *status quo* corruption is prevalent. The clear implication of their result for policy is that, for the positive efficiency of a criminal penalty to exist, it is necessary to first put corruption under control

Buchner et al., (2008): Theoretical model. Rather than trying to explore the model in full generality, e.g., for at least two bidders and all possible *iid*-priors, they focused on the experimentally implemented version with only two bidders and uniform priors. Therefore, their bidding scenario also been interpreted as one where sellers compete in price and quality, which is appropriate since a corrupt bureaucrat faces exactly such a tradeoff between “price” and “quality” when selecting a provider. Building on the theoretical framework of a two-dimensional action model, their laboratory experiment then captured the ethical aspect of corruption by attaching a negative externality to bribing as an experimental treatment. They derived the equilibrium behaviour of risk-neutral bidders, and collected experimental evidence on actual pricing and bribing behaviour by competing bidders. In their investigation the role of the bureaucrat has been excluded altogether and they focused the analysis on bidders’ behaviour. The results obtained in this restricted scenario conclude that whenever the existence of a clearly corrupt and anonymous bureaucracy is commonly known, bidders will engage in active bribing.

Batabyal and Yoo (2007), used queuing theory to analyse models in which a good is allocated publicly, first a non-pre-emptive corruption regime and then in a pre-emptive

corruption regime. For both regimes they computed expected wait times in queue for citizens who pay bribes and for those who do not and then these wait times are used to demonstrate that bribery is profitable for type 1 citizens (Type I - are the high opportunity cost of time citizens pay bribe to server; Type II – citizens of the low opportunity cost of time citizens and these citizens do not pay bribe). Also they concluded that high and low opportunity cost of time citizens will have conflicting preferences as far as the corruption regime is concerned.

Hindriks et al., (1999), by developing and exploring a model of the encounter between a taxpayer and a tax inspector, both potentially corruptible, within the setting of a very general form of tax collection mechanism; a mechanism that is ultimately a matter for choice by the government. There are three key aspects of the generality that they modelled. Firstly, they allowed for the possibility of extortion: the tax inspector can report, or threaten to the taxpayer that he will report, a taxable income higher than the true. Secondly, is the remuneration of tax inspectors and lastly, in order to address distributional issues, and finally in order to address distributional issues they allowed for non-linear tax schedules. Their two main findings from this study are that the impact of evasion and corruption is unambiguously regressive under tax schemes of broadly the kind often observed. The richest have most to gain from evading taxes and are least vulnerable to extortion (because it is harder to credibly over-report their incomes); the poor, on the other hand, have few taxes to evade and their incomes can more plausibly be over- reported. Inducing honesty in the collection of progressive taxes can be costly, implying an additional source of inefficiency associated with the pursuit of equity goals. Intuitively, the government can levy progressive taxes without reducing its own payoff by creating countervailing incentives in the form of commissions: the parties are tempted to understate income to evade progressive taxes, and tempted to overstate income to raise the commission payments. Arranging an appropriate balance between the two, however, incurs a real resource cost.

Celentani and Ganuza (2002): Theoretical based (explore the relationship between competition and corruption by making use of Che's (1993) characterization of optimal

mechanisms to generalize the results of Laffont and Tirole (1991) to a case in which procurement agents and firms are heterogeneous in terms of continuous parameters).

They showed that the possibility of corruption decreases the expected value of awarding a larger weight to quality and therefore of relying on the procurement agents ability to verify procured quality. Their analysis reveal that it may well be that corruption is higher in a more competitive environment.

Fredriksson et al., (2004), using dynamic panel data set on the energy intensity of 11 sectors in 12 OECD countries over the period 1982-1999 Their results provide strong evidence that generally supports the main predictions of their theory: (i) greater corruptibility of policy makers reduces energy policy stringency; (ii) greater lobby group coordination costs (increased industry sector size) results in more stringent energy policy; and (iii) workers' and capital owners' lobbying efforts on energy policy are negatively related.

Hudson and Jones (2008), used panel data of all available countries from 1984-2006. Using regression analysis. They found that the number of military personnel increases with the degree of external threat and with mobilization. There is evidence for both economies of scale and the existence of 'ghost soldiers'. Expenditure, given the number of military personnel, increases with the degree of internal threat and the area of the country. Arms imports increase with the degree of external threat, GDP per capita and corruption. Finally, both arms imports and military expenditure impact upon corruption

Gupta et al., (2001) The empirical analysis based on data for up to 120 countries during 1985-1998, using cross-section and panel regression techniques. The results suggest that corruption is associated with higher military spending as a share of both GDP and total government spending, as well as with arms procurement in relation to GDP and total government spending. Their results reveal the strong evidence that defense spending may be used as a component of an indicator of the quality of governance.