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Corruption: A Review

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This paper surveys the recent literature on the economics of corruption. It discusses the main theoretical as well empirical studies of corruption and aims at providing an integrated framework.

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JEL Classification No: K42, B52, D73, A13

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1. Introduction

A common lament by many social scientists writing in the sixties and seventies has been the lack of research on corruption[1]. In fact the absence of work from an economics perspective is more striking. Until recently, corruption received attention mostly from political scientists, sociologists and historians. However, this seems to have changed in recent year. There is now a growing literature on corruption[2] in economics.

The change in attitude can be attributed to two main forces. First, corruption is now perceived as a major problem facing many countries- especially the developing ones. In fact the World Bank website cites corruption as the single most important obstacle to development. The issue of corruption is not confined to national boundaries with foreign investors and aid organizations showing increasing concerns. Second, perhaps more importantly, in recent years economists have increasingly looked at the functioning of non-market organizations and the various incentive problems and informational issues associated with it. Corruption naturally fits into such a framework. We shall discuss this conceptual framework later in this essay.

The phenomenon of corruption is certainly very old. References to bribery and the punishments for bribery can be found in many ancient sources like The Code of Hammurabi, king of Babylon (22nd century B.C.), The Eddict of Harmhab, king of Egypt (14th century B.C.) and Kautilya's Arthasastra[3] (14th century B.C.). Corruption is as old as the notion of kingdom itself. What is perhaps new is the widespread nature and deep rooted structure of corruption that many modern or modernizing societies are now faced with.

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[1] See Myrdal (1968), Nye (1967) among others. Myrdal finds it "almost a taboo as a research topic". Similarly, commenting on lack of any historical research in France, Waquet (1991) notes in a similar vein : "It reflects a historiographic perspective which, although it recognizes the existence of corruption, does not make an issue of it".

[2] See excellent surveys by Bardhan (1997), Jain (2001), Andvig and Fjeldstad (2001).

[3] Kautilya lists various ways of financial misbehaviour by civil servants and enumerate the nature of these acts and corresponding penalties. This work is suggestive of not only the illegal nature of these acts, but also the inevitability of such corrupt behaviour in an agency setting!

Corruption can take many different forms including bribery, extortion and embezzlement. The multi-dimensional and context specific nature of corruption makes it hard to define in an inclusive way. Various scholars have defined corruption in many different ways. Even when we confine ourselves to a primarily economic viewpoint, it is possible to come up with various definitions. In the minimalist version, corruption can be defined as '*behaviour that deviates from formal duties because of private gains*'. Since corruption is mostly associated with governments, many scholars would use 'duties of a public role' rather than simply duties. A useful working definition adopted by many authors would view corruption as 'misuse of public office for private gains'. One can also add legal and moral dimensions by adding terms like 'illegal' and 'improper' to the above definitions[4]. For most of the articles in this volume, what constitutes a corrupt act is fairly obvious in the specific contexts under investigation.

In this essay, we try to provide a rather long overview of the economics of corruption. Some issues have been dealt at length and in some cases, references have been provided for the readers to pursue their interests further.

2. Theoretical Framework

" *A complicated society abounds in agency relations which increase the opportunity for appeals to private interest, since operations which the individual was once able to perform for himself pass through intermediaries, each one of which is a relay of potentially distorting private motives*" Harold D. Lasswell, *Bribery, Encyclopaedia of the Social Sciences.*

Corruption as a phenomenon is always associated with an agency structure. An agency relationship arises when two individuals enter a non-market (contractual) relationship and where one individual (commonly termed as the Principal) relies on another individual (commonly referred to as the Agent) to carry out certain actions on his behalf. The actions of the agent affect the principal's payoff in a significant way. Problems arise in such relationships when (i) the principal and the agent have

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[4] The legal and moral aspects seem important because some scholars argue that in certain instances people engage in seemingly corrupt acts openly without being aware of its moral and legal status. This view is not shred by many (see Waquet (1991)). See Noonan (1984) for an in-depth and fascinating account of these issues. Similarly, Rose-Ackerman (1978) would focus on the legality of various payments irrespective of the nature of the outcome.

dissimilar objectives and (ii) the principal is unable to write comprehensive enforceable contract with the agent regarding the desired course of action. The inability to achieve such contractual solutions arises because of several reasons- lack of full information, lack of verifiable information and presence of unforeseen contingencies.

However, for corruption to emerge, we need another agency relationship which is embedded into the first one. For example, relationships between government and tax payers, regulator and firm, police authority and potential criminals, government provider of services and potential recipients can all be viewed as agency relationships. In all these cases, there exists conflict of interests. The principal also lacks sufficient information. Based on whatever information available, the principal tries to put an incentive scheme in place so as to induce optimal action by the agent. This brings another agency structure into the picture; the principal uses another agent to implement this incentive scheme.

Take the case of pollution control by firms. The regulatory authority is interested in achieving some target level of pollution. However, firms find it costly to take pollution reducing measures and may not minimise pollution. To make them do so, the authority will put some incentive scheme in place. This will include auditing of firm's pollution levels and a scheme of rewards and punishments for low and high levels of pollution respectively. Given that there will be many firms and the authority may not possess the required expertise to study pollution levels, the authority would have to hire another agent- the pollution inspector- to do the inspection. This is important because we would not see the inspector if the authority could design a mechanism such that the firms would choose required pollution levels without any inspection. In many ways the role of the inspector will be determined by the incentive mechanism which the principal has for the firm. For example a tax inspector would have much more significant role than a traffic inspector because in the latter case there are simpler laws and traffic violations are easier to detect. Similarly, if firms do get punished by the market (consumers deserting the firm) for supplying low quality products, the quality control authority would not need any incentive mechanism and the quality inspector would have no role at all.

But the inspector's objective may not be aligned with that of the regulatory authority. In that case, the regulatory authority has to design a suitable incentive

scheme for the inspector so that the inspector audits properly and reports truthfully about the extent of pollution.

Various authors have used this agency framework to analyse corruption. The early work by Rose-Ackerman (1978) focuses mainly on the agency relationship between the authority and the inspector. Corruption arises when "some third person, who can benefit by the agent's actions, seeks to influence the agent's decision by offering him a monetary payment which is not passed on to the principal". In our example, a polluting firm is the third person. Similarly[5], Klitgaard (1988) uses what he calls a principal-agent-client relationship, where the regulator is the principal, the inspector the agent and the firm is the client. In economics, principal –agent problem has received lot of attention since 1970s but the extension to the issue of corruption is only recent. Some economists also describe this as principal-supervisor-agent relationship.

It is obvious that many economic scenarios would not fit into a simple agency framework and would require us to look at more complex relationships. Likewise, can all forms of corruption be studied in such a framework? The above analysis suggests that bureaucratic corruption, corruption in many enforcement agencies do fit easily to an agency framework. On the other hand, political corruption (corruption by politicians) would require us to extend the framework. We can view citizens as principals and the elected representatives as agents. The nature of the incentive system is however very different. Apart from affecting the re-election of a politician, the citizens have limited control over the incentive mechanism. Moreover, the analysis of multiple principals throws new issues which are rather different and more complex[6].

The agency perspective is obviously micro-theoretic. Some authors take a more macro perspective and focus on the broader socio-economic structure. This would include the nature and the role of formal state institutions, the divide between economic and political sphere, the development of market and other

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[5] Political scientist Edward Banefield uses a similar framework in his analysis of corruption being more severe in government than in the private sphere, see Banefield (1975).

[6] The analysis of high level corruption has not received much attention. Rose-Ackerman (1978) is an early contribution. The recent rent-seeking literature uses a multiple-principals approach to model related issues. We shall discuss the related issue of `capture' later in this essay.

institutions. Myrdal (1968)[7] argues that corruption is associated with lack of developments in the economic sphere as well as the public sphere of responsibility and power. While the economic sphere lacks proper market and profit motive, profit considerations have found a 'market' in the public sphere. According to him, these are remnants of pre-capitalist traditional society. In this view, corruption is part of the remaining traditionalism of modernizing societies. However, corruption seems to be more than a transitory phenomenon and we need to investigate the nature of these 'market like' transactions in the public sphere.

We shall look at three broad categories of such relationships. It will be useful to classify the relationships according to the extent of power and responsibilities enjoyed by the supervisor. As discussed earlier, *informational asymmetry and contractual incompleteness are the two main sources of such power. First,* the supervisor may have a purely information gathering role. In such a case, power will come from the ability to manipulate such information. Most enforcement (regulatory enforcement, tax enforcement, policing) problems would fall into this category. *Second,* the principal might set some broad objectives for the supervisor but the supervisor would have the power to choose the exact incentive mechanism for the agent. Principal has some control, but delegates not only the implementation but also the design of the incentive mechanism. High level bureaucratic corruption in policy design, delivery of public services would resemble this scenario. The bureaucrat might have a rough target (so many poor people to receive the public services, so much of revenue to be generated) but otherwise has full control. *Third,* the principal might simply transfer all the power to the supervisor. In this case, the supervisor would resemble a monopoly. Issuing of licenses, permits etc where guidelines are virtually non-existent or non-operational would resemble this monopoly case.

Tirole (1986)[8] looks at the collusion possibilities between the supervisor (inspector) and the agent (firm) in a framework of the first type. In his analysis, the supervisor has a purely information gathering and reporting role. The principal's policy towards the agent depends on this information. For example in many regulatory settings regulator's policy towards the firm would depend on the cost or

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[7] This view (neo-patrimonialism) is shared by many other political scientists. However, Myrdal does not share the functional role of corruption associated with many leading scholars like Huntington (1968), Nye (1967) or Leff (1964).
[8] See Tirole (1992) also for a review of many of the issues.

demand conditions of the firm. Similarly, in tax collection, it would depend on the individual's income levels and other individual specific information. In all these settings optimal policy is sensitive to agent related information. Since the principal and the agents do not share the same objective, optimal policy under incomplete information would leave large amount of rents to the agents. This gives rise to the scope for collusion between the supervisor and the agent- by manipulating the report to the principal the supervisor and the agent can share the rent. In such situations, the principal has to settle for policies which limit the amount of rent that can be appropriated through such collusion. In addition, the principal would also have an incentive mechanism for the supervisor, so that collusion can be prevented[9]. In that sense it highlights the importance of designing suitable incentive schemes for the enforcement agencies or the bureaucracy. It can be shown that collusion possibilities limit the range of policies which the principal can implement. More specifically, it is not possible to implement more high powered incentive schemes for the agent. In many cases it is also desirable to limit the discretion of the supervisor. If the ability of the supervisor in manipulating the information and the value of such manipulation can be reduced then collusion possibilities are also reduced and it would be easier to prevent collusion. For example, better information and supervision technology would make manipulation difficult. Its importance in the tax enforcement context has been noted, where greater automation and computerised cross-matching would reduce the corruptible tax inspector's ability to distort information and would reduce the scope for collusion with the tax evader.

There is now a sizeable literature on collusion and mechanism design with collusion possibilities[10]. However, in much of the work, the distortion is only in one direction[11]. The supervisor takes a bribe (side payment) to submit an agent favourable report. Depending on the nature of the information, it is also possible that the supervisor can submit an agent-unfavourable report. In such a case, bribery

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[9] We have to be careful in interpreting this; at the optimum collusion need not be completely prevented. The optimal level would depend on the cost and benefits of preventing collusion.

[10] Not all forms of collusion can be viewed as corruption however. For example the principal might be dealing with several agents (horizontal organisation) and in this case agents might collude and this can be beneficial to the agent. In dealing with corruption, it is more appropriate to restrict attention to collusion in organisations with vertical structure.

[11] Harassment and extortion have received attention recently in various contexts. See Polinsky-Shavell (2001) in a general enforcement context and Hindriks et.al. (1999) in a tax evasion context. See Margit et.al.(2000), Mookherjee (1997) and Mishra (1998) also.

might still occur but as a form of extortion. Now the agent will be bribing the supervisor *not to distort the true information,* as opposed to the previous case where the agent bribes the supervisor *to distort the information.*

Extortion is as important as the study of collusion. If by paying a bribe to the inspector, I can avoid penalty for tax evasion then I will be tempted to evade taxes. Similarly, if by being an honest tax payer I might be subject to extortion by the inspector, I will be equally encouraged to evade taxes. Hence, both forms of corruption lead to distortion of incentives.

Prevention of collusion between the supervisor and the agent has received lot of attention. This ranges from design of various incentive schemes (reward/penalty for the supervisor) to organization design (layers of supervision). In many of these cases one can design mechanism which can prevent collusion. However, it is not clear how they affect the extortionary behaviour of the supervisor. Do these schemes, proposed to prevent collusion, help reduce extortion as well or do they encourage extortion? Is it possible to design mechanisms which prevent both forms of corruption? It appears that there is a basic conflict between these two objectives.

Banerjee (1997) models a situation which is somewhat similar to our second type of agency setting. Suppose the principal wants to sell some given number of permits (goods) to a population of individuals. Individuals differ in terms of the value of the permits. One group (high type) can get more value out of this good than the other group (low type). If these permits are in short supply (so that some individuals have to manage without this good), efficiency requires that that the high type should get first and the remaining would be allocated to the low types. It is not possible to rely on the market to achieve this outcome because the ability to pay need not be in perfect match with the value of the permit. Some individuals are wealth constrained. To simplify the analysis, one can assume that all individuals have the same ability to pay and it is less than the value of the permit to the high type. In the absence of any market, suppose the principal entrusts an agency (a bureaucrat) to achieve this objective. Both the government and the bureaucrat can not observe the value attached to the permit by the individuals, but the number of each type in the population is known. In addition, the government also can not observe the actual mechanism (i.e. prices) used by the bureaucrat. So we have two agency problems- the low type would always want to claim to be the high type so

as to get the good for sure and the bureaucrat would like to maximise his welfare rather than care about the efficiency goal of the government.

Banerjee assumes that it is possible to sample the sale of permits ex post and the government can find the exact number of permits which were sold to the low type. In that case, the government can stipulate the number of permits that should be sold to the low type and it can punish the bureaucrat for any upward deviation[12]. For suitable punishment levels, it is possible to implement the outcome where all the high types get the permit and the remaining goes to the low type. What is the problem then?

The problem arises from the government's inability to observe the allocation mechanism used by the bureaucrat. Suppose the government wants the following mechanism to be chosen. Individuals are offered two prices- a high price P_H which guarantees the sale of a permit and a low price P_L such that individuals would get the permit with a probability strictly less than one and pay this price. One can choose the prices and the probability in such a way that the low types would choose the low price deal and the high type would choose the guaranteed sale at high price. It is clear that the bureaucrat would not like to use this mechanism because it gives him a very low price from the low types. At the same time it can not charge the high types any higher price without violating incentive compatibility. It can not charge a higher price without increasing the probability of sale, but the latter can not be changed without affecting the final outcome. This is where red tape and bureaucratic inefficiency creeps in. Since red tape is costly for the individuals, the bureaucrat can introduce red tape for the high types and charge a higher price for the low type. This way, the incentive compatibility conditions would still be met; the low type would not proclaim to be high type because of the costly red tape associated with it. Hence *red tape is artificially created so that the bureaucrat can extort more.*

This arises because of too much delegation without any monitoring. Notice that the bureaucrat collects the proceeds from the sale and has full control over the prices. This may not match up to the popular description of salaried bureaucrats. Suppose we introduce monitoring in the sense that the government can detect the prices being charged by the bureaucrat with some positive probability. Then the

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[12] Note that the problem of collusion of the type discussed earlier does not exist in this case.

government can not only ask the bureaucrat to achieve certain outcome, it can also specify the prices to be charged. Failure to charge these prices can lead to punishment. If there are limits on these punishments, some bureaucrats will continue to charge higher than stipulated prices and use red tape. But unlike the previous paragraph, now these higher prices are illegal and the bureaucrat is engaging in illegal money making or corruption.

The key theme here is the *deliberate use of bureaucratic inefficiency and red tape as an extortion mechanism*. This is contrary to the view that bribery exists to overcome red tape. We shall visit this issue again in the later section. One can think of many allocation and public distribution problems which would share this general structure.

Note that in the previous analysis, the government could observe the quantity supplied by the bureaucrat (in the form of how many permits and to whom). Suppose the government has no control over quantity as well. Then we have a situation of a bureaucrat becoming an effective monopoly supplier of these permits. This would lead to output distortions as well. In the previous model, if the supply of permits could be raised, then red tape and corruption would decrease. In the monopoly situation, the bureaucrat could prefer to do the exact opposite. *The bureaucrat could create a shortage so that it can extort higher payments for the permits*. Shleifer and Vishny (1992)[13] argue that pervasive shortages under socialism could be understood in terms of such bribe seeking behaviour. This view might seem extreme but it does point out the serious problem of bureaucracy trying to maintain and strengthen its monopoly position in various ways so as to increase its extortion payments. This monopoly model has been used by various authors to analyse the distortionary effects of corruption.

3. Empirical Analysis

How does one measure corruption? What do we mean by corruption level going up or down? There is no clear answer to these questions. Measurement issues have posed a bigger problem then their conceptual counterpart. Even if we narrow down the focus of corruption to bribery, there is no single measure of the extent or the level of bribery. It is not clear whether the average amount of bribes in a given market, or the number of people having to pay a bribe or the total volume/value of

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[13] See Shliefer and Vishny (1993, 1994) also.

bribe should be identified with the level of corruption. Even when we are able to measure corruption by some means in a given market or sector, it is not clear how it can be aggregated at the economy level. Different branches of the government (legislature, bureaucracy, judiciary, police) might exhibit different degrees of corruption. Fortunately, we don't have to agree on a specific measure because in most cases the measurement issue is dictated by the nature of information available.

Irrespective of its legal status, corrupt acts are always held in secrecy and it is difficult to unearth systematic information on corruption. To a large degree research in corruption has suffered on this account. Early discussion on corruption tends to rely on journalistic accounts in newspapers and reports, anecdotal evidence or in few of the cases, on prosecutorial evidence. Some researches have conducted more detailed case studies through interviews and indirect evidence. For example, Wade (1982) looks at corruption in the canal irrigation system in South India, Putnam (1993) looks at bureaucratic inefficiency in different regions of Italy and De Soto (1989) analyses corruption in government in the Latin American context. These are all systematic and valuable studies throwing light on many issues using descriptive and narrative methods. Some authors have tried to study corruption indirectly by making inferences from related data[14]. The problem is similar to the estimation of the black economy where only indirect measures can be used.

Mauro (1995) first used modern statistical tools to analyse the relation between corruption and growth. He used data from a commercial organization Business International which conducted an extensive survey of large number of business risk factors including corruption for 52 countries. It used a large network of correspondents who were asked about the extent to which business practices in these countries involved corruption or illegal payments. So these were actually corruption perception measures- amount of corruption perceived by the correspondents. Since then there have been many such perception measures, the most popular one being the Corruption Perception Index (CPI) of Transparency

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[14] See Li (1999) for a study of corruption under China's Dual-Track system. Li uses market values of output and input quotas to estimate the amount of corruption proceeds.

International[15]. Since these are perception measures, all the aggregation and measurement issues discussed in the previous paragraph do not arise.

Transparency International has been publishing these indices on an annual basis and it now covers over a hundred countries. Its index is based on many different polls conducted by several independent organizations. These polls use different methods and different sets of questionnaires about business environment and corruption. Because of the vagueness involved it is no surprise that all these surveys correlate very well and the construction of the index is considered reliable. Despite its widespread use in academic work, this index has attracted a lot of criticism from various quarters. Recently, the World Bank Institute has published a 'control of corruption' measure along similar lines. However, both rankings are very similar and degree of correlation is very high. Clearly, all these perception indices involve perception biases, endogeneity and aggregation problems. But that has not stopped researchers from using them to study how corruption relates to various country level macro variables.

Mauro finds that countries with high CPI exhibits lower growth rates. Investment is also negatively related to CPI. Similarly, the relationships between corruption and macroeconomic variables[16] like Foreign Direct Investment, Flows of Foreign Aid, Openness of the Economy, Public Expenditure and Industrial Policy have been investigated along similar lines. In one of the most extensive cross-country study, Treisman (2000) looks the causes of corruption. He considers a number of variables like Protestant traditions, histories of British rule, level of development measured as per capita income, level of imports and level of democracy; to examine the cross country variations in the various corruption perception indices. We shall come across many other similar studies in later sections. Apart from the fact that these studies neglect many country characteristics and carry the problems associated with corruption indices, there is also the problem of most of the dependent variables being highly correlated. The search for suitable instruments has been a key issue.

More recently, there have been attempts to use more direct measures of corruption. The World Bank conducted a Business Environment and Enterprise

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[15] It is a non-profit organization committed to spreading awareness about corruption and fighting corruption internationally. See their website (www. transparency.de). It ranks various countries on a score of 0 to 10, with a low score implying greater corruption.
[16] See Wei (1997), Tanzi and Davoodi (1997), Ades and Di Tella (1997) for some of these exercises.

Performance Survey (BEEPS) in 1999, where selected firms in a set of 26 countries (mostly transition countries) were asked various questions about the extent of bribe payments and the reasons for making such payments. Similarly, World Bank initiated another such survey in Uganda (with the Uganda Private Sector Foundation) to collect data on various constraints facing private enterprises. In general, these surveys take care to elicit bribe related information from the firms. Firms are seldom asked about their own payments- rather they are encouraged to talk about average payment made by a similar firm in the industry. In some of the studies, firms are asked about national averages. A number of authors have used these firm level[17] data on bribe payments to ask more micro-theoretic questions. Svensson (2003) shows that firms differ in their bribe payments and that these payments depend on the firm's ability to pay and power to refuse. Johnson et.al. (1999) show that bureaucratic corruption is significantly associated with hiding output. Firms, under-reporting sales pay substantial bribes to corrupt officials. However, the direction of causality is not well established. On one hand, it is possible that firms tend to hide sales to avoid bribe demands from extorting individuals. On the other hand, firms may be using bribes to avoid detection of their illegal hiding of output and sales. Hellman et.al. (2000) use similar firm level data to explain corruption as a function of the governance structure.

Although these studies are encouraging, they are also based on perceptions to some extent. Moreover, all these studies suffer from a 'victimization bias'. Only firms, who have been victims of corruption rather than beneficiaries are likely to report. Firms might also be paying bribes to corrupt officials to escape genuine legal payments or to hide their non-compliance. Clearly such bribe payments will never be reported.

4. Some Issues in the Study of Corruption

4.1 Costs and Benefits of Corruption

The various negative effects of corruption have been well documented, theoretically as well as empirically. It adversely affects allocation of resources

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[17] In some other cases, individuals have asked about their corruption experience. See Seligson (2002) for more on this.

(including human resources), distorts the incentive mechanisms and reduces efficiency leading to lower investment, growth and income. But, can corruption be beneficial in any particular context? This question has been asked by many social scientists. Some social scientists emphasize the fact that corruption may be efficient and stress the functional characteristics of bribery in holding some economic and political systems together[18]. Bribes are seen as *necessary tools to "grease the wheels" of commerce by cutting down red tape and improving efficiency*[19].   This might seem true in some cases from a partial equilibrium perspective. If there are rigid and inappropriate laws already in place and bribe payments can be used to circumvent these then efficiency is perhaps enhanced. However, this view has been rejected by most economists[20]. As Myrdal pointed out in his early work[21], this view ignores the fact that such payments would encourage bureaucrats to increase rigidity and red tape in the bureaucracy to extract greater bribe payments. A similar argument was discussed earlier in the context of Banerjee's model. In fact, once such corrupt practice spreads and corruption is perceived to be rampant, honest officials would also tend to increase red tape by spreading and sharing responsibility to the maximum extent possible. This is not because they want to extract bribes but because they don't want to be responsible for any decision where they could be accused of bribery.

The grease hypothesis does not find much empirical support as well. Kaufman and Wei (1999) use firm level data from three different surveys covering more than two thousand firms and find no support for the hypothesis. Rather, they observe that bribes and measures of official harassment are positively correlated across firms. They examine the relationship between bribe payment by firms and various measures of effective bureaucratic harassment both within and across

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[18] Robert Merton's fascinating study of American machine politics clearly set out this intellectual tradition. Machine politics reached a peak at the turn of the century when corruption of various forms thrived. However, there was no systematic attempt to remove these because of the several latent functions they fulfilled.

[19] See Huntington (1967), Leff (1964), Nye (1967) and Scott (1972). According to Huntington, " In the context of economic growth, the only thing worse than a society with rigid, over-centralized dishonest bureaucracy, is one with a rigid, over-centralized, honest bureaucracy".

[20] There are a few exceptions though, Lui (1995) shows that bribery can enhance efficiency in a specific queuing context. However, this result can not be extended to more general contexts.

[21] Myrdal refers to the Santanam Committee report which discusses 'speed money' and come to the view that " Besides being a most objectionable corrupt practice, this custom of speed money has become one of the most serious *causes* of delay and inefficiency".

different countries included in the survey[22]. They argue that corruption-prone officials can often "customise" the nature and amount of harassment on firms to extract maximum bribes possible and charge according to the firm's "ability to pay". Similar findings have also been noted by other survey based studies by Svensson (2003) and Seligson (2002).

From a political science perspective also this view of the functional role of bribery has not been widely accepted. High levels of corruption have been associated with political instability rather than stability. Seligsson (2002) examines how corruption tends to diminish citizen's trust and faith in democratic governance. Johnston (1998) also does not favour the politically integrative role of corruption and argues that it also has many disintegrative features.

Critics of the functionalist view would also point out that if corruption did serve important functions, then one would have seen legalization of these practices[23]. However, as Waquet (1991) points out, in many cases these dysfunctions and functions of corruption may not be manifest, they may be latent in which case they are unrecognized and unintended. He analyses a number of corrupt practices in seventeenth century Florence (Grand Duchy of Tuscany) and argues that while the dysfunctions were manifest, the functions were latent. That would explain the presence of repressive laws to control corruption whose function "was not only to control corruption but also render it tolerable".

Irrespective of whether one agrees with the functionalist interpretation or not, there is no denying the fact that corruption is present many societies in the governmental sphere. This has been viewed by many as a case of government over-extending itself into the market place. Politicians and bureaucrats have a vested interest in increasing government intervention. The optimal outcome, according to this view, would be a minimalist state. Government intervention should be minimized even in the presence of market failures. However, as Rose-Ackerman (1978) points out, some level of corruption is inevitable in every mix of market and government. Hence instead of using the existence of government

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[22] The survey covers mostly transition countries. Hence the pre and post transition governance issues would also have a bearing on the result.

[23] As has been pointed out by Rose-Ackerman (1978) and Shliefer and Vishny (1993), the very secrecy associated with bribery makes it inefficient because individuals would spend considerable resources in keeping the bribe transactions secret.

corruption as an indictment of the system, one should be looking at *the trade-off between government corruption and market failures.*

Acemoglu and Verdier (2000)[24] examine this trade-off in a simple general equilibrium framework. Corruption definitely increases the cost of intervention by the government and creates inefficiencies in terms of resource use, but it can be viewed as a cost associated with the benefit of government intervention. The general equilibrium nature of their analysis yields some insights which are not possible in a partial equilibrium set up. Consider the earlier example of polluting firms. Since polluting firms have negative externalities and there are no obvious market solutions, government intervenes to control pollution through the services of a pollution inspector. This means some resources are being wasted in buying the services of the inspector. In addition, if the inspector is corruptible, the government has to invest more resources in preventing corrupt behaviour. They show that when it is difficult to monitor these inspectors, government presence in the form of number of bureaucrats is likely to be larger, rather than smaller. Similarly, while desirability of government intervention decreases with rises in income levels for the rich countries, the exact opposite is true for poorer countries. These results show why one might expect to see greater government presence in many developing economies despite the presence of corruption. In fact, it might be optimal to tolerate some degree of corruption[25].

4.1 Incentive Payments, Wages and Compensation

Earlier, in the context of the pollution example, it was pointed out that the principal has to design suitable incentive mechanism for the inspectors. The commonly used instruments of this mechanism are wages, fines and commission or performance pay. Low wages of bureaucrats or civil servants have generally been viewed as a major inducement for corrupt behaviour. This is reflected in many contemporary writings and policy prescriptions, as well as in some of the historical accounts of corruption. For example, the widespread corruption seen during the Ming regime

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[24] See Acemoglu and Verdier (1998) also.
[25] This optimality of corruption should not be viewed as a proof of its beneficial role. Rather, positive corruption arises in equilibrium because it is too costly to eliminate corruption completely. Similar results are found in many other studies. However, given that most governments are struggling to reduce corruption, whether one should attempt complete elimination or not seems to be a moot point.

in China (1368-1644) is often attributed to the extremely low wages of the government officials[26].

There are at least two arguments as to why low wages can push public officials towards corruption. First, when lowly paid officials deal with relatively rich clients, the income inequality and wide difference in living standards could be an inducement for the official to use his power in order to climb up the social and income ladder. Second, high wages can act as efficiency wage and this helps deter corrupt behaviour. Since bribe taking officials run the risk of losing their job if caught, high wages effectively work as fines for bribe taking. Since in most cases, it is difficult to implement large fines for bribery, efficiency wage has generally been viewed as a popular instrument for controlling corruption[27]. This is very much in line with the general thinking in the enforcement literature as well (i.e. Becker and Stigler (1974))[28].

However, efficiency wage relies heavily on the ability to monitor the official. If the probability of detection (of bribery) is small, then high wages will not work and the officials will continue to be corrupt[29]. In fact high wages would possibly increase their bargaining power and raise the level of bribe payments[30].

Mookherjee and Png (1995) address the issue of compensation policy and show that the relation corruption and compensation is not always so straight forward. The issue of optimal compensation policy gets complicated because the principal would try to achieve two things: induce higher monitoring effort and prevent bribery. This is an important point which often gets neglected in discussions of corruption. Consider our earlier example of the pollution inspector. The polluting firm pays a fine upon detection of its pollution level. This requires two things; the inspector has to detect the actual pollution level and then report

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[26] See Huang (1974).

[27] See Klitgaard (1988), Chand and Moene (1999). Recent reforms of tax authorities in many countries like Ghana, Tanzania and Uganda reflect this belief. Historically also, attempts to curb corruption have been made through salary reforms. In Chinese case referred to in the text, salaries were raised by significant amount during the Qing period to reduce corruption by these officials. The presence of *yang-lien (*honesty nourishment) is also quite noteworthy in this context.

[28] From an enforcement perspective, corruption is treated as any other illegal activity except for the fact that we do not see efficiency type wage recommendations for prevention of all such illegal activities.

[29] Besley and McLaren (93) analyse various wage policy in the tax administration context. Efficiency wage does turn out to be optimal in some cases. But there are cases where it might be optimal to pay simply the reservation wage and let the corruptible officials take bribes, or even pay extremely low capitulation wages in the knowledge that the officials will collect significant bribe income.

[30] This would be true, for example, if bribes are being determined in a bargaining framework (i.e. Nash bargaining) where the size of bribe would depend, among other things, on relative bargaining powers of the briber and the bribee.

truthfully. If the inspector puts too little effort in monitoring the firm but behaves honestly, enforcement may still be diluted.

In their analysis, the inspector can take bribe from the firm and underreport, but the bribery can get detected with some probability and the inspector faces a penalty for bribe taking (one can include job loss also). On the other hand, the inspector gets a commission (on the firm's fine) for truthful reporting. They show that unless there is a large increase in the penalty for bribe taking, it may not eradicate bribery. So penalty for bribery and commission may work in the same direction in reducing corruptibility of the inspector, but they have opposite effects on his incentives to monitor. But to what extent should these commissions be used to reduce corruption? It turns out that even though bribes do induce monitoring effort and also has some deterrence effect on the polluting firms bribes are an inefficient way of doing so. It is optimal to eradicate corruption completely by suitable choice of commission rates[31].

There are two issues which deserve some consideration in relation to these commission based schemes. First, as Mookherjee (1997) points out, there are many implementation issues which need to be carefully considered. Second, such commission schemes might encourage other forms of corruption. Note that commission to the inspector helps the principal in preventing collusion between the inspector and the firm. But this can also encourage over-reporting by the firm in order to get higher commission payments from the principal. In general it might not be possible to prevent both types of corrupt behaviour.

There have been a few studies looking at the empirical evidence on relationship between public sector wages and corruption. Using a cross-country regression analysis for 28 countries, Rijckeghem and Weder (1997) find a significant negative influence of public sector salaries (relative to manufacturing sector wage) on the level of corruption[32]. However, the causality could run in the reverse direction as well. Since many corrupt countries are poor and have low budgetary outlay, salaries to public officials would tend to be low in such a sample of poor and corrupt countries.

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[31] However, the inspector might under-report for two reasons: either he has observed pollution and has taken a bribe or he has not been able observe the actual pollution level due to imperfect technology. If the principal is unable to distinguish between the two kinds of under-reporting, then complete bribe prevention will induce too much effort which will be socially wasteful.
[32] Treisman (2000), Rauch and Evans (2000) do not find strong support for this hypothesis.

4.2 Hierarchies, Organization and Governance

It would be a relatively simple matter if the principal could directly monitor supervisor's *effort and honesty* while enforcing the contract. But, in many cases this is not feasible. Moreover, given the information and other constraints faced by the principal he may not be able to design incentive compatible contracts to induce optimal effort and honest behaviour by the supervisor. It is in these contexts that issues of hierarchies and organizational structure assume importance. One could appoint a higher level supervisor to monitor the original supervisor. But the higher level supervisor can be corrupt as well. Despite the fact that the higher level supervisor is corrupt, such a hierarchy (hiring a thief to catch a thief) can be optimal in certain cases. On the other hand, one could have parallel supervision by more than one supervisor and introduce competition amongst the supervisors. It is generally believed that such competition can eliminate corruption.

In many contexts, the organizational structure and incentive systems are related. The optimality (or otherwise) of a particular organizational design depends on the kind of incentive schemes that are feasible. Basu, Bhattacharya and Mishra (1992) raised the importance of hierarchies in the corruption context. In our pollution example, it can be easily seen that *enforcement is diluted to the extent the officer is corruptible*. So long as bribes are some increasing function of the penalty, enforcement is diluted but not eliminated altogether. In that case one can argue that by raising the penalty sufficiently one could achieve compliance. So the prospect bribery itself will discourage potential criminals!

Suppose fines can not be raised indefinitely (e.g. Limited liability reasons). Then the only way to ensure compliance by the firm is to induce honest reporting by the officer (inspector). The officer, to that effect, can be given a reward for honest reporting. Unless rewards are high honest reporting may not take place. In that case, one can hire another officer to monitor the first officer. Officer 2 can detect bribe taking by officer 1 with some probability. Now, officer 1 can be subject to a penalty of for taking a bribe. This threat of punishment can work to some extent to prevent corruption by officer 1. However, there is nothing to guarantee that officer 2 will honestly report. Officer 2 can also take a bribe from

officer 1 and decide not to report. But the introduction of another layer of supervision has made bribe taking less attractive even when the second officer is corrupt.

Instead of having a higher level of monitoring, one can add another layer horizontally. In many organizations this kind of overlapping jurisdictions is observed. For example, a license or permit might have to be cleared by several bureaucrats in different ministries. The exact nature of this overlap depends on the context and can vary. In our context, we can also interpret this as competition amongst the supervisors. Both the officers are supposed to detect pollution by the firm. If one of them detects pollution and reports truthfully, the polluting firm pays the penalty and the second officer's action does not matter any more. However, if the first officer were to take a bribe and let the firm off, then officer 2 could also apprehend and demand a bribe or report truthfully. Now, bribe taking is less attractive to the officers. It is possible to induce honesty even for small values of the reward. The previous discussion makes it clear that *different organizational structures affect the corruptibility of the officers in different ways*.

The issue of hierarchies has received some attention in studies on corruption. Carillo (1995) also considers a similar vertical hierarchy with penalty for corruption being endogenized by an internal promotion scheme (which is enforced by an honest super principal). Bac (1996) considers hierarchies where both monitoring effort and corruption are endogenously determined, but he restricts attention to vertical case and its variants. Unlike the vertical hierarchy case, the horizontal case has not received much attention[33]. Kofman and Lawarree (1993) examine a case similar to the horizontal case. In their model, the principal hires an external auditor (in addition to the internal one) and makes inference about the honesty of the internal auditor based on both reports. But again, the external auditor is supposed to be always honest. Mishra (2002) contains a discussion of these and other related issues.

One can also look at a broader picture of institutional design. Scholars have often pointed at the over-centralized nature of bureaucracy being responsible for

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[33] Rose-Ackerman (78) is an exception which contains an early discussion of this and other hierarchies. Shliefer and Vishny (1993) discuss a related point – the issue of how corruption is organized. It is possible to have decentralized corruption with many officials competing for bribes- as opposed to centralized corruption. Decentralized corruption would mean lack of any co-ordination among bribe seekers and this would lead to greater distortion in the monopoly bribe maximization context.

corruption. *Does this imply that decentralization of government activities would reduce the scope and level of corruption*? Decentralization would allow for greater accountability and monitoring of the officer and as the previous discussion suggests, greater inter-jurisdictional competition. Fishman and Gatti (2002) examine this relationship empirically using cross-country regressions. They find that fiscal decentralization is always associated with lower corruption (as measured by various indices). Decentralization might reduce bureaucratic corruption but it might give rise to other forms of corruption. Bardhan and Mookherjee (2000) analyse these issues and point out that decentralization can lead to capture of the local government by the local elite. The literature on corruption does not normally look at the issue of capture, but it has equally important efficiency implications. If one can influence the government during the design of the law or policy, there is no need to make bribe payments in order to violate the law or policy guidelines. In the context of delivery of public services, for example, centralized bureaucracy would tend to divert resources to the bribe-paying rich and local governments under decentralized system could be captured by the local rich for a greater share in these resources. They examine the trade off in great detail and examine the optimal design. The optimal design is sensitive to the nature of decentralization and the financing of the local government.

The issue of constitutional design has also been looked at in the context of corruption. Some scholars[34] argue that corruption is part and parcel of a particular stage in the development of constitutional order. Corruption is viewed as something which is possible only in oligarchic republics or monarchies but not in mature democracies. More recently, the link between democracy and corruption has been explored empirically. Treisman (2000) finds that the current level of democracy has no significant impact on the level of corruption but *countries with long periods of democratization are perceived to be less corrupt*. The corruption levels are based on the Transparency International's perception indices and the democracy levels are from the Freedom House's country rankings. In a similar study, Paldam (2002) finds that corruption in general terms would decrease with increasing levels of democracy but this covariance depends on the level of democracy. Even if one accepts that the correlation is not spurious, it is difficult to

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[34] See Van Klaveren (1957) in Heidenheimer (1970).

accept the causality. For example, poor countries tend to be more corrupt and a lot of these countries are also more authoritarian. Since income levels of countries are strongly correlated with corruption, it is not clear to what extent growth factor are responsible for the observed pattern[35]. Moreover, the causality can run in the opposite direction as well. Seligson (2002) argues that widespread corruption erodes legitimacy and is a significant threat to democratization. Using survey data on selected Latin American countries, he finds a negative relation between people's response to legitimacy in the political system and experience of corruption.

4.3 Competition

How is competition related to levels of corruption? It has been argued[36] that any reform that increases the competitiveness of the economy helps reduce corrupt activities. Anti-corruption strategies have generally been based on the perception, both in academic and policy circles; that *greater competition through liberalization and deregulation would lead to lower levels of corruption*. In one sense it might be argued that this is trivially true because corruption arises precisely in situations where market fails and government bureaucracy intervenes; so if we could have competitive markets, then corruption would cease to exist. But this ignores the fact that corruption and market competition can take place in different dimensions. For examples, market failures in reducing pollution or quality control would lead to the existence of a bureaucracy and firms could otherwise be competing in the product market. Hence we could have a meaningful discussion of what would happen to corruption following a rise in level of competition.

Bliss and Di Tella (1997) examine this issue in a model where each firm operating in the market has to pay a bribe to the inspector who chooses the bribe amount to maximise his monopoly bribe income. The answer to whether competition amongst firms kills corruption is not so straight forward. First, competition as measured by the number of firms in the market in the free-entry

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[35] A recent study by Mohtadi et.al. (2003) predict a U-shaped relationship. Corruption levels are high for countries in an early stage of democratization. Some countries at the very lower end of democracy do maintain corruption at an economic viable level (some East Asian countries) and achieve higher growth.
[36] See Rose-Ackerman (1999), Ades and di Tella (1999).

equilibrium depends on corruption or the amount of bribe charged by the inspector. If the inspector charges high bribe, high cost firms with low profits would exit the market. This will reduce competitive pressure and the remaining firms would have higher profits. Second, the equilibrium number of firms would also depend on the cost characteristics (i.e. fixed overhead costs). This in turn affects their profitability and the amount of bribe the inspector can charge. Hence it is possible that presence of fewer firms is associated with lower bribes payments.

Ades and Di Tella (1999) address this question empirically using corruption perception data on a set of countries and various proxy measures for competition. They examine whether countries which are deemed to be more competitive according to these measures are also perceived to be less corrupt. They find a significant negative relationship between competitive structure of the country and its corruption index. When firms enjoy higher rents, bureaucrats will have greater incentives to engage in corruption. Note that since bureaucrats stand to loose their wages following detection of their corrupt activities, they will not be interested in corrupt activities with smaller bribe payments. Since only firms enjoying large surpluses can pay large bribes, higher rents for firms would induce more corruption.

Despite the results of these cross-country regressions, there is not much comfort in this hypothesis. The experience of many countries show that despite embracing considerable deregulation and liberalization, corruption may have increased rather than decreased. Laffont and N'Guessan (1999) show that it is possible to have greater corruption and competition in an agency framework. Their result is based on the intuition that with greater competition, the principal might find it optimal to tolerate corruption for a bigger range of parameters. Dutta and Mishra (2003) argue that the expected *negative relation between corruption and competition* holds only when one controls for other factors like credit market imperfections and wealth inequality[37]. They show that presence of imperfect screening in the credit market (due to wealth inequality) and corruption (collusive bribe payments) makes it easy for the inefficient firms to survive and stay in the

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[37] The relation between inequality and corruption is of independent interest, which we have not been able to explore in this essay. Dutta and Mishra (2003) show that a rise in inequality can lead to greater corruption (more bribe paying firms). Banrjee (1997) also contains a similar result. Gupta et.al. (2002) find that high levels of corruption are associated with greater inequality and poverty. Li et.al. (2000) also contains another empirical investigation.

market. Hence it is possible to see large number of firms in the market (greater competition) with many of them engaging in corrupt practices with the public officials (more corruption). It is clear that results are sensitive to the way we define corruption and competition; and whether we adopt a partial or general equilibrium approach. These issues deserve further research effort.

It is not only economic competition which matters; our preceding discussion would suggest that *the degree of political competition also affects the nature and level of corruption*[38]. Political competition refers to the competition among parties and individuals to win the support of the voters and assume office. If a particular politician or political party is deemed to be corrupt then voters can punish it by not re-electing it. The incentive to stay in office being strong among politicians, the prospect of losing re-election should deter corrupt behaviour. However, as mentioned earlier, we are dealing with a multiple principal (voter) situation here and it is not easy to co-ordinate their actions. Moreover, electoral competition does not exactly work the way price competition works in the market. Myerson (1993) showed that in a simple electoral game with voters preferring less corrupt candidates, certain electoral rules may not succeed in preventing corrupt politician from getting elected. Persson, Tabellini and Trebbi (2003) test the link between electoral rules and corruption in a cross-country empirical study. They show that certain electoral systems with large voting districts are associated with less corruption. On the other hand proportional elections with lower weight on individual accountability are associated with higher corruption.

As mentioned earlier, the political process and electoral competition can give rise to *special interest politics and legislative capture*. Grossman and Helpman (1996) examine how interest groups use campaign contributions to influence public policy. The role of campaign contribution is two fold: it serves the electoral motive of the group which wants to promote the prospect of the preferred candidate and it also serves an influence motive where the group can influence the policy position of the candidates. They show how both these motives interact in influencing the equilibrium outcome. From the candidate's point of view, these contributions present a trade off. By catering to the interest group a candidate can get large contributions which can be used to influence ill-informed voters but since

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[38] This is obviously related to political corruption; but, in many ways, bureaucratic corruption can not flourish without political corruption.

policy platform may not coincide with the general interest, the candidate would loose the votes of the well-informed voters. Even though their model is abstract and does not deal with corruption directly, it can be extended to analyse various forms of capture and their implications[39].

4.4 Persistence

Is corruption simply a manifestation of deviant behaviour from the norm or is it the norm itself? The very definition of corruption would suggest that corrupt acts are deviations from implicit or explicit behavioural norms (with or without legal and ethical connotations). But, the widespread nature of corruption in some societies indicates that corrupt behaviour is the norm itself. Since norms can be viewed as persistent behaviour, this seems to lie at the centre of the persistence issue.

Economists have viewed this as a *multiple equilibria* problem. It has been noted that different societies with relatively same levels of development, judicial machinery and politico-legal structures can exhibit varying degrees of "illegal (pre) occupation" like corruption, tax evasion and other regulatory non compliance. The explanation for this observation is that different societies can get caught in different equilibria. At a general level, this multiplicity arises due to various forms of complementarities. For example, *if people expect more people to be corrupt, then the expected cost of being corrupt would be less* (probability of apprehension might be low or even the social sanction against corruption could be low) leading to more people being corrupt[40]. Like all models of multiple equilibria these models can not explain why some get caught in the bad equilibrium, but still aid to our understanding of the persistence of corruption in some societies.

However, it is possible to argue that one can get rid of the bad equilibrium by making changes to the structure of incentives (rewards, penalties). For example, if more people are corrupt because the social sanction attached to corruption is low, one can augment social incentives by explicit provision of new monetary or non-

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[39] See Bardhan and Mookherjee (2000) for such an extension to study capture in the context of decentralization.

[40] Andvig and Moene (1990) showed how "corruption may corrupt" others and lead to a situation of widespread corruption. Likewise, Sah (1991) and Tirole (1996) focus on this multiple equilibria phenomenon to throw light on the persistence of crime and corruption. See also the survey by Bardhan (97).

monetary sanctions. In that case, corruption can be reduced by the provision of adequate incentives. This would reduce the persistence problem to the problem of 'choosing the right incentives'. There may be some merit in this view, since some societies or organisations have managed to get out of the high corruption equilibrium.

Such a view ignores the fact that implementing any penalty or reward scheme requires an agency which needs to *acquire information* and then *implement the incentives properly*. When information acquisition is costly, certain beliefs can be self enforcing and once again lead to equilibria with different levels of corruption and compliance. Mishra (1998) shows that when information acquisition is costly, the supervisor may not be well informed and this can lead to substantial (harassment) costs for innocent agents. The presence of these costs can lead to multiple equilibria.

Consider a group of firms facing a certain pollution standard. The pollution inspector can report a non-polluting firm and the later incurs some cost. Similarly, a polluting firm can bribe the inspector and reduce its expected cost. Suppose authorities have a system of rewards and penalties to encourage reporting of polluting firms and discourage reporting of non-polluting firms. The inspector has to incur some cost (effort) to be able to distinguish a non-polluting firm from a polluting one. If the inspector knows the type of the firm, then the non-polluting firm is never reported. If the inspector is uninformed, then reporting a firm of unknown type would be costly if the probability of the firm being non-polluting type is very high. Hence the inspector's decision to incur the cost and be informed depends on his belief about the firm being non-polluting type. On the other hand, if the firms face an uninformed inspector, polluting becomes a more attractive option because of the harassment costs involved with being non-polluting.

Hence we can have two equilibrium outcomes. We have the high-compliance equilibrium with fewer firms choosing to pollute and the officer choose to be informed. The other is the low-compliance equilibrium where the officer is uninformed and greater fraction of the firms chooses to pollute.

The persistence issue can perhaps be better addressed in an *evolutionary framework*. There are at least three motivations for focusing on an evolutionary approach. *First*, recent work on evolutionary game theory has shown that evolutionary stability can address the issue of equilibrium selection to some extent.

Since corruption happens to be one such equilibrium, we can ask what kind of *social dynamics* would select such an outcome (equilibrium). *Second,* the multiple equilibria analysis always focuses on social norms of behaviour. But we also need to look at individual norms of behaviour and not just social norms[41]. The analysis of the previous paragraphs showed that we could have different compliance levels as different equilibria or (social) norms. One chooses to be corrupt because every one else is corrupt and it is *normal to do so.* One would like to see how individual norms of behaviour would give rise to these social norms*. Last,* it would be interesting to see whether corruption persists because of imperfect information, underlying beliefs and the ease of collusion or it persists because *corruption has a self-replicating nature in a very basic and primitive way*. Suppose we have a set of honest (non corrupt) individuals. Clearly, our previous analysis suggests that there can not be any corruption equilibrium. Suppose we introduce some corrupt individuals into this population. Do we still have the no corruption equilibrium? Or this handful of corrupt individuals can spread and lead to a situation of pervasive corruption?

Preliminary investigations suggest that corrupt or collusive behaviour is immune to the invasion of honest behaviour but the reverse is not true[42]. So corruption has a strong self-replicating property. This is not very surprising in the context of many corrupt countries where the youth look at the corrupt and successful as their role models and try to follow the same. Despite its simple and rudimentary structure one can ask several interesting questions but we do not pursue them here.

5. Concluding Remarks

Corruption is now a growing and active research area. It is clear that we have not been able to do justice to many of the issues and works by many researchers. There are also certain issues which have not received proper attention in the context of corruption. We list some of them below.

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[41] 'Driving on the left or right' can be viewed as part of social norm, since individuals would follow this even if there were no law specifying regarding which side to drive. An individual living in different societies would follow the social norm and accordingly drive on the left or right. But the same individual might follow a norm 'Drive carefully when people are crossing the road' irrespective of which society he live in.

[42] See Mishra (2003) for a preliminary attempt.

The organization of corruption is not very well understood. Recall that the contractual relation between the two parties to a bribe is an illegal one and there is no enforcement mechanism to enforce this contract should there be a breach. It is not clear what sustains the credibility of such transactions. It seems that reputation factors are at operation here. Secondly, most bribe transactions are perhaps facilitated by organized networks of middlemen. Despite the fact that we know who takes bribes and how much, it won't be easy for us to just walk in and offer a bribe. It would be interesting to see how these can be incorporated into the study of corruption and how they would affect the anti-corruption drive.

The second set of issues relate to the degree of heterogeneity in the society. Differences in income, wealth, power, opportunities and other socio-cultural indicators seem to have an impact on the level of corruption. We briefly pointed out how income or wealth inequality issues are related to corruption. Similar exercises can be extended to other dimensions.

The third set of issues relate to the role of information. Greater transparency and spread of information would obviously have an impact on corruption. But a lot depends on whether information is 'hard' or 'soft'. Soft information can be easily manipulated and controlled by those in power. As we discussed earlier, technological improvements can lead to more information being hard; but soft information is not going to be eliminated altogether. The credibility of the information provider (i.e. media) would have a significant bearing in the case of soft information.

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