Regulatory Capture Revisited – Lessons from Economics of Corruption

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ABSTRACT: Regulation is widely considered as the key issue in reforms of public service sectors. But it has been pointed early to the problem that regulatory capture could undermine the stated aims of the reforms. This paper reviews the concept and the literature of regulatory capture under the special focus of public service sectors. Although mentioning corruption as an important mean way of capture, these theories fall short in analysing corruption in detail. The paper thus widens the concept of regulatory capture by introducing recent insights from the economics of corruption. Above all, the black box of corrupt transactions is opened, enabling thereby to understand the channels through which capture occurs. Also, the analysis is extended to different types of corrupt relationships between the actors involved in regulatory processes. By doing so, the paper detects the weak points of regulation and presents some avenues for anti-capture policy measures.

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"Institutions are not necessarily or even usually created to be socially efficient; rather they, or at least the formal rules, are created to serve the interests of those with the bargaining power to create new rules."

Douglas C. North (1994: 360)

"The system has forced all of us to become experts in obtaining protection or advantages from the State."

Hernando de Soto (1989: 192)

1 Introduction[1]

The usual definition of economic regulation stresses the active intervention of the government in an industry in order to augment social welfare. Such an intervention in the tradition of Pigou (1932) is usually based upon an identification of market failures requiring the government to intervene through an economic policy aiming at correcting these failures. In these public interest theories of regulation, the government intervenes in the market in order to maximise social welfare; he behaves like a benevolent and omniscient dictator acting on behalf of society as a whole.

Public service sectors, sometimes also referred to as public utilities, comprising the sectors of energy, telecommunication, transport and water, are usually characterised by relatively strong market failures compared with other sectors. One of these failures consists in a natural monopoly structure implying that competitive prices (equalling marginal costs) would lead to a deficit for the firm. This can be observed either in a sector as a whole, as in local water and sewerage services, or only in parts of the sector, for instance long-distance transport of electricity, railroad infrastructure or long-distance telephone lines. Moreover, these sectors imply strong social, political and environmental concerns and require investments into physical infrastructure, a vast majority of countries pleaded in favour of providing these services through state owned enterprises (SOE).

However, facing growing problems in the public sector such as productive inefficiencies, capacity shortages, corruption and so on, theories emerged pointing at the weaknesses of the State's productive and planning capacities ('government failure'). It was questioned whether the costs of state intervention may not exceed the costs of the market failure to be corrected in the first place. Further, the insight was gained that the natural monopoly structure is in fact not applicable to the whole vertical production chain, and that parts of the service may be opened to competition through vertical disintegration of the former state owned enterprise.

These theories, together with technological changes mainly in the telecommunication sector, and not at least a growing political will to introduce reforms, led to a worldwide movement of deregulation and outsourcing public services to the private sector.[2] Either the SOE is sold entirely to a private firm or the state remains owner of the assets and enters into a contractual partnership with the private sector. With these structural changes, the denomination of 'public services' had to be revised, and the European Union went to call

[1] The ideas expressed in this article constitute the personal opinion of the author and in no way comprise the position of the organisations associated with him.

[2] 'Deregulation' used in the sense of 'liberalisation' as the "*removal of restrictions on competition*" (Armstrong, Cowan and Vickers, 1994: 99).

them 'services of general economic interest' in order to emphasise that even though these sectors are special, because of public interest, they do not have to be delivered by the State.

But introducing effective competition in these sectors is not an easy task. For example, although it is possible to introduce more or less competition in some parts of the sectors through vertical disintegrations, other parts still remain in a monopolistic situation or with considerable market power after these reforms have been introduced. For instance, is has been possible to introduce competition in the production, commercialisation and to some degree into the distribution of electricity, but the long-distance transport of electricity remains a natural monopoly—it would simply be inefficient to build two or more of these lines. Also, the case of water and sewerage is particularly tragic since a competition *in* the market is hardly conceivable at all on the local level.

Further, as underscored by Ugaz (2001: 3-4), reforms where sometimes even *designed* in a way to *restrict* competition even though it would have been possible to introduce it. In Latin America, for example, Telefónica del Peru was granted exclusive rights for the operation of basic telephone services. The reasons for such a restriction of competition could be on the one hand to maximise revenue from privatisation, a firm with monopoly power have higher value for private investors, or on the other hand to expand services in order to meet universal service obligations and improve quality, here exclusive rights might attract the needed foreign capital.

Because of these problems and restricted competition, it is now widely accepted that regulation is required. Regulation is a coercive intervention by the government through the establishment of rules and sanctions which—at least apparent—goal is to correct failures observed in a certain industry. Following the structure-conduct-performance paradigm of the Harvard School in early Industrial Economics (see Bain, 1959), a regulation aiming at influencing the performance of an industry may regulate either the structure of the industry, or its conduct in the market—or both. Controls can basically be exerted on prices, entry, quality and/or quantity.

Such an economic regulation[3] has the task to enhance allocative as well as productive efficiency[4], while guaranteeing the financial viability of the private firm on the one hand, and on the other hand protecting consumers and firms in competitive sections against the abuses of monopoly power regarding prices and quality in those sectors that remain in the hand of one firm, be it private or public. Additionally, due to the 'general interest' character of these sectors, some kind of social regulations regarding equity issues such as access and affordability aiming at redistribution have to be in place in order to guarantee, for example, cross-subsidies or universal service obligations (see, for example, Crémer et al, 2001, Estache, Foster and Wodon, 2002, and Laffont, 2005: chapter 6).[5]

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[3] Basically, one can distinguish between two main types of economic regulation. First of all, a regulation based on the costs of the regulated firm, comprising the-traditional return-on-cost (or cost-plus) regulation and the rate-on-return regulation. The second, more recent, type is based on providing adequate incentive structures to the firm in order to achieve the regulatory goals. As Vogelsang (2002: 6) puts it, the regulator "…*makes use of the firm's information advantage and profit motive*." Even though there are various possible types of incentive regulations, the most important one in praxis and theory is price-cap regulation.

[4] Ramsey and average cost-prices do not lead to productive efficiency since cost recovery is guaranteed by regulation. Additional mechanisms to provide incentives for an efficient production have thus to be introduced. Also, we wish to point to the still remaining puzzle of how adequate incentives may be provided to invest into new infrastructure. It is obvious that the regulations in use fail in this point—a failure that is particularly problematic in developing countries.

[5] The redistributive character of social regulations and the often opaque handling of these issues make them prone to corruption—be it by firms, public administration or users. A thorough review of equity regulation under the perspective of the economics of corruption is however out of the scope of this paper and is left for future research—although certainly interesting and important for the design of adequate instruments.

As appealing this idea of regulation as being in the public interest seems to be at a first glance, it however faces some considerable problems when translated into policy making. It starts with problems in defining what exactly lies in the 'public interest'. Kenneth Arrow (1951) proved that it is impossible to aggregate preferences into a 'general' social welfare function. But on another more political oriented level, Downs (1957: 136) underscored that there is still another problem beyond that there is no agreement on the definition of 'public interest' or 'social welfare', indeed:

> "…*even if social welfare could be defined, and methods of maximizing it could be agreed upon, what reason is there to believe that the men who run the government would be motivated to maximize it? To state that they should do so does not mean that they will.*"

In other words, Downs (1957) questions the benevolence of the government to pursue such a thing as a 'public interest'. The government is not a machine, and the human beings constituting it, bureaucrats and politicians, are economic agents that are also pursuing their own private goals, such as prestige and wealth, and are thus prone to conflicts of interests between these private goals and their public function. This may lead to an abuse of their position to foster their own goals, or those of interests able to pay for it, instead of serving the idea of a 'public interest'.[6] This is precisely the definition of corruption: an abuse of entrusted powers for private benefits.

And it appears that, because of their special characteristics, public service sectors are particularly prone to corruption. Also, the structural and regulatory reforms introduced a new division between the public and the private sector, leaving the private sector with production and commercialisation and the state with regulation and control functions. It is also an ironic tour of destiny that the introduction of private sector participation does not, despite its name, reduce the role of the state. Rather, one can observe a shift of responsibilities and it is an open question whether the state does not even have to be stronger under the new schemes than under the traditional public model. Moreover, the government agency responsible for the regulation has to face various players with different, often diverging interests: private enterprises, politicians and administration, different types of users, but also national and international banks, donor countries, and trade unions.

This new institutional environment is characterized by rules which are often still unclear, new public organisations with possible conflicting interest to other public agencies, and a lack of experience concerning the application of these new rules and the handling of the new situation. Even the World Bank and the Inter-American Development Bank (2005: 31) note that public service sector reforms occurred sometimes in an environment of "*incomplete reforms and immature regulatory frameworks*." Such settings clearly open the risk for opportunistic behaviour: regulated firms may capture the reform for their own narrow interests ('regulatory capture'), or politicians may abuse regulatory powers for own purposes ('regulatory opportunism', or capture by the political sphere). As emphasized by Estache and Martimort (1999), corruption, regulatory capture and regulatory opportunism are transaction costs of regulation, and undermine the stated aims of these reforms. Efficiency is compromised, and the gains from reform are unequally distributed: they benefit the ones engaged in corrupt deals at the costs of users and, in the end, society.

Nevertheless, while many of the theories on regulatory capture or regulatory opportunism explicitly name corruption or bribes, they usually fall short in opening the black box of corrupt transactions and considering of corruption works actually in praxis. However, such

[6] The definition of the 'OECD Guidelines for managing conflict of interest in the public service' reads as follows: "*A "conflict of interest" involves a conflict between the public duty and private interests of a public official, in which the public official has private-capacity interests which could improperly influence the performance of their official duties and responsibilities.*" (see OECD, 2003, and OECD and IADB, 2004)

a deeper understanding of the channels through which regulatory capture occurs is necessary for the formulation and effective implementation of anti-capture strategies and measures. Most contributions on regulatory capture are formal treatments, remaining on abstract levels, and are thus only able to propose broad guidelines for policy-making, but not risk-targeted measures. Indeed, it appears that formal models are just too narrow to capture the multifaceted problem of corruption. Usually, with a few exceptions, results from formal models are thus quite unsatisfying. Even more, Lambsdorff (2007: 36) emphasises that "*theoretical modelling has often hindered rather than inspired reform.*" Non-formal treatments of the problem of regulatory capture and design issues can be found in the discussions by Smith (1997) and Estache and Martimort (1999). They are, however, rather focused on *political* independence of regulatory agencies.

On the other side, the literature on corruption, its causes and consequences, has grown impressively during the late 1990s. The most fertile contributions are stemming from approaches based upon new institutional and transaction cost economics (see Lambsdorff, Taube and Schramm, 2005). But as often happens in the highly specialised world of science, these findings did not find their way into the strand of literature related to privatisation, deregulation and economic regulation—despite the huge impact corruption may have on the stated aims of the reforms. The aim of this paper is thus to add some insights gained from the economics of corruption in order to shed new lights on the concept of regulatory capture.

In section two, we review the literature related to the concept of regulatory capture with special reference to the processes of public service sector reforms. In section three, we analyse in detail the notion of corruption and the implications for the economic regulation of public service sectors. Throughout section three, we will refer to expert interviews conducted by the author in Bogotá, Colombia, during February 2006 with regulators from the water sector (*Comisión de Regulación de Agua Potable y Saneamiento Básico*, CRA), the energy and gas sector (*Comisión de Regulación de Gaz y Energía*, CREG) and the telecom sector (*Comisión de Regulación de Telecomunicaciones*, CRT. The paper concludes in section three with some policy implications.

2 Regulatory Capture: Roots, History, and Literature

2.1 Interest Group Theories of Regulation

2.1.1 The Chicago School, Capture and Interest-Group Competition

The idea that powerful organizations with private interests may capture the government in order to foster their private goals is certainly not a recent one. At least, similar ideas go back to Montesquieu and, later, to Karl Marx in the 19th century. But the concept of 'regulatory capture' has been introduced in modern economic analysis with the seminal article by George J. Stigler in 1971 entitled *The Theory of Economic Regulation*. The main idea of the article can be summarized in Stigler's (1971: 3) affirmation that:

> "*…as a rule, regulation is acquired by the industry and is designed and operated primarily for its benefits.*"

The basic hypothesis of Stigler is that an industry may use—or rather abuse—the coercive *public* power of the State to establish and enforce rules in order to obtain *private* benefits. The precursor to this article was an empirical study by Stigler and Friedland (1962), where the authors tested econometrically the influence regulators had on prices in the electricity

sector in the United States over the period 1917-1932. They run a regression with prices as a function of various variables and among them a dummy for regulation. The authors did not find any significant difference between regulated and non-regulated public utilities. This led the authors to propose the hypothesis that regulations' aim is not to optimize social welfare, but that it is in the interest of producers. Thus, in his *Theory of Economic Regulation*, Stigler (1971) emphasizes that 'traditional' mechanisms to obtain monopolistic rents, such as product differentiation, limit pricing strategies, vertical integrations and other ways to create barriers to entry for potential competitors, are less efficient for a firm than to obtain the same result through regulations offering 'legal' protection against competitive pressure. In contrast to a public interest foundation of regulation, regulation in Stigler's view only comes to serve private interests.

An apparent contradiction to the theory of Stigler (1971) is the movement of deregulation as mentioned above. At first sight, the theory fails to explain the reform movements of deregulation in public services sectors. Indeed, why does an industry profiting from regulation would pressure in favour of deregulation? But deregulation is perhaps a misleading term when taking a closer look at the reforms in public service sectors. Of course, although old regulations are removed, new regulations have to be created. For instance, vertical disintegration may have enabled an, often limited, competition in some parts of the production process, but in all public services sectors there remains a part that is still characterised by a natural monopoly structure: the transportation network. Here, a regulation of the owner of the network is necessary. For example, where the incumbent disposes over the network (essential production factor) he may use it to discriminate against competitors in an otherwise deregulated environment. But new competitors have to be granted fair access to the net, without disincentivating new investments into the network.[7] In other words, *deregulation* in public service sectors apparently always entails the need for *re-regulation*.

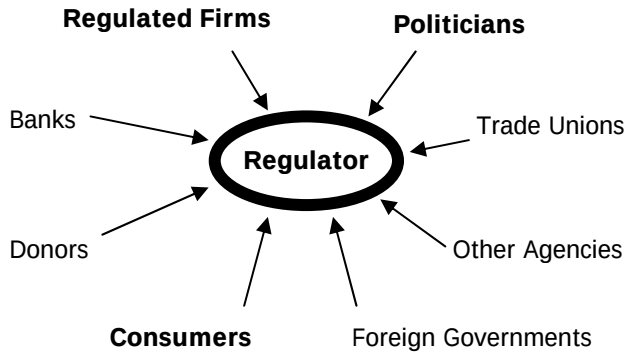
One can go a step further, and argue that reforms could have been, at least partly, caused by pressures coming from private firms aiming at entering the market by *removing* existing regulations and *impeding the establishment* of new regulations, or at least exerting influence on their design. Of course, after exerting pressure in favour of deregulation, a private firm that was able to obtain a public service contract in a monopolistic market, for example through a concession, faces incentives to capture the regulator in order to assure the rents. Such kind of capture would aim precisely at impeding the establishment of *new* effective regulations, in order to protect the market power obtained through deregulation. In an illuminating study, Duso (2005), while analysing evidence from the U.S. cellular industry, finds evidence that may support the hypothesis that firms avoided effective regulation through lobbying activities in precisely those cases where regulation would have had a significant impact on prices. In turn, regulation that became effective—has it been tolerated?—had no significant pressure to lower the prices. Thus, Duso (2005: 269) asks correctly whether the wrong markets where regulated. In this case, firms seemed to have wished to *avoid* regulation in certain markets *in order to be able to extract* rents. This, of course, provides support for the idea that regulations may indeed serve some public interest goals, if firms are willing to spend resources in order to prevent them.

However, firms are not the only players in the game. For example, the incumbents, i.e. the usually public monopoly protected by the old regulations, and the labour unions which are also profiting by the status quo, will exert pressure against these reforms—as can be observed in anti-privatisation movements around the world. It is straightforward to assume

[7] Why this essential factor hasn't been separated from the incumbent could be explained by political influence and connections of the latter.

that these counter-movements are likely to balance the pressure of firms, and that the policy result will thus not only reflect firms' interests. While Stigler's (1971) article focuses on the industry as the only active part in capture and does not consider other interest groups, his capture theory has been later developed by other Chicago School economists, mainly by contributions from Sam Peltzman (1976), Richard Posner (1971, 1974, 1975), and Gary S. Becker (1983). These later contributions differ from Stigler's (1971) approach, since they take into consideration that other pressure groups besides the industry may enter into competition for favours as well.

Figure 1: The regulator between different interests



These theories may also be called interest-group theories of regulation, since they are based upon the collective action argument as developed by Olson (1965). The interest to be defended requires investments, for example into lobbying activities, so that only groups that can expect high benefits from such activities will have incentives to become active. However when organizing to defend the interest, the group faces the free-rider problem, so that smaller and already organized groups have advantages over large and diffuse groups such as consumers. The smaller the interest group, the higher will be the per capita benefit of one member within the group and the higher are the incentives to maintain the group organized and participate actively in its financing. These groups can influence the governments' decisions to their favour, but compete with other interest groups.

For example, Becker (1983) in his 'theory of competition among pressure groups for political influence' argues that the influence and ultimately the result of the policy depend upon the strength of the respective pressure group. With a few interest groups competing, the political outcome will reflect concessions to all interests participating in the game. Becker's (1983: 372) proposition is that the competition "…*between these pressure groups for political influence determines the equilibrium structure of taxes, subsides and other political favors.*" This political equilibrium depends mainly on the efficiency of the group to produce political pressure and the number of individuals in the group. The efficiency in turn depends on the power of the group to control for free-riding—the easier a group may control for free-riders, the more pressure it may exert, and the more influence it will gain. As opposed to Stigler (1971), a single pressure group cannot 'dictate' his valuation to the government since other interests will exert pressures as well; the outcome of this competition is thus open. In Becker's (1983) model with two homogenous groups, i.e. where the costs and benefits of pressure are equal for both groups, these influences compensate one another—the aggregate influence is zero.

In the case of regulation of public services, it has to be taken into account that the relevant pressure groups are very heterogeneous. On the one hand, public service industries are

usually characterized by only a few players, even on a global level. It is thus straightforward to argue that the few firms in these industries face considerable incentives to organize and influence the regulations they are submitted to—the firms have a common stake in influencing regulatory decisions and rules. On the other hand, consumers usually face strong problems in organizing into one single interest group. In part, this is due to the fact that the users themselves are not one homogenous group, but face diverging interests. For example, interests are different between poor and rich, between rural and urban areas, and between commercial users and private households. Concerning the latter, commercial users, i.e. industries etc, can organise more easily than private users. Du Marais (2004: 509) points out that following the liberalisation reforms in Europe, it can be observed that the prices for domestic users rise, while prices for professional users fall; a possible explanation for this is precisely the stronger bargaining power of the latter.

2.1.2 The Virginia School, 'Public Choice' and Rent Seeking

Another, parent, interest group theory of regulation can be traced back to the Public Choice economists (in particular scholars from the Virginia School, which is closely related to Austrian economists such as von Hayek, Mises, and even Schumpeter), sometimes also labelled as New Political Economy. Early contributions such as James Buchanan and Gordon Tullock (1962), and Gordon Tullock (1967) are clearly inspired by Anthony Downs (1957). In a narrow sense, public choice analyses state and government failures. All government actors, politicians and bureaucrats, are self-interested actors following they own interests, and the government is not able to correct market failures—or, at least, to correct them at lower costs than the costs issued by the market failures in the first place. In a wider sense, public choice is the application of economic methods of analysis to political institutions and governmental decision-making (Lemieux, 2004: 22).

These theories are not as optimistic about the normative properties of the outcome of interest group competition as the contributions by the Chicago School—although Stigler (1971), as seen above, seems rather to share this pessimistic view. While also considering a competition among pressure groups for political influence, the Virginia School-related literature focuses on the social costs issuing from these activities. Indeed, Tollison (1998) underscores the difference between both strands of literature: "*The interest-group theory of government is about lobbying, and the theory of rent seeking is about the costs of lobbying.*"

In a seminal work, Tullock (1967) showed that additionally to the welfare loss due to the market power of the monopoly, there is also a waste of resources spent by the monopoly to protect his position against competition and regulation. These additional losses corresponding to the monopolist's profits may be wasted partially or totally (if there is perfect competition for this rent) into efforts to obtain the rent in the first place and, later, into efforts to maintain this rent.[8] Anne Krueger (1974) coined the expression of 'rent seeking' for activities related to establishing trade barriers, and Bhagwati (1982: 989), also in relation to trade policy, came to label these activities as 'DUP'—Directly Unproductive, Profit-seeking activities, which he defines as a

> "…*way of making profit (i.e. income) by undertaking activities which are directly unproductive; that is, they yield pecuniary returns but do not produce goods or services that enter a utility function directly or indirectly via increased production or availability to the economy of goods that enter a utility function.*"

The competition for a rent, as in Tullock's (1980) model, can be described by n firms competing for the monopoly profit π^M. The probability to win the exogenous given rent for

[8] Note the similarity of this idea to the argument of auctioning a natural monopoly, 'franchise bidding', as brought forward by Demsetz (1968).

each firm p_i depends on the share of the own resources spent into rent-seeking z_i respective to the overall amount of rent-seeking of all firms competing for this rent—the more resources are spent relative to all other firms, the higher is the probability to win:

$$(1) \qquad p_i = \frac{z_i}{\sum_{i=1}^{n} z_j}$$

Each firm maximises its expected profits:

$$\pi_i^* = p_i \pi^M - z_i$$

$$(2) \qquad = \frac{z_i}{\sum_{i=1}^{n} z_j} \pi^M - z_i$$

$$(3) \qquad \frac{\partial \pi_i^*}{\partial z_i} = \frac{\sum_{i=1}^{n} z_j - z_i}{\left(\sum_{i=1}^{n} z_j\right)^2} \pi^M - 1 \overset{!}{=} 0 \qquad \Rightarrow 1 = \frac{\sum_{i=1}^{n} z_j - z_i}{\left(\sum_{i=1}^{n} z_j\right)^2} \pi^M$$

Assuming that the firms are identical, it follows that $z_i = z_j = z$ and thus:

$$1 = \frac{nz - z}{(nz)^2} \pi^M$$

$$(4)$$

$$z^{opt} = \frac{n-1}{n^2} \pi^M$$

The overall amount of resources spent into rent-seeking activities is thus:

$$(5) \qquad Z = n \times z^{opt} = n \times \frac{n-1}{n^2} \pi^M = \frac{n-1}{n} \pi^M$$

With perfect competition, all firms are symmetric, there is free entry, firms are risk neutral, the number of firms, *n*, is very high and the number of firms competing is known. As long as there is a perceived potential rent in the market, firms will enter into the rent-seeking market and spent resources. But with a growing number of firms, *n*, the probability for each firm to win the rent falls, and at the same time the amount of resources spent by each single firm. The overall rent-seeking expenditure, however, rises and equals the rent when *n* tends to infinity ('rent dissipation').

To sum up, according to the interest groups theories of regulations issuing from Chicago and Virginia, regulation may not be created to serve public interest, but rather to create and protect monopolistic rents. Moreover, as emphasised by rent-seeking theories, these rents may be wasted totally or partially in the firms' efforts to compete for these rents. In these theories, however, the public actor plays a relatively passive role as a broker between the different interest groups. In section three, we will show that these assumptions are not well suited for describing actual corrupt deals underlying regulatory capture in practice.

2.2 Tollbooth Theories

The so-called 'tollbooth-theories', as defended by de Soto (1989) or, later, by Shleifer and Vishny (1994, 1998), go one step further as the interest group theories. Indeed, these contributions are pointing to the benefits of politicians and bureaucrats holding a monopolistic position and thereby able to create inefficient regulations ('red tape') to extract rents from the regulated industry through bribes or campaign contributions. Public actors are thus more than the passive brokers described before. Of course, such type of regulation based on the objective to extort rents from private firms would be particularly harmful to development, and authors as early as Leff (1964) emphasise this problem.

The problem of corruption is also much more explicitly named as in the theories presented before. In the tollbooth theories, corruption becomes a way of the market to circumvent inefficient regulations. For example, De Soto (1989: 134) and his researchers showed this problem with an experiment they carried out in Lima, Peru. The experiment consisted in establishing a small business by respecting all regulations and without paying bribes. The researchers had to face 10 intents of extortion of bribes—two times, they had to pay or it would have been impossible to open the firm. All in all, the bureaucratic processes required 289 days. In the view of tollbooth theories, corruption is often considered as the 'only way to keep a business going' faced with 'unfair' or 'inefficient' laws and regulations, which is a typical complaint of firms working in developing countries.

Referring to the privatisation of formerly state owned enterprises and following regulations, Shleifer and Vishny (1994) provide a theoretical bargaining model explaining why politicians aim at keeping control rights over privatised firms through regulation. Their point is that remaining control rights enable the politicians to extract rents from the privatised firm through corruption. Shleifer and Vishny (1994: 1007) conclude from this that such type of regulation may be problematic:

> "*The result with politician control might shed light on the large amount o corruption in countries like Italy or the Philippines, where firms are privately owned (a is high) and then pay enormous bribes to politicians who control them through regulation.*"

Shleifer and Vishny (1994), however, remain vague about the type of regulation and the structure of the privatised industry and fail to discuss the trade-off between opportunities for corruption through regulation and the costs related to the market failures in the case of no regulation.[9]

Djankov et al (2002) present an econometric study testing for the tollbooth-theory. The regulations considered by the authors are entry regulation, start-up requirements, number of procedures, official costs of following them, and minimum official time for a start-up. These regulations should, for example, guarantee a certain quality of the goods provided by the entrants and prevent from fly-by-night strategies. The authors find that heavier regulation is significantly related to higher corruption and larger unofficial economies, while the quality of the private or public goods is not better because of regulation. Further, 'good' governments are regulating less entry than governments known for being inefficient. The authors consider these results as providing evidence against public interest theories of regulation and in favour of the public choice view. However, just as the theoretical results by Shleifer and Vishny (1994), these results may hold for the regulations considered by Djankov et al (2002), but they should be handled with caution when extending them to public service sector regulation because of the particularly important market failures in these sectors—although abuse of regulatory rules are of course not excluded.

[9] On this, see in particular Acemoglu and Verdier (2000).

Lastly and to conclude on the tollbooth theory, Rose-Ackerman (1999: 21) warns against argumentations that are based upon perceptions of laws and regulations such as 'unfair' or 'inefficient'. In front of the excuse put forward by many multinational firms paying bribes in developing countries based on such arguments, she asks whether firms or individuals only have to obey laws that they consider being just and efficient, and notes that such a conduct would certainly not be tolerated in most industrialised countries. Indeed, most environmental or health and security regulations are regarded as unfair, conferring competitive disadvantages etc. Also, she points out that "*it seems strange indeed to tolerate business firms' judgements that a well-placed pay-off is justified because it increases their profits.*" Just as the UNDP (1997: 23), Rose-Ackerman considers such 'justifications' for corruption as harmful for the development of a credible and strong state in developing countries that is so desperately needed. Even if it is certainly true and perhaps even inevitable that certain laws are inefficient or even unfair—where and how to draw the line?

2.3 The Toulouse School, Principal-Agent and Life-Cycle Theory

The positive theory of regulatory capture by the Chicago School and the public choice literature were later developed in a normative way by the Toulouse School, mainly by Laffont and Tirole (1991: 1090/1993: 475) and related contributions. The analysis is based on asymmetric information and the principal-agent model. In the absence of these asymmetries, firms would not be able to extract rents and a theory of regulatory capture based on the argument of rent-seeking comes short. Just as in the tollbooth theories, the private interests of the public agents are thus taken into account as well. Beside the Toulouse school there are of course other authors relying upon the principal-agent framework to explain regulatory capture. Spiller (1990), for example, analyses the potential agency problems between the regulatory agency and Congress in a multiple-principal/single-agent model.

The model by Laffont and Tirole (1991, 1993: 465) is based on the following assumptions. The agency, i.e. the supervisor, regulates the firms' rate of return and the prices. The regulated firm, i.e. the agent, disposes over private information regarding its costs. While the regulator has the time and resources to discover the real nature of the firm, in other words, to know whether the firm is efficient (low costs) or inefficient (high costs), the Congress, i.e. the principal has to believe in the information provided by the regulator. The regulatory agency can thus hide information from the Congress and obtain an information rent by colluding with the firms if the firm benefits from this retention of information (Laffont and Tirole, 1993: 486). In their model, the authors show that regulatory capture reduces social welfare.[10]

Another explanation for regulatory capture is provided by the so-called 'life-cycle theory of regulatory agencies' by Martimort (1999), described also in Estache and Martimort (1999: 16). Just as a product in the market, a new regulatory agency undergoes a life-cycle: when established during a regulatory reform, the agency is subject to close scrutiny by the government and even by the general public, but with time the attention focuses on other topics and the day-to-day activities of the regulator are less in the spotlight of public attention. While at the beginning the regulator faces strong pressures to effectively play his role as a protector of the users against the industry, this pressure decreases with time while the pressure by the industry remains constant. With this evolution, the regulator becomes more prone to be dominated by the interests of the regulated firms.

[10] The authors further show that different interests may not necessarily neutralize each other, but rather may compound and enforce one another in making regulation inefficient (Laffont and Tirole, 1993: 490-1).

With a sufficient time horizon of data available, the evolution of regulatory decisions could thus be analysed in time: do regulators tend to serve firms' interests with time? This question may be interesting to test for various countries. Many reforms are now reaching back more than 10 years, and it should be possible to collect the relevant data. For example, Dnes (1995), or Dnes and Seaton (1999), examines market returns related to regulatory events in the regulation of British Telecom. In this case, the authors clearly reject the life-cycle theory, since regulation seems rather to have been more benevolent at the beginning, during the years 1991-93 as later on. The authors further test for overall capture and find that there is weak statistical evidence for no overall capture, but that some "*decisions reflected producer interest*" (Dnes and Seaton, 1999: 610). All in all, the authors conclude that the British Telecom regulator, OFTEL, is independent and effective.

The merit of the Toulouse school and authors such as Pablo T. Spiller is without a doubt to have shed light on the principal-agent relationships inherent to any type of regulation: regulated firms and regulators can collude in order to extract and divide rents from the regulator's principal. This view of capture, however, does not take into account a 'passive' capture of the regulator, i.e. cases where the regulator does not know that he's being abused, that is when the firm makes use of her informational advantage. For example the firm can provide false information, manipulate accounting data etc. Indeed, the assumption that the regulator can uncover the real nature of the regulated firm appears somehow optimistic. Laffont and Tirole (1993: chap. 12, 13), of course, treat such behaviour by the firms, but do not label them a form of regulatory capture.

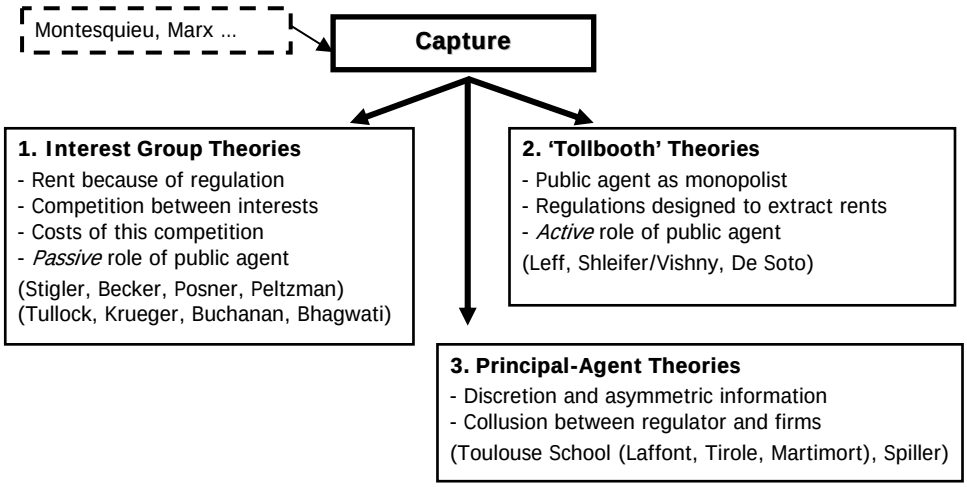
Lastly, Kalt and Zupan (1984/1990) are pointing to a special kind of 'slack' in the principal-agent relationship between politicians and voters. According to the authors, a shortcoming of capture theories by both the Chicago and Virginia School is that they rule out the role of institutions—or considers them to play only a secondary, minor role in explaining their behaviour. In particular, Kalt and Zupan (1984/1990) are emphasizing that 'ideology matters'. Kalt and Zupan (1990: 104) define ideology as a "*political actors' personal definition of the public interest, pursued as a consumption good that yields satisfactions in the form of moral sentiments*." Indeed, empirical studies including ideology have proven considerable explanatory power regarding political decisions. Politicians may thus pursue their own private idea of what is a 'good' policy that may considerably diverge from what would be chosen, for example in a direct democracy, by the citizens. The authors refer to it as a sort of 'ideological shirking'. The aspect is of interest for the discussion in this paper, since pro-industry regulations that could lead to suspect some kind of capture by the industry, may rather reflect an ideological bias of those in charge of implementing and monitoring the reforms. Even more, the reforms themselves may be introduced on these grounds, without firms playing necessarily an active role—although the reforms are clearly favouring them.

Thus it would be interesting to test in a cross-country analysis whether there is an ideology bias in introducing public service sector reforms. Since right-wing politicians are supposed to have stronger ties with the economic elite and firms, for instance because they come themselves from this business sphere, there may be an ideological bias in favour of private firms' interests respective to consumer interests. Li, Qiang and Xu (2005) tested for the role of democracy and private interests in regulatory reforms in the telecommunication sector in developing countries. Among other, they test the hypothesis stating that right-of-centre governments are more likely to introduce reforms (Li, Quiang and Xu, 2005: 1311). They find in their regression that right-wing governments have strong positive effects on regulatory and tariff regimes over the whole sample. Ideology has however a weaker effect in less democratic countries. The author explanation is that in these countries the legislative is less effective and that ideology has thus not such a great impact (Li, Quiang and Xu, 2005: 1318).

Further findings, just as intuitive, are on the one hand that countries with relatively strong pro-reform interest groups, a larger financial sector, and a higher share of urban users, are more likely to introduce reforms. On the other hand, countries where the incumbent has strong vested interests and thus bargaining power to oppose reforms are less likely to introduce regulatory reforms. From this follows that democracy is an important variable for the success of reforms, since democracy may provide a platform for stronger interest group competition leading to a more equilibrated representation of diverging interests (Li, Quiand and Xu, 2005: 1320-21). The findings are in line with the interest group theories of regulation, and underscore the importance of pressure groups and institutions for the outcome of reforms.

Figure 2 below resumes the main theories related to capture as presented in this section.

Figure 2: Main Theories of Regulatory Capture



3 Lessons from the Economics of Corruption

3.1 Defining Corruption

Defining corruption is certainly not an easy task. Heidenheimer and Johnson (2002: 7-9) provide a classification of these definitions into three broad categories. The first one comprises definitions making use of the concept of 'public office' and underscoring the fact that corruption implies a violation of rules related to this public office. The second category refers to the market mechanism: the bureaucrat makes use of his office in order to maximise his private benefits. The last category recurs to the concept of a 'public interest' that is violated by corruption. Gardiner (1993: 32) resumes this definition as follows:

> *"…if an act is harmful to the public interest, it is corrupt even if it is legal; if it is beneficial to the public, it is not corrupt even if it violates the law."*

Such a definition, however, suffers from the same problems as described above when defining what exactly lies in the public interest. Now, there seems to be a growing consensus to define corruption as an 'abuse of entrusted powers for private gains'.[11] This definition comprises also corruption within the private sector, without requiring a public

[11] This definition, for example, is used by Transparency International. Bardhan (1997: 1321) uses a similar definition, although more extended but nevertheless restricted to the abuse of a public office.

office. An abuse is any conduct that deviates from formal or informal rules generally accepted in society. The entrusted powers that may be subject to abuse may be acquired by merit or by delegation, i.e. administration in the public sector and management in the private sector, or by election, in the case of politicians.

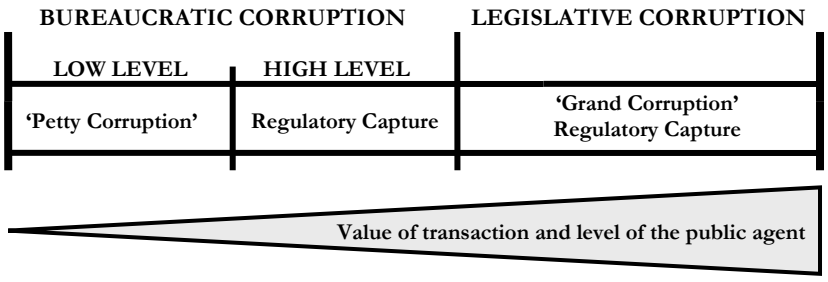
Regarding the 'private gains' it is important to take into considerations that these do not have to be merely monetary, but may also comprise other material or immaterial goods such as status and power. As Lambsdorff (2002b: 225) points to, non-monetary forms are even often preferred since they are less traceable and more difficult to prove by prosecution authorities. The private gains further do not need to be given directly to the corrupt agent, but may also benefit members of his family or his friends, for example. On the private side, corruption is used either to avoid due costs, for example to avoid certain institutional processes, or to obtain some undue benefits that wouldn't have occurred otherwise (Rose-Ackerman, 1996).

An important distinction concerns the level where corruption occurs in the public sphere: so-called 'grand corruption' involves high-placed bureaucrats or politicians; the value of the corrupt transfers is usually high and often tied to one-time exchanges. 'Petty corruption', in turn, takes place at lower levels of the administration and the value of the exchanged transfer is significantly lower. But the frequency of low level corruption is higher, and can become pervasive. Rose-Ackerman (1978: 15-58) refers to grand corruption as legislative corruption, and to the low-level type as bureaucratic corruption.

For the case of public service sector regulation, two levels are of particular interest: legislative corruption and high-level bureaucratic corruption. Indeed, the low-level, 'petty', corruption is more related to phenomenon such as street-level extortion by policemen, 'speed-money' in lower administration, etc.

Regulatory agencies, in turn, belong to the higher administration and are usually characterised by a relatively small staff composed of experts that are usually also paid better then the average of public administration. Since politicians are likely to have significant power over the regulator, despite laws prescribing its autonomy, legislative, or 'grand', corruption is just as important to consider as the corruption of the regulators. Even if in the short-term politicians may indeed have only limited power over the regulator, they can nevertheless in the long-term (and sometimes even in the short-term) change the rules of the game. The relations between bureaucratic, legislative, 'petty' and 'grand' corruption and regulatory capture are visualized in figure 3.

Figure 3: Types of Corruption and Regulatory Capture



It is further possible to distinguish between different types of corruption that also require different approaches of anticorruption. Table 1 below summarizes these main forms of corruption. Especially when discussing problems of corruption related to public service sector reforms, it is important to take into consideration not only forms of vertical

collusion and theft, but also the phenomenon of horizontal collusion between various agents in order to harm the principal, for instance a coalition of bidders in order to influence the price of an auction or to divide the market.

Table 1: Main Forms of Corruption

Bribery	A corrupt favour provided in exchange for a monetary payment (the bribe)
Embezzlement	Theft of resources by those who have the responsibility to administer them
Fraud	Economic crime involving trickery, swindle or deceit, like deliberate falsification, manipulation or embezzlement of information
Extortion	Money (bribes), favours or resources extracted by the use of coercion, violence or threats
Favouritism	Abuse of power implying a corrupted distribution of resources and thus a violation of allocative efficiency
Nepotism	Special form of favouritism, where decision are biased in favour of family or clan members

Source: Adaptation from Andvig et al (2000: 15-18)

3.2 Corrupt Relationships in Regulation

The different types of possible corrupt side-agreements between the actors of regulation can be discussed within the principal-agent-client model. However, the principal-agent relations are usually very complex in reality and can thus not really be described through simple formal models. Estache and Martimort (1999: 3) emphasize the complex multi-principal nature of the government structure:

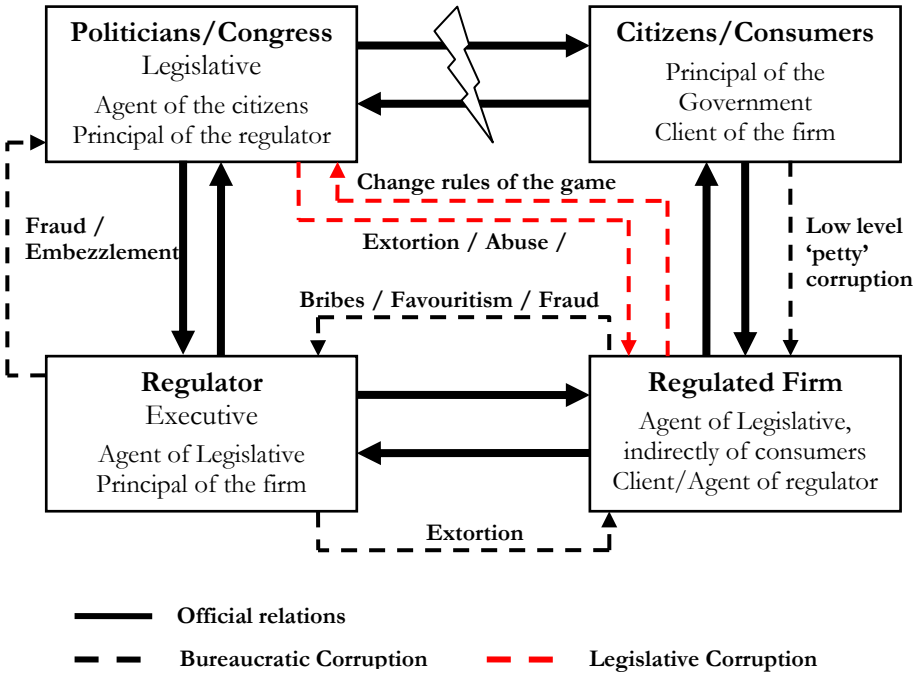
> "*Regulators share the control of the firm. Political principals share the control of the regulatory policies at a given date, but they also share this control with their successors. Legislature are themselves divided into numerous Committees and Subcommittees with their own objectives, each of them trying to influence the bureaucracy. Moreover, the bureaucracy is not a unified body. Often agencies and bureaus compete with one another for resources, while at the same time bureaucrats compete for influence within a given industry.*"

In the regulatory processes one can thus distinguish between (at least) four actors: (i) the citizens or on a more narrow basis, the consumers or users; (ii) the legislative power, i.e. the politicians as individuals, or the parliament or the congress as an entity; (iii) the executive power, here the regulator, again considered either as an individual or as the regulatory agency; and (iv) the regulated firms. However, the role of one and the same actor changes depending on the level taken into account.

The model also shows where there is, usually, no formal relationship in place: between regulator and users. Even though the regulator should, in principle, trade-off the interests of the regulated firm with those of the consumers, the latter are usually not directly involved in the regulatory process. Estache and Martimort (1999: 2) observe that this may be the root of considerable problems, since the regulator is not directly responsible of his actions and decisions to the users, but only to their principals in the legislative. But precisely here the model fails. The principal, the politicians, may themselves be corrupt. Also, elections are only a very imperfect way to control politicians, especially on such specific issues as public service sectors— rather, they are usually driven by topics such as unemployment, violence etc. Moreover, countries characterised by corrupt politicians are

usually not known to be the most democratic ones. When the principal is corrupt, anti-corruption becomes particularly problematic. Figure 4 below resumes the actors involved in regulation, their 'legal' relationships and corrupt ways to subvert them.

Figure 4: Official and corrupt relations in regulation of public services



An important differentiation is one regarding the timing of when the capture occurs. Indeed, it is possible to distinguish between *ex-ante* and *ex-post* capture. Both should be analysed separately since they have to be tackled by different countermeasures.

We define *ex-ante capture* as influences exerted on rule-making processes, i.e. when firms or other interest groups try to shape the design of regulations in their favour *before* they come into effect. Such a participation in the design of the rules has the clear advantage that rules can be respected afterwards and no efforts have to be wasted in trying to circumvent compliance. Ex-ante capture corresponds to high level ('grand'/legislative), corruption, or so-called 'state capture'. Stigler's (1971) capture theory would mainly fall within that category. Besides influencing rules and laws, another form of ex-ante capture is to negotiate contracts in a corrupt way, e.g. to include higher gains. The contract ex-post itself is then perfectly 'legal', just as the laws and rules established through capture of legislative processes, but the way the contract has been negotiated was corrupt. 'Good' relations to politicians are of course an asset at times when there are disputes with the regulatory agency. The greater the dependency of the regulator from the political sphere, the more rational it is to capture directly the politicians in charge.

Ex-post capture, in turn, aims at influencing the administration in order to circumvent or curb existing rules, and thus is better explained by models of bureaucratic corruption. However, ex-post capture may also include legislative corruption, if pressure is exerted in order to change or to shape rules during renegotiations in favour of the regulated industry. At this stage, where regulations are in place, formal relationships between the actors are already established.

Between the political principal, i.e. the elected politicians in the congress or parliament, and its agent, the regulator, the main risk arises because of the informational advantage of the regulator, as described by Laffont and Tirole (1991/1993). The key issue is that the regulator is able to hide or even falsify information about the regulated firms to the legislative and thereby also from the indirect, and surely incomplete, control by voters. The regulator is thus able to defraud the parliament, for example, in order to obtain a higher budget. Individual regulators may also embezzle funds from this budget. But more important, this discretion opens the way for the establishment of corrupt side-agreements between regulator and firms. Indeed, firms may directly bribe the regulator or confer favours, for example, the promise of future job opportunities within the firm ('revolving door'), travels to conferences, financing of academic research on which industry-favourable regulatory decisions may be based upon etc.

Another corrupted way to obtain a 'friendly regulation' is to defraud the regulator by providing him false information. This will be in particular the case of manipulation of accounting data, which is difficult or very costly to verify for the regulator, but may also involve data concerning demand structure in order to obtain subsidies, for example. The advantage of such a strategy is that there is only the risk of detection and no need to engage into corrupt negotiations with the regulator that has to be preceded by costly activities such as searching for the 'right' person within the regulatory body etc. In case of discovery, the worst case scenario, a corrupt 'solution' with the auditor may still be found.

One has also to acknowledge informational asymmetries within the regulatory institution, which can become particularly troublesome. During the expert interviews by the author with Colombian regulators, it has been pointed to the following problem during an interview in the CRA. The basic accounting data is collected and processed by a very little group of experts, if not by a single individual. The rough data is bundled, analysed and is transferred to superiors in form of reports. This, however, creates important possibilities to manipulate data, since verification would be very difficult, costly and time-consuming. A corrupt favour provided by such an expert would thus be particularly difficult to detect.

Lastly, politicians and regulators may abuse of their power conferred to them by laws and regulations in order to extract corrupt benefits from the regulated firms that are in a situation of lock-in. Behaviour that could be labelled also as straightforward extortion. This problem of regulatory opportunism or the problem of lack of commitment power has been extensively discussed in the literature on economic regulation, for example by Armstrong, Cowan and Vickers (1994: 85), Spiller (1996: 424), or Spiller and Savedoff (1999).

3.3 The Regulator as a Monopolist

Corruption breeds in opacity: in a crystal clear world of full information there would be no possibilities to circumvent existing rules in order to derive benefits for own pockets. Not at least because those that are hurt by corruption would be able to interfere and prevent corrupt deals from being settled. But if there is an informational advantage together with discretion on one side, this advantage can be abused and translated into a corrupt informational rent for the better informed. As Klitgaard (1988: 75) puts it:

Corruption = Monopoly + Discretion - Accountability

Since discretion is unavoidable and even necessary in regulation, two factors are of pivotal importance: transparency and accountability. Transparency International defines transparency on their homepage as:

"*…a principle that allows those affected by administrative decisions, business transactions or charitable work to know not only the basic facts and figures but also the mechanisms and processes. It is the duty of civil servants, managers and trustees to act visibly, predictably and understandably.*"

Bellver and Kaufmann (2005: 4) further underscore that the "*…information provided should also be accessible, relevant, of good quality and reliable.*" The quality and reliability of information thus also plays an important role. As with the trees impeding to see the forest, too much information can backfire and impede transparency.

Accountability in turn, has been defined by the World Bank on their anti-corruption website as *"…the constraints placed on the behaviour of politicians and public officials by organisations and constituencies having the power to apply sanctions to them.*"

Transparency and accountability go hand in hand. However, as emphasised by Bellver and Kaufmann (2005: 42):

"*Increasing transparency through accessible, relevant, and accurate information is necessary but not a sufficient condition for accountability. Citizens also need the capacity and resources, political and financial, to exercise that right effectively.*"

This should remind us also that fighting corruption is always also a matter of education and sensitisation, not only on a general level but also specifically referring to the media.

Now, the regulator definitely disposes over discretion. And, Wolfstetter (1999: 52) quotes an anonymous citation asking: "*How come there's only one Monopolies Commission?*" Strange indeed, and typical for public interest theories of regulation, that a certain behaviour, i.e. profit maximisation, is supposed for private actors but ruled out for the public actors in charge of regulation. The monopoly power conferred to the regulator is as much prone to lead to abuses as the monopoly power of a private firm.

For example, the regulator and/or the politicians have the power to create and control rents in markets. They can 'sell' any type of regulatory decision over existing rules or create new rules in exchange for bribes or favours. In sectors where competition would be *a priori* possible, it can often be observed that liberalisation is accompanied by the awarding of licences. But if the regulator decides about the entry of new competitors, the entry decision can become marketable. Of course, the same regulation provides the regulator with discretionary power and enables him to sell the 'right to enter the market' to the firms with the highest 'willingness-to-bribe'.

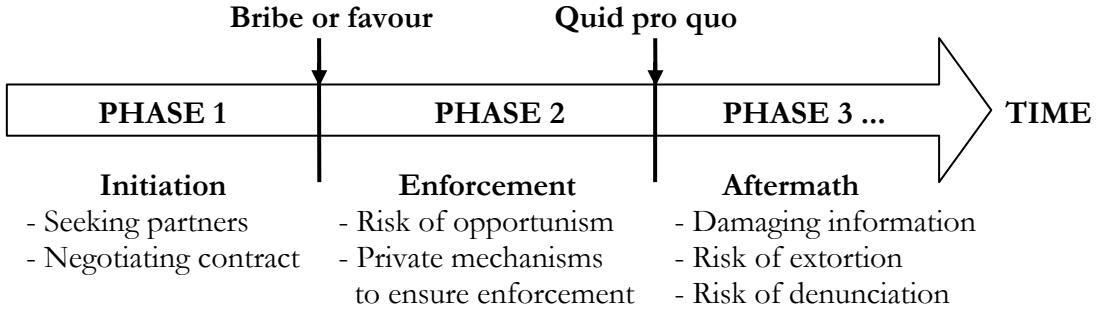
A further problem that may arise in sectors (or parts of the sectors) where there is limited competition, is that the regulator could work as an enforcement mechanism to horizontal collusion between firms. Indeed, in oligopolistic markets firms could benefit from collusion through fixing higher prices, dividing the geographic market between them, or dividing and reducing the quantity to raise prices. Another conclusion from oligopoly theory is, however, that such cartels between firms are usually not very stable. Decisive factors for the stability of a cartel are the number of firms colluding, the discount rate, the time horizon, and the possibility to monitor the cartel and to credibly and effectively punish in case of a breach. Just as the auctioneer in public procurement may work as control agency and enforcer of bid cartels (see Boehm and Olaya, 2006), the regulator could be abused as an enforcement mechanism. The regulator disposes over information concerning all firms, and has usually the power to impose sanctions and thus to punish a certain firm for breaching the cartel, while declaring the punishment to the parliament as a consequence of a violation of regulatory rules. The gains issuing from horizontal collusion would be divided between the regulator and the firms. This scenario fits well into the model of regulatory capture proposed by Laffont and Tirole (1991/1993). Also, the regulator could

have an incentive to sustain collusion, since the available rent to be divided becomes greater (compare Lambert and Sonin, 2003).

3.4 Transaction Cost Analysis of Corrupt Deals in Regulation

Now, let's consider the characteristics and the institutions required for the working of corrupt deals. On a general level, Lambsdorff (2002b/2007) divides a corrupt transaction into three phases: contract initiation, contract enforcement, and the aftermath.

Figure 5: Phases of typical corrupt transactions over time



The first part includes tasks such as seeking the 'right' partner and negotiating the contract conditions of the deal. Contract enforcement, in turn, has to fall back on a set of institution such as the exchange of hostages or the building of reputation, since a corrupt contract cannot be (and has not to be!) enforced by courts or other legal arbitration instances. After the corrupt deal has become effective, both parties hold potentially damaging information on the other. Thus, corrupt deals are not finished with the transaction itself; rather, there remains a risk of denunciation or extortion, which has also consequences for the way to design a corrupt contract.

Understanding how a corrupt deal is arranged and the institutions required for a good working of the corrupt deal can provide essential information on how to effectively break up (ex post) and render difficult (ex ante) such type of agreements. Lambsdorff (2007) calls this the '*principle of the invisible foot*':

> "*...corrupt actors can neither commit to honestly serve the public nor credibly promise reciprocity to their corrupt counterparts. This implies that their willingness to take bribes leaves them in uncertainty. Strengthening this principle ascertains that even self-seeking public servants refrain from corruption. The general approach for reform would be to make those willing to take bribes untrustworthy for public positions, to encourage betrayal among corrupt parties, to destabilize corrupt agreements, to disallow contracts to be legally enforced, to hinder the operation of corrupt intermediaries, and to find clearer ways of regulating conflicts of interest.*"

So, what are the transaction costs and key institutions for corruption in public service sector regulations considering a hypothetic corrupt deal between a regulator and a manager from a regulated firm?

First of all, contract initiation is facilitated by pre-existing legal personal relationships between regulators and managers from regulated firms, as emphasised above. It is known that such legal relationships may be abused as a foundation for corrupt relationships as

both partners are able to gather information about one another over time. Lambsdorff (2002b: 225) writes:

> "*In this case, corruption takes place as already existing relationships deteriorate into illegal relationships. It is not corruption which brings together people in the first place. (…) Legality and corruption cease to be two opposing forms of relationships. Instead, a legal relationship represents a vehicle for establishing a corrupt relationship and the latter is parasitically linked to the former.*"

And, moreover (Lambsdorff, 2002b: 232):

> "*Regular contracts can help lower the transaction costs for arranging corrupt agreements, rendering some public servants particularly apt to taking bribes.*"

Legal relationships may thus facilitate corruption: the actors become known to each other, friendships and trust may arise. Just as the repeated get-togethers, which enable the detection and facilitate the punishment of breaches of corrupt side-agreements, trust and 'honesty' are known to be an important ingredient for corruption to become effective. For example, the establishment of close relationships between regulators and the firm may lead to the unspoken agreement not to deteriorate the relationship because of disputes over technical issues. This way, the capture of the agency may even occur without that the regulator actually becomes aware of being captured by the interests of the regulated firms.

In particular, the ongoing relationships make it possible for both sides to explore peu à peu the 'moral' point of view of the other, whether he is very honest and law-abiding or whether he tends, for example, to accept to be 'flexible'. Apparently fortuitous observations can be made to 'test' the other and to indicate corrupt opportunities, in order to get to know where 'help' could be appropriate. The art would be to disguise a corrupt offer as something more parent to a peccadillo as to a criminal act, in order to not offend the one the corrupt offer is directed to.

A less subtle way to initiate potential corrupt relations is to bait the potential corrupt partner with gifts without asking for a quid pro quo. For example, in one agency during the interviews in Bogota with Colombian regulators it was reported that watches were sent to the regulators for Christmas. But such rather gross and blatant offers are usually counterproductive—in the reported case, the watches were sent back and may rather have augmented vigilance of the regulators.

There are still other ways to seek and find the right partner for corruption. For example, as pointed to by Lambsdorff (2007: 94), a way to 'advertise' that one is disposed to engage into corruption is a 'lavish lifestyle', costly watches, elegant suits, or alike that usually would be too costly for the salary, can signalise that there are other 'incomes'. However, such lavishness may of course also attract the scrutiny of colleagues or prosecution agencies.

For the special know-how required by corrupt deals, a common practice is to engage intermediaries (see Lambsdorff, 2007: 95, Bray, 2005, or Bayar, 2005). Such specialised middlemen have the savoir-faire and the necessary relationships with the administration and politicians. The advantages of using intermediaries are obvious. First of all, the person that is actually interested in engaging into corrupt practices can remain anonymous if he wants to. In the case of regulation, for example, the regulator approached by the middleman would not be able to identify from which regulated firm the offer is actually coming from—the risk would only fall on the middleman, who is getting paid exactly for bearing that risk and who has the knowledge to minimise it. Only when the deal is settled, the regulator could become to know the name of the *firm*, but even then, *individuals* may remain anonymous. Second, the specialisation of the intermediary reduces the transaction costs of corruption and enables to reduce the risks of detection. The intermediary, having

to defend a reputation constituting the asset of his work, is further not likely to abuse of his knowledge and to extort its principal.

When the contact has been made and the willingness to engage into a corrupt agreement has been expressed, the regulator and the manager have to negotiate the details of the deal. In particular, it has to be agreed upon the nature of the quid pro quo.[12] Again, in order to reduce the moral costs and the sentiment of guilt, an apparently 'friendly' return for a favour will be easier to accept as a straightforward monetary bribe. For this reason, it can be an advantage not to define clearly the quid pro quo at the beginning, so to say in a sense of 'I owe you'. But this can backfire, as argued by Lambsdorff (2007: 95 and 104), and may result in disputes afterwards, which could culminate in denunciations.

Afterwards, the corrupt parties face the serious problem of opportunism. Indeed, a corrupt agreement usually requires that one favour is executed before the quid pro quo. There is time for a party to withdraw from his promise after having obtained his side of the agreed favour. While in such cases legal agreements can be sued by courts, corrupt contracts have the disadvantage that they cannot be enforced through the judicial system (see also Lambsdorff, 2007: 97, Rose-Ackermann, 1999: 92). Eventually, contracts with middlemen, if they are legally formulated and disguised, can be treated as legal contracts, but there are no guarantees that the real purpose of the deal will not be undiscovered during the process (see also Lambsdorff, 2007: 98).

As practice shows, different alternative, private mechanisms of enforcement have to be found: the use of hostages, the building of reputation, repetition, with prospect of future benefits in case of compliance, ex post vertical integration, enforcement by third parties, and in general social embeddedness (Williamson, 1985: chap. 7 and 8, Furubotn and Richter, 2005: 175-178). The special case of corrupt agreements, as discussed in the following, is analysed in detail in Lambsdorff (2002b) and (2007: 98).

Hostages in the case of corruption are likely to be materialised in down payments that would be lost in case of a unilateral violation of the contract, such down payments are also conceivable to enforce corrupt deals in the case of regulation, although direct monetary bribes seem to be less probable. Usually other favours will be preferred in order to reduce the probability of detection, but in these cases down payments are not so easy to make, and other enforcement mechanisms have to be found.

Of more practical interest for the case of regulation is the building of reputation as an 'honest corruptor', combined with the repetitive nature of the regulatory relationships described before, that are constituting a social embeddedness helping to stick to promises made. Indeed, regulators and firms will stay in contact after the deal has been enforced and are thus facing incentives to keep the relationship in good terms. And just as in the phase of contract initiation, friendship can also provide a check against opportunistic behaviour.

A further enforcement mechanism which could be viewed as some kind of delayed vertical integration is what is known as the 'revolving door': the captured regulator acting corruptly on behalf of the regulated firm is given the perspective to work for the private firm after some time in exchange for his services. The ex-regulator then becomes partner of the corrupt firm and has an additional incentive to be cooperative.

Finally, in some cases, enforcement through violence or threat of violence is also possible. This is in particular the case if the middleman used to arrange the corrupt transaction pertains to a mafia-kind of organisation or other armed groups. Sometimes, in regions where violence is widespread or a reputation has been build up to enforce debts with

[12] See Lambsdorff (2007: 96) for a variety of different possibilities to disguise illegal payments, and examples.

violent methods, even the threat to recur to organised crime in case of non-performance of the contract may be sufficient to discipline the counterpart. This danger becomes particularly relevant when regulation is located on decentralised levels where regulators are more exposed to threats.

But even when the corrupt transaction itself has been 'closed' successfully, every corrupt deal has an aftermath. Lambsdorff (2007: 103) writes:

> "*Typically, contracts are assumed to end with the exchange of services and return. (…) After the fulfilment of mutual claims, it is assumed that there are no further problems associated with a contractual relationship. While this may be true of legal contracts, corrupt agreements may have further repercussions, owing to the fact that each partner has the option of denouncing the corrupt agreement. Both have locked themselves into mutual dependence, and the corrupt agreement has a binding impact upon the partners even after the contract has been fulfilled. Having the means to impose harm on his counterpart, one partner in a corrupt contract can attempt to extort the other by threatening exposure.*"

Indeed, one party of the corrupt transaction or a third party with insider information may decide afterwards to denounce the corrupt deal or to extort the other with the threat of denouncing the deal. This could in particular be a strategy for revenge if one party feels deceived by its corrupt partner and counts with a lower sanction than the other.

In particular, it appears that severe sanctions, without providing rules for whistle-blowers, may not only work as enforcement mechanism, since the costs of denouncing the corrupt deal and incurring the risk to be punished may outweigh the benefits from opportunistic behaviour. Rather, regulators may become entrapped in a corrupt relationship and be extorted to keep on favouring the firm through the menace of denunciation. Corruption will usually not remain one-shot deals, but will be repeated. Not only because of the sunk investments into corrupt savoir-faire but also because the regulator may be at the mercy of the firm. Of course, the losses of the public agent are usually more severe as those incurred by the private part—which can even be immune when located in another country.

3.5 Corruption vs. Lobbying

Finally, it is important to distinguish between corruption and lobbying. Indeed, the world of corruption is very different from the world of political lobbying that is usually described in rent seeking models or in theories of interest group competition. The main difference between corruption and lobbying (competitive rent-seeking) arises because of the illegality of the former and thus the required secrecy of the transactions. This implies that most if not all the assumptions on which are based the formal model of rent seeking as presented above are not satisfied.

First, as opposed to Tullock's (1980) model, the number of players in the corrupt game will usually be unknown. Even though a firm may have knowledge on the number of firms competing in the market, the firm will not know how much firms participate in corrupt activities. This uncertainty regarding the corrupt activities of the other firms participating, say, in a public auction for a service contract, can also raise a situation comparable to a prisoner's dilemma: if the auction is won by the corrupt firm, and it is unknown whether the other firms pay bribes or not, the dominant strategy for any firm would be to pay bribes as well.[13]

[13] Although this logic is oversimplified because there are high barriers to enter into the corrupt game, this description is able, however, to describe the pressure that firms may face in corrupt environments. As discussed in Boehm and Olaya (2006), such a situation may lead to the exit of honest firms—some kind of ex-ante adverse selection of the participating firms.

Further, the rent seeking model requires free-entry, that is, all firms that want to participate in competing for the rent, are able to do so and are indeed competing against each other, and all firms are equal. But firms in a corrupt game are not equal. Rather, some dispose over the required savoir-faire and connections, and have thus lower costs of engaging into corruption, while others don't. Some are willing to engage into illegal practices, others may face moral objections. In reality there are high barriers to entry into the corruption game. As described above, the transaction costs of corruption, not at least because of the risk of detection, are much higher as in (open) political lobbying. Finally, the assumption of a perfect competition between firms implicitly rules out any form of horizontal collusion. But precisely in public service sectors, where there a few multinational firms and a growing market, such forms of cartels are not unlikely.

Furthermore, corruption is not limited to bribes, and while a competition in bribes is possible (although difficult and certainly limited because of entry barriers), favouritism or nepotism definitely changes the rules of the game, since the probability to win would be biased in favour of firms with connections. Lambsdorff (2002a: 106-7) points out that traditional rent-seeking literature (he cites Krueger, 1974, and Tullock, 1980) sees favouritism and in general the restricted competition resulting from corruption as opposed to political lobbying as *beneficial* since it reduces the wasted resources. This leads to the erroneous conclusion that corruption would be somehow superior to lobbying.

Lastly, as pointed to by Lambsdorff (2002a: 109), the rent may not be exogenous, as supposed in the formal models of rent-seeking. If a politician can use the potential rent for bargaining, he could increase the rent in order to get more competition, and thus increase or even create the inefficiency. Indeed, the politician or the regulator has the monopoly power over the rent. The speed money phenomenon illustrates this view: while speed money is paid in order to circumvent queues, the possibility to extract speed money provides incentives for creating queues in the first place. This point will be discussed below for the case of regulation.

Lambsdorff (2002a: 117-20) further underscores that corrupt transactions involve narrower interests than political lobbying. While a bribe or favouritism confers a special contract to a special firm through a special government agent, harming thereby all other competing firms in the sector, lobbyism usually involves groups of firms and thus internalizes some of the negative externalities caused by the lobby group. In the context of regulatory capture, we usually face a situation where one single firm with a very narrow interest aims at gaining influence on the regulator.

Table 2: Differences between Corruption and Lobbying

Regulatory Capture Through:	
Corruption	**Lobbying**
- Illegal - Secret and not transparent - Requires savoir-faire (entry barrier) - Narrow interests (e.g. one firm)	- Legal and legitimate - Relatively transparent - Open to everybody - Broader interests (e.g. one industry)
⇒ **Requires anti-corruption strategies**	⇒ **Requires regulation**

Regarding regulatory capture, this differentiation between lobbying and corruption, as summarised in table 2 above, is important regarding the policies to be adopted. Lobbying is a legitimate way for interest groups to articulate their concerns in a democracy. Thus,

lobbying should be regulated in a transparent way, in order to open the platform to different interest groups. However, as emphasised before when discussing the theory of interest group competition, the power of interest groups may be very unequally distributed coming along with the danger of biased political decision-making. Corruption, in turn, cannot be tolerated and anti-corruption measures must be implemented.

4 Anti-Capture: Some Policy Implications

To conclude, findings from the economics of corruption, in particular related to the institutional analysis and transaction costs view of corrupt transaction can add considerable explanatory power to the analysis of regulatory capture and regulatory opportunism. While theories related to regulatory capture only identify and explain the phenomenon of capture, they are unable to describe in detail the channels through which capture actually occurs in practice. Of course, the underlying mechanism of capture is corruption. This is not a merely academic exercise but this fine-tuning is required for the development of anti-capture strategies.

From the foregoing analysis the following points seem of importance in trying to prevent from capture and corruption in public service sector regulation (for more details on this, see Boehm, 2007). Because of the complexity of the problem, it follows that anti-capture strategies require a multilateral approach of different measures aiming at complementing each other. First of all, the principal-agent model sheds light on measures to cope with bad incentives. Their aim is to alter the decision of potentially corrupt regulators by incrementing the costs of corruption and reducing the benefits issuing from the undesired activity. This incentive structure design calls for implementing traditional control-sanctions-rewards schemes, while taking into account potential perverse effects of these measures.

Second, it appears that the often invoked regulatory autonomy is a double-edged sword. On the one side, regulatory discretion has to be reduced to a minimum in order to reduce scope for corrupt side-agreements. On the other hand however, regulatory autonomy protects the firms against opportunistic behaviour from the political sphere. Thus, a middle way has to be found, limiting discretion without endangering independence and flexibility. This can best be achieved by increasing transparency and accountability in regulatory processes and decisions. Corruption and capture can only arise if narrow interests can secretly exert influence aiming at branching off resources to their benefit, but can hardly survive in the spotlight of other interests from which these resources will be robbed from. Accountability helps in targeting sanctions in the case of detected abuse, and transparency is needed to detect the abuse in the first place.

Introducing transparency comes thus also along with intends to reduce the informational asymmetries between regulator and legislative, but also between regulator and regulated firms. Reducing informational asymmetries does not only protect from corrupt abuses of the informational advantages but will also enhance the overall outcome of regulation. The best way to fight against informational asymmetry is without a doubt data collection. Intents to increase our knowledge of the regulated sector, and making this information available to everyone including civil society organisations, will have positive effects in deterring from collusive practices but also in enhancing the efficiency and effectiveness of public service provision. Concerns by firms regarding the protection of business secrets are in general hardly understandable in sectors serving a public interest. Fraud, however, can of course not be ruled out and require trained personnel in the regulatory agency together with adequate design of rewards and punishments to give correct incentives in order to

prevent from collusion between these experts and the firms and avoiding the infinite regression problem of who will monitor the monitor etc.

Third, the transaction cost approach to corruption sheds light on possible measures aiming undermining the establishment and enforcement of corrupt deals, and at promoting opportunism. Such measures could comprise:

- Rotating regulators in vulnerable positions in order to hamper the establishment and enforcement of corrupt side-agreement.
- Regulated firms or meetings should always be visited in teams of at least two regulators—and, if possible, in rotating teams.
- Relationships between regulators and regulated firms should be held anonymous when possible.
- Regulators should be disqualified from working for the private industry they have regulated over a certain period of time.
- An adequate staffing of the agency should be envisaged and external experts only be contracted if really necessary.
- In the case the quid pro quo is expected to be delivered by the regulator, regulators that have accepted a corrupt deal and have received, for example, a bribe, but wish to withdraw before providing the corrupt service should be supported through adequate rules governing such cases. This would furthermore raise the risk for managers to initiate a corrupt deal, since they cannot be sure they will receive the corrupt favour.
- Introduce rules and protection for whistleblowers. Legislations can be designed in a way to foster opportunism (Lambsdorff and Nell, 2005)
- Introduce corporate liability rules together with individual liability. With corporate liability, firms will face incentives to design internal rewards and sanctions in order to avoid liability.

Last but certainly not least, an important point in the light of the theory of interest group competition proposed by Becker (1983) is to enhance consumer protection and, above all, participation. Finger (2005: 293) sees this as one of the main challenges after reforms. Indeed, we have emphasised in many instances throughout the paper that one important player, if not the most important one, usually participates neither formally nor indirectly in the decision-making process: the consumers—although being the real principals of reforms in public service sectors. Enhancing a kind of potential 'capture by consumer interests' would add an additional player into the regulatory game and thereby helping in balancing diverging interests. Not at least, the consumers are the ones who in the end have to pay for any kind of regulatory failure.

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