Corruption, Lobbying and State Capture [1]

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Abstract

This contribution aims to provide a comparative analysis of the effects of corruption and lobbying on social welfare viewed as alternative methods of state capture. The core of the paper is the formulation of two models (one with exogenous and the other with the endogenous rent), a comparative analysis of the welfare effects of corruption and lobbying. Corruption is more favorable in terms of the welfare effects when the amount of the rent is small; conversely, when the amount of the rent is large, lobbying is more favorable. However, taking into account that the generation of the rent due to public policies leads to inevitably dead weight loss, both corruption and lobbing are inferior compared to the first best solution where no rent is generated at all.

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1. Introduction

In the last two decades, numerous economic studies have appeared dealing with corruption and lobbying – two concepts which are in direct relation to the phenomenon of rent seeking that came into the focus of economic research around the middle of the 1970s and which was thoroughly researched by the end of the century. However, studies comparatively analyzing both corruption and lobbying as distinct forms of rent seeking have appeared relatively recently (Coate and Morris, 1999, Schultze and Ursprung, 2001, Lambdorff, 2002a, Damania *et al.*, 2004, Harstad i Svensson, 2005, Campos and Giovannoni, 2005), so that comparative studies of the two phenomena can be considered to be at their beginning, especially in terms of welfare effects. The groundbreaking work in the area by Lambsdorff (2002a) offered a clear and comprehensive theoretical analysis of the two phenomena as alternative ways of state capture.

This contribution aims to provide a comparative analysis of the effects of corruption and lobbying on social welfare viewed as alternative methods of state capture. The structure of the paper is in line with this aim. First, basic concepts will be specified since some controversy in the reference literature has already surfaced due to misunderstandings concerning the definition of terms. This is followed by basic methodological considerations concerning the identification of welfare effects. The core of the paper is the formulation of two models (one with exogenous and the other with the endogenous rent), a comparative analysis of the welfare effects of corruption and lobbying. Finally, the findings of that analysis are presented in the conclusions, followed by suggestions for further research.

2. Specifying basic concepts

State capture in this paper is considered as the result of the influence of private interests on the formulation of public policies insofar that private (partial) interests of individuals or groups have a decisive impact on their contents, i.e. on the contents of the legislative

(statutory and sub-statutory) regulations and other rules and regulations that provide a regulatory framework for all economic activities. In short, state capture means the creation of a legislative regulatory framework which suits the interests of particular economic agents. This concept is somewhat different from the recently offered concept of "*state capture*", (Hellman and Kaufman, 2001, Hellman *et al.* 2003 and Grey *et al.* 2004), presupposing only the existence of illicit influence on public policies, i.e. illegal imposition of partial interests. In contrast to that, the concept of state capture in this paper allows for legitimate influence on public policies as a necessary condition for the comparative analysis of legal and illegal influence of this kind. By the introduction of legal influence on public policies the concept of state capture in this paper comes close to the concept of the regulatory capture (Posner, 1971, Stigler, 1971, and Peltzman, 1976), a notion from the economic theory of regulation. It is assumed that state capture can be achieved in one of two alternative manners: through corruption and through lobbying, which is fundamentally different from the narrow Hellman-Kaufman's concept of state capture. This approach is in accordance with the basic findings of both the economic theory of regulations (Peltzman, 1989), and the theory of the competition of interest groups over state capture (Becker, 1983 and 1985).

Following Murphy *et al.* (1993), the term *rent seeking behavior* will be taken to embrace all redistributive activities, that is, those activities which are aimed at the redistribution of welfare/wealth and which engage resources. In this respect, corruption and lobbying are viewed as distinctive forms of rent seeking. The issue of defining corruption in the case of state capture gives rise to substantial analytical problems. Lambsdorff (2002a) starts from the principal-agent model and draws the conclusion that corruption takes place "when an agent trespasses on the rules set up by the principal by colluding with third parties to promote his own benefit." However, one could ask which "rules set up by the principal" are violated in the formulation of a legislative framework favoring the partial interests of some economic agents. The point is that state capture encompasses formulating, rather than breaking rules. This is why Lambsdorff himself suggests that the principal-agent model may not be a suitable conceptual framework for the definition of corruption in the case of state capture and proposes (following the suggestion put by

Heidenheimer *et al.* 1989) that the definition should also embrace the welfare effects. In other words, he maintains that the definition of corruption in state capture should be based on the comparison of the welfare in the case of first best solution with the outcome in case of corruption. If the allocation of resources differs from the first best solution creating a welfare loss, then corruption as a method of state capture exists. The problem with this definition is that it also covers lobbying as a method for influencing public policies – lobbying results in state capture and allocative distortions, i.e. a departure from the first best solution accompanied by a corresponding welfare loss. This is why we should turn to some other definitions of corruption.

Corruption as a method of state capture is fundamentally different from administrative corruption which entirely concerns the implementation of public policies, regulations and rules. There is no direct link between administrative corruption and the corruption which results in state capture.[2] This is why it is questionable whether the definition of administrative corruption can serve as the basis for the definition of corruption in the case of state capture. One of the best and the most useful operational definitions of corruption "as the intentional non-compliance with the arm's-length principle aimed at deriving some advantage for one self or related individuals from this behavior" (Tanzi, 1995), was developed for the needs of defining administrative corruption[3]. In the case of state capture one could ask what "non-compliance with the arm's-length principle" means. This can be answered by defining the actions of public policy makers, for example, the actions of a legislative body, i.e. the members of the parliament: compliance with the arm's-length principle (for example by voting in favor of a law) presupposes the identical relation of a parliamentarian to all voters, or at least to those who elected him, irrespective of their partial interests. If such arm's-length principle is abandoned for "deriving some advantage", corruption exists, regardless whether the outcome is reduced

[2] Later in the paper various indirect relations between state capture (regardless of whether achieved through lobbying or through corruption) and administrative corruption will be analyzed. This relation is the central topic of some of the recent contributions (Damania *et al.*, 2004).

[3] The above definition of corruption is in terms of precision and the applicability in the case of administrative corruption superior to the widely spread but less precise definition of corruption as «the abuse of powers for personal gain» which is a slight modification of the traditional definition of coruption (Nye, 1967), related to the World Bank and its research on the phenomenon.

welfare or not, that is, what the effect of such action on the part of the legislative body is on the allocation of resources. [4]

However, the dilemma has not been resolved yet, especially in terms of the analytical separation of corruption and lobbying. Both "deriving some advantage" and "non-compliance with the arm's-length principle" in the case of legislative branch of government can also relate to lobbying. In order to differentiate between the two phenomena, it is necessary first to define lobbying in the case of state capture.

In this paper lobbying is defined as strategic influence exerted on a public policies and its formulation in line with the partial interests of some group or an individual. Sometimes when defining lobbying the existence of an interest group is implied, that is, lobbying is taken to involve (as a necessary condition) the representation of interests of at least two economic agents (Lambsdorf, 2002a). However, the existence of several agents who join forces in order to impose their own partial interest should not be regarded as a necessary condition to call an instance of strategic influence on public policies lobbying. It is implicitly assumed that lobbying is legal.[5]

Since both lobbying and corruption are the imposition of partial interest in the processes of formulation and adoption of public policies, i.e. that they aim at the introduction and maintenance (safeguarding) of a public policies which supports the partial interests of the corruptor or the person on whose behalf it was lobbied, the question arises what the conceptual as well as the operational definition is of the difference between corruption

[4] Hereafter state capture will apply exclusively to the capture of legislative authorities. This is not to exclude the possibility that some other branches of governance, at least in principle, can cause changes in public policies, but, for the sake of the clarity of the study, it will be assumed that it is the exclusive responsibility of legislative power. More on the controversy surrounding state capture see: Begović (2006).

[5] Sometimes (Damania *et al.*, 2004, Harstad and Svensson, 2005, and Campos and Goivannoni, 2005) all forms of strategic influence on public policies are called lobbying while the term corruption is taken to mean administrative corruption only. Analytically speaking, such an approach is not desirable since it practically excludes the possibility of illegal influence on the formulation of public policies.

and lobbying.[6] Only when that difference is specified, one can begin a comparative analysis of the two methods of influencing public policies (state capture methods) in order to explore their welfare effects.

The first significant difference between the two rent seeking methods is that corruption is prohibited by the law while lobbying is not. However, analytically speaking, such distinction does not prove very useful. First, the difference between legal and illegal is endogenous (Lambsdorff, 2002a). For example, a greedy ruler can impose regulations legalizing corruption or some of its forms, in order to maximize the benefits (cash streams) he receives. Furthermore, there are considerable variations between countries (jurisprudences) concerning what is legal regarding imposing one's partial interests. In some countries a particular form of exerting influence is considered lobbying, while in others the very same form is taken to be corruption. For example, direct financing of an election campaign is lawful in some jurisprudence, while in others it is not. Political scandals on the daily basis in many countries show that the line has become increasingly vague and is easily overstepped. The other drawback to the above distinction between corruption and lobbying is that it is a tautology and analytically quite poor. It provides very few information which activities, in terms of their content are corruption (illegal) and which are lobbying (lawful).

However, what is important, and what stems from this definition is that the very illegality of corruption incurs its own specific transaction costs.[7] Corruption at the same time represents the transfer of wealth (from a corruptor to the corrupted), but also a contract upon which such transfer is achieved, specifying also the favor that should be exchanged in that transaction. Since the contract is illegal, in the case of a breach of contractual obligations, the parties cannot refer to the courts to settle the dispute and enforce their contract; rather, the contracting parties must devise a mutually acceptable mechanism for

[6] There is a need to make a distinction between advocacy and lobbying. Advocacy is the promotion of certain ideas, i.e. public policies, but not on behalf of some specific interest groups and individuals. Therefore someone may, for example, urge ideas relating to high tariff protection due to his belief that such protection is desirable (an advocate of protectionist ideas from economic, political or purely ideological convictions) and not because such protection favors domestic manufacturers to the detriment of consumers.

[7] This does not mean that lobbying does not generate transaction costs. The point is that in case of corruption some specific costs exist that do not exist in the case of lobbing.

the contract enforcement, that is, prevent the other side from defaulting, and that generates transaction costs. In addition, the transaction costs of corruption include the costs of negotiation (the costs of the preparation of such a contract as well as costs involved in finding an official who is willing to make such a deal and meet the ensuing obligations) as well as the substantial transaction costs involved in the compulsory enforcement of such a contract since both parties have incentives to default. Then, since corruption is crime and punishable by law, the contract and its enforcement must be kept secret which can provide further incentives to both contracting parties to evade fulfillment of its terms. Finally, as Lambsdorff (2002b) suggests, the incentives for opportunistic behavior on both sides can arise after the contract has been thoroughly enforced which must also be taken into account when making a contract. This all considerably increases the transaction costs of corruption. [8]

In other words, the feature of corruption that it is illegal/punishable, generates specific and substantial transaction costs, i.e. transfer costs – simply put, corruption is not free of charge. [9] Since lobbying as well is a specific contract whereby an obligation is assumed to exert legitimate strategic influence on public policies, a question may be put concerning mutual relation between transaction costs of lobbying and corruption, i.e. whether it is possible to arrive at an operational definition of the difference between the two through the transaction costs they incur. In fact, later analysis will reveal that the distinction between corruption and lobbying can be drawn on the basis of such costs.

The next difference between corruption and lobbying ensues from the stated illegality of corruption and the respective legality of lobbying. Namely, that distinction, in principle makes lobbying transparent while corruption is not. This is why it has been suggested (Jain 1998) that transparency should be set as a criterion for differentiating between corruption and lobbying. As opposed to corruption, lobbying is transparent, it is done

[8] Although the costs are, undoubtedly, considerable, a relatively small number of studies has dealt with this question so far including Husted (1994), Della Porta and Vanucci (1999), Rose-Ackerman (1999), Lambsdorff (2002b) and Begović (2005). The findings of the empirical research on the topic can be found in Begović and Mijatović (2001).

[9] Hereafter *transaction costs* and *transfer costs in corruption and lobbying* will be used interchangeably.

publicly, in accordance with the rules set in advance (it is more or less known what is allowable and what is not) which leads to two important consequences.

The first is the possibility of monitoring of the process of influences public policies. In principle, such monitoring can produce profound effects since it is more difficult to bring pressure to bear on public policies making if such policies are contrary to the interests of the majority. By its nature lobbying is public, it comprises various public activities therefore allowing the other side, the one with the opposing interest to react and thus initiate competition between opposing interest groups leading to the equilibrium of opposing interests' influence to the public policies. As opposed to this, corruption is by its character concealed from public scrutiny so that the public cannot know what kind influence on the public policies is at work, which creates a substantial barrier to entry of potential competing corruptors, i.e. those who would be willing to influence and change the course of public policies through corruption (or in any other manner). This barrier to entry of the competing economic agents is at the core of the second characteristic of corruption by which it is different from lobbying.

This second characteristic and the consequence of this proposition is a specific industrial organization of alternative activities relating to state capture. Lobbying is open to new entries providing an opportunity for several individuals or interest groups to indicate their interests. In essence, lobbying boils down to the competition of various interest groups for state capture. Becker (1983) suggested that the winner in the competition is the one who manages to mount the largest pressure on the legislator, that is, the one who engages more resources than his competitor or puts them to better use.[10] Therefore, lobbying can be viewed as a competitive activity – competition between interest groups with low barriers to new entries. Conversely, corruption is sometimes viewed (Lambsdorff, 2002a) as a monopolistic activity: only one corruptor is at work with the authorities (most often a legislative body) and receives a favor – a public policies serving his interests. Whether this view of corruption is quite accurate will be discussed later.

[10] It is interesting to note Becker's suggestion that the interest group whose interests lie closer to the «public interest» has a better chance of success (capture of state).

The point is that such a distinction in terms of industrial organization, if proved true, can have a serious effect on public policies. Moreover, the issue of industrial organization can be included in this analysis as can the size and the manner of organization of interest, lobbying or corruptive groups, which, in turn, can yield essential information providing insight into comparative welfare effects. Moreover, there is a substantial economic literature dealing with problems of organizing such groups, that is, the ways in which such problems can be overcome (Olson, 1965, and Pelztman, 1976). It is interesting to note that the larger an interest group is, the more it loses the character of the partial interest it advocates. Posner (1974) outlines a hypothetical, theoretically possible, though unrealistic situation: if all citizens of a society become included into the same interest group lobbying for the same interest, then it becomes a public interest (the maximization of economic efficiency, i.e. welfare in terms of the departure of the first best solution in terms of efficient allocation of resources). In other words, the larger the interest group, the less state capture occurs.

The above consequences are substantial; they represent the contents of the comparative analysis of corruption and lobbying in terms of the welfare effects. The impact of lobbying as opposed to corruptive groups on public policies still needs to be studied, as do the limitations inherent in the organization of each group. However, at this stage of the research it is far more important to note that transparency as an essential trait of lobbying has not led to the operational definition of the difference between corruption and lobbying. The transparency in lobbying is undoubtedly far greater than that in corruption; however, this does not constitute a significant analytical advance.

The next possibility for the definition of the operational difference between corruption and lobbying lies in the examination of the contents of these activities. Corruption is a direct transfer of welfare/wealth from a corruptor to the corrupted, in case of state capture to the one who formulates regulations (the legislator). This transfer of wealth (bribes) represents “deriving some advantage” from Tanzi’s definition of corruption resulting in the “non compliance with the arm’s-length principle”. At that, these benefits do not

necessarily have to be cash directly paid to the legislator; they can be donations for his election campaign, naturally, if his intervention has brought about a change in public policies to the advantage of the corruptor.

Pure corruption is only a transfer of wealth from one party to the other. In other words, pure corruption is pure transfer, which does not incur any transfer costs to either party. However, as suggested by Tullock (1967, 1971), in reality every transfer generates some costs – corruption as well. In fact, the transfer costs in the case of corruption are the transaction costs of an illicit contract concluded and enforced by two parties. This means that overall corruption costs include the costs of transfer itself (a reduction in the wealth of the corruptor which is in whole transferred to the corrupted) in addition to the total transaction costs of the entire transaction.

In contrast, lobbying, in principle, does not involve direct transfer to the legislator but rather includes all that constitutes public or other pressure on those individuals for the formulation of some contents of the legislation. Among such activities there are public relations efforts, various types of marketing, engaging teams of experts who in their public appearances put an appropriate spin on the facts, various study visits proving that a certain public policies, advocated by a particular interest group, has produced excellent results in a certain state and similar. All these activities entail engagement of resources, that is, they generate considerable opportunity costs. It is certain that lobbying can also involve transfer of wealth (a modest gift to sweeten a message), that is, welfare, (a paid holiday in a foreign country of choice, immediately after a study visit stay), but also the transaction costs of state capture, that is, the costs of such transfers, relatively (in relation to the transfer) far larger than those in the case of corruption. Lobbying is also a solution to the problem arising from the fact that direct transfers are forbidden and therefore no longer desirable as a form of state capture. Simple, direct transfers do constitute the first best solution (at least from the aspect of the one attempting state capture), but when this is not possible, lobbying is selected as second best solution.

Following Appelbaum and Katza (1987) as well as Lambsdorff (2002a), a relation between transfers and the total costs of the state capture (rent-seeking) can be specified as:

$$z = (1 - c)\, x, \qquad (1)$$

where x stands for total costs of state capture by an interested party, z for the total transfer of welfare (wealth) to the legislator and c is a parameter which stands for transaction costs, that is, the costs of the transfer. Parameter c takes the values:

$$0 \leq c \leq 1, \qquad (2)$$

so that in case $c = 0$ there is pure corruption, i.e. a transfer without any costs, and in case $c = 1$ there is pure lobbying without any transfer of wealth/welfare from an interest group to a legislator. In accordance with the rent seeking definition, pure corruption, since it does not engage resources (no transaction costs), does not classify as a redistributive activity, i.e. rent seeking. The increase in the parameter c indicates the increase in the proportion of transaction/transfer costs in total costs, specifically, the scale from pure corruption towards pure lobbying. Is there a critical value of c where (if the value continues to increase) corruption turns into lobbying? Naturally, this value has not been established empirically but it is also certain that a convention can be set up in that respect (in accordance with the principle of methodological nominalism). However, what is more important is that relation (1) represents a conceptual framework for understanding corruption and lobbying as alternative methods of state capture.

Intuitively, on the basis of relations (1) and (2) a conclusion can be drawn that corruption is superior in relation to lobbying from the point of view of welfare change since it constitutes a pure transfer, without the engagement of any resources, so that, alternatively, they can be put to use in the creation of new value, increasing the welfare. This conclusion is doubtless premature and its value will be put to the test in the following analysis.

3. The welfare effects of state capture

There are two main welfare effects of state capture. The first effect is the inevitable dead-weight loss. The existence of the rent, the objective/outcome of state capture is associated inevitably associated with the existence of the difference between the price and marginal costs.[11] The existence of this difference results in dead weight loss described in early contribution on the effects of monopoly on welfare (Harberger, 1954, Schwartzman, 1960, and Kamerschen, 1966) – Harberger's triangle representing the social costs of state intervention comparing with the equilibrium on the free (perfect) market.

The rent generation/appropriation is the objective of state capture; however, the generation/appropriation of the rent incurs some costs. These transfer/transaction costs are the source of another type of welfare loss in state capture. They lead to rent dissipation (Posner, 1975) – instead of the rent being in whole appropriated by those who have captured the state, part becomes dissipated through transfer costs. Under certain conditions the whole of the rent can be dissipated – the whole amount of the rent turns into welfare loss.

Accordingly, total welfare loss due to the state capture can be formulated as:

$$\Delta W = \frac{\Delta p \Delta Q}{2} + c(Q - \Delta Q)\Delta p, \qquad (3)$$

where ΔW represents total welfare loss, Δp represents the change in price and ΔQ the change in the supply resulting from state capture while coefficient c (standing for transfer costs) was given above in (1) and (2). From (3), taking into account that the rent is $c(Q - \Delta Q)\Delta p$ it follows that:

[11] McChesney (1987) suggested distinction between „political" rent and „private" rent. In the case of private rent, there is no need for difference between price and marginal costs, because rent is created due to the indivisibilities and differences in individual technologies. Nonetheless, political rent is due to the government intervention and a necessary condition for that rent is difference between price and marginal costs. The rent considered in this paper equals only McChesney's political rent.

$$\Delta W = \frac{1}{2} R\left(\frac{Q}{Q - \Delta Q} + 2c - 1 \right) \tag{4}$$

demonstrating that total welfare loss is in function of the rent generated, i.e. the rent to be appropriated. Partial differentiation of equation (4) renders:

$$\frac{\Delta dW}{\partial R} = \frac{1}{2}\left(\frac{Q}{Q - \Delta Q} + 2c - 1 \right) > 0 \tag{5}$$

indicating that an increase in rent is always accompanied by an increase in the loss of welfare, regardless of the degree of rent dissipation.[12]

Consequently, state capture results in the generation of rent which, in turn, inevitably causes a loss in welfare – in any case to allocation ineffectiveness and when transfer costs are larger than zero then to production ineffectiveness as well. The specification of equation (4) indicates that this analysis does not take into account the issue of the welfare distribution – it is implicitly assumed that social welfare does not depend on its allocation.

4. State Capture with Exogenous Rent

Following Tullock (1980), one can say that investing resources into state capture, that is, the generation and the appropriation of rent (rent seeking) continues until marginal investment is lower than marginal potential (expected) gain (marginal amount of the rent), as in any other maximization, marginal values equalize. The balance struck can be represented by a formal model. Hence, it is of the utmost importance to set in advance how the rent is to be formed. If exogenous rent is assumed then the matter of balance

[12] Even when there is no rent dissipation at all ($c = 0$), the equation (5) inevitably exceeds zero since ΔQ is always above zero in the distortion of resource allocation, hence the ratio in parenthesis is always bigger than 1.

boils down to the activities concerning only the appropriation of the rent. Moreover, since the rent is exogenous, the same trait is exhibited by the allocation ineffectiveness (specifically, the loss of welfare produced by allocation ineffectiveness). Consequently, total change in welfare will depend exclusively on the degree of rent dissipation. Starting from the assumption of exogenous rent, it is presumed that all parties to the rent seeking will compete for its appropriation so that the probability of a particular participant appropriating the rent is proportionate to his investment (costs) into rent seeking. In the case of *n* participants, this brings about:

$$\alpha_i = \frac{x_i}{\sum_j^n x_j} \qquad i, j = 1,2,...,n; \tag{6}$$

where α_i is the probability that a participant *i* will appropriate the whole amount of the rent and x_i is the amount of resources he has put into rent seeking. According to Lambsdorff (2002a), the balance can be easily determined if we assume that all participants are neutral in relation to risk, that they act in a symmetrical manner and that they cannot exert influence one upon the other (which also excludes collusion). The maximization of the expected profit from rent seeking ($\alpha_i R - x_i$) requires:

$$\frac{\partial(\alpha_i R - x_i)}{\partial x_i} = \frac{\partial\left(\frac{x_i}{\sum_{j=1}^n x_j} R - x_i\right)}{\partial x_i} = \frac{R}{\sum_{j=1}^n x_j} - \frac{R x_i}{\left(\sum_{j=1}^n x_j\right)^2} - 1 = 0 \tag{7}$$

Equation (7) can be solved through the introduction of the assumption of symmetry: $x_i = x_j = x$. Such a solution brings about Cournot-Nash equilibrium. Solving equation (7) by *x* results in an equal level of investment in rent seeking/state capture by all participants:

$$x = \frac{n-1}{n^2} R, \tag{8}$$

while total investment in the rent seeking/state capture is:

$$S = nx = \frac{n-1}{n} R, \tag{9}$$

which does not represent the loss in welfare, since it should be reduced by the amount of pure transfers arising from state capture. Consequently, the welfare loss is:[13]

$$cS = cnx = \frac{c(n-1)}{n} R. \tag{10}$$

It is certain that the reduction in the contribution of transfer (the increase in the transfer costs, that is, transaction costs) and the increase in the number of participants result in an increase in the loss of welfare since:

$$\frac{\partial cS}{\partial c} = \frac{(n-1)}{n} R > 0; \quad \text{for every n > 1,} \tag{11}$$

$$\frac{\partial cS}{\partial n} = -\frac{1}{n^2} > 0. \tag{12}$$

If the established equilibrium magnitude of rent seeking were used in accordance with Lambsdorff (2002a) for the comparison of the effects of corruption and lobbying on welfare, it is certain that in this respect corruption would be more favorable. Firstly, corruption results in a drop in the value of the coefficient *c*, that is, it raises the proportion

[13] Dead weight loss is not included in total welfare loss. Since rent is exogenous, deadweight loss is also exogenous

of the transfer in the total amount of funds engaged in state capture, thereby reducing the dissipation of resources. Secondly, since the reduction in the number of prospective participants in state capture results in a drop in the loss of welfare (unless there is competition for the appropriation of the rent, that is, if n =1, there would be no loss of welfare at all in this respect) Lambsdorff (2002a) implicitly assumes (but does not provide evidence) that in the case of corruption there are fewer participants than in the case of lobbying and that, consequently, corruption produces lower loss of welfare.

This finding should be viewed in the framework of two considerations: firstly, in the case of corruption it is not the difference between the expected amount of rent and the investment that is maximized, rather the maximization changes into seeking conditions maximizing the value of the following difference:

$$(1-p)\left[\alpha_i R - x_i\right] - p\left[k + x_i\right], \tag{13}$$

where p represents the probability of the corruption being discovered, i.e. that the culprit is apprehended/convicted, k is the punishment set by the law for corruption (bribing) while all other variables are the same as in equation (7). The extreme of this equation will yield the equilibrium amount of resources which a single participant of corruption has invested in state capture:

$$x = (1-p)\frac{n-1}{n^2}R, \tag{14}$$

whereby total welfare loss is:

$$cS = cnx = (1-p)\frac{c(n-1)}{n}R. \tag{15}$$

If the probability of discovery equals 1, that is, if it is certain that corruption will be uncovered, it will not happen since the condition has not been met. If the probability

equals zero, equations (14) and (15) become equations (8) and (9) whereby corruption becomes lobbying since effectively it is not prohibited (punishable) any more. Accordingly, hereafter lobbying will be viewed as a special case of corruption where $p = 0$.

The second remark concerns the statement that lobbying engages more participants than corruption leading to the conclusion that corruption is superior in terms of the change in welfare. Formally viewed, resources will be invested into lobbying if the following criterion is met:

$$\alpha_i R - x_i > 0, \tag{16}$$

while corruption will be invested into if:

$$(1-p)[\alpha_i R - x_i] > p[k + x_i], \tag{17}$$

so that if the condition $0 < p \leq 1$, is met, the barrier to entry to corruption is higher than the one to enter lobbying and it can be assumed that *ceteris paribus* corruption will have fewer participants than lobbying. If $p = 1$, there is an absolute barrier to corruption while with the decrease in p and its approach to zero the difference between relative barriers to entry either corruption or lobbying decreases and disappears at $p = 0$. In other words, all that reduces the possibility of corruption being detected also reduces the difference in the number of participants in state capture between corruption and lobbying thus reducing the advantages of corruption in term of welfare effects. Two factors are of importance for the value of p. One is the level of rule of law, i.e. capacity and commitment of the government/state to detect and punish the criminal act of corruption (thus acting as a deterrent). The weaker the government/state, the more the rule of law is in jeopardy the wider the incidence of corruption becomes, the number of participant increases thus reducing the advantage of the corruption regarding the welfare effects. The other factor is specialization of corruptors improving their efficiency in corruption which reduces the possibility of detection at the given level of capacity and commitment of the

government/state to deal with it. This can be acerbated by potential cooperation (collusion) of competing corruptors at least concerning the secrecy of the corruptive deals they are involved in.

This analysis leads back to the already raised question of the industrial organization of state capture, that is, rent seeking, demonstrating that the value of parameter p is its key factor. If $p = 0$, corruption is, in effect, legalized, entry into the state capture activity is completely free and a large number of competitors appear. The increase in the parameter p results in the creation of different entry conditions for the new entries into corruption or lobbying so that relative barriers to entry of corruption become higher than those to lobbying – the number of corruptors falls in comparison with the number of those who influence public policies through lobbying. Finally, if $p = 1$, the total elimination of corruption is effected, so only lobbyists remain in the activity of state capture.

The examination of the model with exogenous rent demonstrates that the *prima facie* unexpected conclusion that, in state capture, corruption regarding its welfare effects is better than lobbying has not been disproved; it has, however, been somewhat supplemented through the examination of factors affecting the degree of difference in welfare effects. However, the key problem of such an examination of the comparative effects of corruption and welfare lies in the assumption of the exogenous rent.

This assumption runs almost contrary to the very definition of state capture: influence on public policies. If the public policies resulting in the creation of the rent are exogenous, then it is highly questionable what kind of state capture is that at all? The state capture in this case does not concern the creation of the rent through influencing public policies, but rather, only the distribution of the exogenous rent. For example, one does not influence the regime of import licensing (quantitatively limiting imports and thus creating rent), may not even influence the formulation of the method in which such licenses are distributed, but exerts influence only on the allocation of such licenses and thus on the distribution of the exogenous rent. This is a typical example of administrative corruption which leaves virtually no room for lobbying, but it certainly does not constitute state

capture, i.e. the establishment of regulations biased to some private interest; rather, this is a classic example of a breach of regulations in force, that is, an abuse in their application. This is why the assumption of the exogenous rent should be abandoned and a model with endogenous rent should be put forward.

5. State Capture with Endogenous Rent

The key novelty in this model lies in the fact that the amount of rent becomes the function of investment into rent seeking. Accordingly, investment is made not only into the distribution of the rent, but also in its creation. Consequently, it is necessary to specify the functional relationship between the rent and the investment into rent seeking.

Lambsdorff (2002a) suggested that the amount of the rent should be viewed as a increasing function of the investment into rent seeking. In other words, the larger investment into rent seeking, the larger the rent:

$$R = R(S); \qquad \frac{\partial R}{\partial S} > 0. \tag{18}$$

The explanation of this relation is a bit controversial. Lambsdorff (2002a) maintains that the behavior of politicians (legislator) when acting for partial interests to the detriment of public interest results in a fall in their popularity, which, in turn, reduces the probability of their being re-elected. This needs to be compensated for through the enlargement of other advantages, mainly those related to the transfers, which, among other things, can (through the investment into the election campaign) compensate for the lost popularity, that is, the reduction in the probability of re-election. The more partial interests are promoted, the larger the transfers needed for such compensation. However, as opposed to the equation (18), this explanation points to the reverse causation. If the explanation is accepted, it would mean that the investment into the rent is the function of the rent, rather

than vice versa, which means that equation (18) is not an accurate description of the functional relationship.

Before going any further into the problem, it is necessary to answer the question to what extent the rent is an endogenous value and what is the motivation of the participants in state capture. No doubt that the rent, in fact, is an endogenous value, but its maximal value is exogenous. The maximum value of the rent is achieved when marginal costs equal marginal revenues. The equilibrium/maximum amount of the rent depends on the elasticity of the demand and any increase in price above the equilibrium one or decrease in supply under the equilibrium one results in the reduction of the rent. Consequently, the maximum amount of the rent is endogenous – it depends on the elasticity of the demand. [14]

The objective of the participants in state capture is the maximization of the appropriated rent which means that public policies need to be so formulated as to bring about equilibrium/maximum in the rent amount, and respective prices and supply. The overriding question concerns the amount of investment into rent seeking and the public policies which will result in the maximization of the rent.

This link can be examined through the example of two alternative politics: one is free market policy, for example, the absolutely free import of a good, while the other is the monopoly policy, for example, through quantity limitation of import, which imposes partial monopolistic equilibrium (the maximum rent). The first policy is the one maximizing welfare, the one in the public interest; thus the motivation for the legislator to decide on such a policy lies in the maximization of the number of votes he hopes to win, i.e. in the maximization of the probability of being re-elected. Consequently, following Lambsdorff's explanation of the rent generation, one can assume that the introduction of public policies which maximizes rent requires investment of resources into state capture.

[14] By its character, this equilibrium is a monopolistic one where marginal revenues do not equal the price. In the case of perfectly inelastic demand, the rent is infinitely large, while in the case of a perfectly elastic demand rent generation does not occur at all.

Obviously, there is a competition of two opposing interests here. One is the public interest of free trade, i.e. the welfare maximization, behind which stands a wide interest group, the whole of the electorate (Posner's hypothetical interest group comprising everybody), while the other is a partial interest of those who want to hold a monopoly, i.e. those who want to maximize the rent appropriated – the interest group of those who expect to hold import licenses with quantitative limitation of the imports at the level of monopolistic supply. Obviously this is the case of competition between two interest groups. According to Becker's model, the group which excises stronger relative pressure wins i.e. captures the state.

Accordingly, the larger the investment into rent seeking, accompanied by implicitly assumed unchanged strength of the opposing interest group, the higher the probability of the achieving the public policies which maximizes the rent. In other words, the amount of the rent is no longer endogenous (only the maximum amount of the rent determined by the elasticity of demand); rather, what is endogenous is the probability for the occurrence of the exogenous maximum amount of rent – the expected rent is endogenous:

$$E(R) = \beta \overline{R}; \qquad \frac{\partial \beta}{\partial S} = \beta' > 0. \tag{19}$$

The maximum amount of the rent $\overline{R}$ is exogenous, but the probability of the occurrence of this amount of the rent depends on the total investment into rent seeking (S), that is, the relationship between the investment and the political pressure brought to bear by an interest group opposing the occurrence of the rent (which is, for the sake of simplicity, assumed to be constant). [15]

[15] This approach differs from Lambsdorff's (2002a) which rests on the assumption that the rent is an increasing function of the investment into state capture. Then the problem of endogeny is encountered since the equilibrium amount of investment into state capture in the model depends on the rent. The introduction of the assumption of the exogenous maximum amount of the rent and the endogeny of the probability of its occurrence eliminates this problem.

It is very important to specify the character of expected returns in the rent seeking activities. It is beyond doubt that the first derivative of the expected rent upon the investment is positive; however, it is disputable whether there are decreasing returns. The constellation in which there are interest groups with opposing interests leads to the assumption that there are decreasing returns in the rent seeking:

$$\frac{\partial^2 \beta}{\partial S^2} > 0. \tag{20}$$

In general (both in corruption and in lobbying) the equilibrium is achieved through the maximization of the difference between the expected rent and the investment into rent seeking:

$$(1-p)\left[\alpha_i \, \beta R - x_i\right] - p\left[k + x_i\right]. \tag{21}$$

The equilibrium condition is of the same kind as in the case of the model with the exogenous rent. The amount of a single participant investment into the rent is:

$$x = (1-p)\frac{n-1\overline{R}\,\beta}{n^2 - n\overline{R}\,\beta'}, \tag{22}$$

where β' is the first derivative of the probability of the rent appropriation upon the investment into rent seeking. On this basis, the equilibrium amount of total welfare loss due to the investment into rent seeking, i.e. state capture is:

$$cS = nx = (1-p)\frac{c(n-1)\overline{R}\beta}{n - \overline{R}\,\beta'}. \tag{23}$$

In this case the dissipation of resources/rent increases with the increase in coefficient *c*:

$$\frac{\partial cS}{\partial c} = (1-p)\frac{(n-1)\overline{R}\beta}{n-\overline{R}\beta'}, \tag{24}$$

i.e. the welfare loss increases with the increase of *c* for every *n* meeting the condition:

$$n > \overline{R}\beta', \tag{25}$$

which means that dissipation will occur with the increase in the number of participants, the reduction of the amount of the maximum rent and the rise in the decline of expected return (low value of β') as well as with the rise in the parameter *c*. Accordingly, in this case corruption (characterized by lower values of parameter *c) ceteris paribus* reduces resource dissipation in comparison with lobbying. This finding is the same as the one in the exogenous rent model. However, theoretically, it is far more interesting the case with few participants, a high amount of rent and modest decreasing expected returns. In this situation, lobbying, which inherently incurs higher transfer costs, becomes superior in terms of resource dissipation.

The examination of the welfare loss due to rent dissipation occurring with the rise in the number of participants in state capture renders:

$$\frac{\partial cS}{\partial n} = \frac{(1-\overline{R}\beta')\overline{R}\beta}{(n-\overline{R}\beta')^2}. \tag{26}$$

Since the denominator is always bigger than zero, the character of the change in the loss of welfare due to resource dissipation occurring with the increase in the number of participants depends on the value of $1-\overline{R}\beta'$. If:

$$(1-\overline{R}\beta') < 0, \tag{27}$$

the increase in the number of participants results in the decrease in welfare loss due to resource dissipation. This means that if the condition (27) is met, lobbying (that is assumed to have lower barriers to entry comparing with corruption) has more favorable effects on the loss of welfare in comparison with corruption. The probability that condition (27) will be fulfilled increases with the increase in the maximum amount of rent if the decreasing returns of the expected rent becomes alleviated.

By combining these two findings one can arrive at the conclusion that corruption has a better welfare effects when the amount of the maximum rent is small, i.e. in the case of those public policies which are of no great importance in terms of allocation distortion. When dealing with less important public policies, in terms of welfare, it is better if state capture is affected through corruption. On the contrary, if we are dealing with public policies which result in extensive distortion of resources, that is, large amounts of rent, it is better if they are achieved through lobbying. Therefore, corruption is superior exclusively when small rent is involved, that is, petty state capture. One way or the other, both methods of state capture take society further away from the first best solution, i.e. form the situation in which public policies creating rents have not been established at all.

Another overriding question is whether in the state capture resulting in the maximal amount of rent, the distribution of that rent among the participants has already been accomplished or this needs to be done through another, special mechanism.[16] For example, if quantitative restrictions (quotas) has been put on imports, has the state capture itself brought about the distribution of import licenses (within the quota) among those who have captured the state? If the answer is negative, then the distribution of the licenses can be undertaken in a transparent manner (by auction, for example) or through direct contact between the interested parties and the agency in charge. There is little probability that those who have captured state will allow the allocation of licenses in a

[16] In some cases of state capture the distribution of rent does not need to be done through a special mechanism since this is performed by the market. For example, high customs tariffs create rent which will be distributed on the market, either through competition between domestic manufacturers or through their collusion.

transparent manner, which means that the way has been paved for administrative corruption concerning the allocation of the licenses. In this case, the transaction costs of administrative corruption also need to be factored into the overall effects of state capture on welfare.

Consequently, total loss of welfare due to state capture, including both allocation and production ineffectiveness (both in the case of state capture and in administrative corruption alike) can be summarized as:

$$\Delta W = \frac{1}{2}\left(Q\Delta p - \overline{R}\right) + (1-p)\frac{c\left(n-1\right)\overline{R}\beta}{n-\overline{R}\,\beta'} + c\,AS\,, \tag{28}$$

where AS represents the total amount of investment into administrative corruption. Total expected welfare loss is a function of the expected value of the rent:

$$E(\Delta W) = \beta\overline{R}\left[\frac{1}{2}\left(\frac{Q\Delta p}{\overline{R}} - 1\right) + (1-p)\frac{c\left(n-1\right)}{n-\overline{R}\,\beta'} + c\,\frac{AS}{\overline{R}}\right]. \tag{29}$$

Finally, there is a problem concerning the number of participants, both in the case of lobbying and corruption. It has been implicitly assumed that the problem of a stowaway does not arise, that is, that all invest the same amount (regardless whether in corruption or in lobbying) and take part in the results accordingly. In other words, the problem of a free rider, which happens to be the crucial problem in the organization of a collective action (Olson, 1965) has been completely disregarded. It remains unclear whether the problems concerning the organization of collective action are worse in the case of corruption or in the case of lobbying, specifically, whether they become worse in the case of illegal activities. First findings in the study of the organization of collective action in the area of illicit activities are still insufficient for drawing firm conclusions, especially in comparison with the organization of collective action in the area of legal activities.

6. Conclusion

The comparison of the effects of corruption and lobbying in the case of state capture required the overcoming many methodological problems. The first one concerned the distinction between corruption and lobbying; it was drawn on the basis of transfer costs in only two clearly defined situations (pure corruption, without transfer costs, and pure lobbying, without transfer itself). Other situations have not been defined in absolute terms but rather through their relative distance from the two extreme cases.

It was demonstrated that corruption and lobbying could have different industrial organizations, which crucially depends on the probability that the criminal act of corruption will be uncovered. The rise in this probability creates higher relative barriers to entry and state capture through corruption so that corruption, in turn, creates fewer participants.

The model with the exogenous rent showed that, due to the above distinction in the industrial organization of state capture, corruption is superior in terms of the welfare effects compared to lobbying since it incurs fewer transaction costs. However, the model with the exogenous rent proved to be unsuitable for the examination of state capture since it does not embrace the generation, but only the distribution of the rent, which is in opposition to the very meaning of state capture; however, in this, the model qualifies for the study of administrative corruption. The above problems can be tackled only through the model with endogenous rent.

The formulation of the model with endogenous rent gave rise to several methodological problems, especially concerning the direction of causality. They were dealt with by introducing into the model the assumption of exogenously determined maximum rent together with endogenously determined probability of the occurrence, that is, the distribution of the rent. The findings demonstrated that the comparative effects of corruption and lobbying depend on the amount of the rent. Corruption is more favorable in terms of the welfare effects when the amount of the rent is small; conversely, when the

amount of the rent is large, lobbying is more favorable. However, taking into account that the generation of the rent due to public policies leads to inevitably dead weight loss, both corruption and lobbing are inferior compared to the first best solution where no rent is generated at all.

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