POLITICAL INSTITUTIONS AND INCENTIVES FOR ECONOMIC REFORMS

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Chapter 1

Introduction

1.1 Main Motivation

Even when economists give advice to politicians, we can observe that the final policy choices and economic outcomes differ substantially from what economic theory would suggest as the optimal solutions. Given this, why is it the case that politicians choose inefficient economic policies and do not implement more efficient alternatives?

Political practitioners often explain such suboptimal outcomes by saying that the efficient policy would not be politically viable. That is, even if a policy problem had an efficient solution, it would not be implementable in the political process. What is the meaning of such an argument? A very simple explanation would point to the individual policy preferences of politicians: One could suspect them of blocking the implementation of efficient solutions because they individually prefer another policy.

However, this explanation is not satisfying. Given the complexity of the political process, it is unlikely that the personal interests of single decision-makers fully determine which policies are implemented and which are not. Moreover, modern democratic systems are designed such as to avoid the predominance of the private interests of politicians and to ensure the representation of the political will of the citizens. Thus, each policy choice has a number of structural determinants. The set of feasible policy alternatives is not primarily defined by the preferences of individual politicians but by the structure of the political system itself.

In order to see why inefficient policies are chosen, it is not sufficient to look at individual politicians and their personal preferences. Rather, we have to analyze the framework where the political decision-makers operate in. This framework is given by the political institutions in a polity, that is, in a political system.[1] However, political institutions do not directly determine economic outcomes. Rather, they channel the incentives of politicians to choose and implement policies. The personal policy preferences of politicians are mitigated by an array of institutional provisions that curb the abuse of political power and enable democratic participation. Variations in this incentive structure may lead to different policy choices and economic outcomes.

Moreover, political institutions give rise to additional incentives for politicians that are independent of their individual policy preferences. For example, if politicians have the desire to stay in office, they have the incentives, for all policy issues in question, to choose those policies that increase their chance of reelection.[2] Whether the individual policy preferences of politicians then still matter, depends on the strength of the constraints that the political institutions create. Only when these constraints are relatively weak, the individual politician is still decisive for shaping policies and economic outcomes.

In this investigation, we not only look at realized economic outcomes. Rather, we try to understand how the *incentives* of politicians to implement policies are affected or even determined by the institutional framework. In this way, we can explain policy choices both with respect to realized outcomes and with respect to policies or reforms that are *not* implemented. When we observe suboptimal outcomes, this means that the political institutions must allow for inefficiencies. We can find two possible reasons for that: First, the interactions and the interdependencies among different political institutions create frictions in the political process, thus leading to inefficiencies that are endogenous to the political system. Second, this may mean that the political institutions can only imperfectly mitigate the individual interests of politicians. There could be loopholes through which an abuse of political power is possible.

Yet, this study is not meant to promote a pessimistic view on politics by providing a theoretical justification for the inefficiencies of the political process and for wrong policy outcomes. Rather, it could be a basis for the

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[1]A definition of the concept of political institutions is given in chapter 2.

[2]The idea that politicians are only interested in winning the elections, regardless of the policy issues at stake, goes back to Downs (1957).

much more challenging task of redesigning political institutions in order to achieve more efficient economic policies. It is futile to argue that the present political institutions are always efficient.[3] Nor does it seem easy to design, let alone implement, efficient political institutions. However, it is surely one of the most important research agendas of political economists to help to improve political institutions. This can be achieved by examining how they shape both incentives for policy choices and, in consequence, economic outcomes.

1.2 Aims and Scope

The aim of this study is twofold: First, it should bring a better general understanding of how and to which degree political institutions shape economic outcomes. Second, using specific examples of economic reforms, we want to show how political institutions can affect the incentives of politicians to implement such reforms.

We have three reasons to focus on economic reforms: First, economic reforms are prominent topics in the political debate. Thus, we think that a scientific discussion of the reasons for the choice of some reforms and for the lack of implementation of others is overdue. Second, economic reforms are particularly useful for studying political incentive structures. For reform decisions, policy preferences and incentives to choose a particular political strategy should more be pronounced and more clearly distinguishable than in the case of only incremental policy changes. Third, we want to contribute to the theoretical political economy literature concerning the lack of reforms or the so-called status quo bias of politics. So far, this literature does not link inefficient reform outcomes to the political institutions that shape political reform incentives.[4]

Currently, economic reforms are at the center of the political debate: In many industrialized countries, the demographic development necessitates a reform of the pension system. For the same reason, health care systems, as in the case of Medicaid in the United States, have to be adjusted to avoid further burdens on the state budget. In the last decade, most transition countries have reformed their economic systems in order to turn their planned economies into liberal markets. Liberalization efforts are also made in the Eu-

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[3]Nevertheless, the Chicago school argues that political institutions are efficient in governing interactions on the political markets. See Wittman (1995).

[4]Alesina (1994) and Drazen (1996) review some of the arguments on delayed reforms.

ropean Union, where recently the telecommunication and energy markets were deregulated. In the WTO trade rounds, member countries discuss the reform of trade relations and consider new policies directed towards developing countries. Furthermore, in many transition and developing countries, reforms of the administration, in particular the fight against corruption, are among the most prominent political issues.

The implementation of these and many other reforms has evolved quite differently from country to country. While some countries have quickly embarked on reforms, others have stuck to the status quo. Moreover, reforms have been a success in some countries but a failure in others. In the latter cases, reforms were either not implemented in the right way or they yielded undesirable outcomes. At this stage, we do not want to dwell on the details of any of these reforms.[5] Yet, the main questions of our study immediately follow from this general observation: How do political institutions influence the incentives of political decision-makers to implement economic reforms? Why do we observe a lack of incentives to implement necessary reforms? What makes incentives to implement inefficient reforms arise?

The classical approach in economics would be to analyze the reform outcomes and to assess whether or not they are efficient from a normative point of view. The policies that create these economic outcomes would be taken as given. Yet, for examining economic reforms, this approach is too narrow. Policy choices and economic outcomes are interrelated: In order to explain an inefficient outcome, we have to see *why* a policy has been chosen. That is, we have to analyze the incentives of the policy-makers to choose and implement the reform policy. These incentives are structured by political institutions.

The analysis of political institutions is one of the oldest fields of research in political science. Mostly, however, the structure of the institutions itself is the primary focus of analysis. In the field of comparative politics, political systems are compared by an analysis of their electoral systems and of their allocation of decision-making rights among the different bodies of government. Rarely are these institutional features related to policy choices or even the resulting economic outcomes.[6]

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[5]The cases of privatization, foreign aid, and anti-corruption policies are discussed in detail in the chapters 3, 4, and 5.

[6]Persson and Tabellini (2000, p. 3) make a similar point. It is outside the scope of this study to review the literature on comparative politics. For overviews see Mueller (1997).

The field of political economy has its origins in the public choice literature that dealt mainly with collective decision-making processes.[7] More recently, a large literature has developed that analyzes politics with the tools used in economics. This led Persson and Tabellini (2000) to rename the field into "political economics". The term "economics" suggests that the analytical tools of economics are also appropriate for studying the political process. No different methodology is needed (Persson and Tabellini, 2000, p. 2). Lately, the theoretical political economy, or political economics, literature has been more and more concerned with the effects of political decisions on economic outcomes.

In the research presented here, we build on the part of the political economy literature that is concerned with political institutions.[8] Yet, we do not attempt to explain the mechanisms that are at work in political institutions in general. Our approach is more focussed in several perspectives: We look at the *incentives* of political decision-makers to choose and implement economic reforms. As mentioned above, this means that we do not primarily examine the economic outcome, that is, the realized changes in the economy due to the reform. We are also, and even more so, interested in the cases where reforms were *not* implemented. The methods used in theoretical economics are particularly appropriate for studying incentives. Thus, it seems very natural to use the economic methodology in order to explain how political institutions shape the incentives for economic reforms.

1.3   Outline of the Study

The structure of the study stretches out over two dimensions. In the first, the theoretical dimension, the common theme of all following chapters is the effect of political institutions on the incentives for policy implementation. Second, as regards the policy contents, chapters 3, 4, and 5 deal with specific cases of economic reforms.

In order to assess the effects of political institutions on the incentives to implement economic reforms, we first have to get a clear idea of what we understand by political institutions. In chapter 2, we define the concept of political institutions and examine the causalities in the political process. We

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[7]Mueller (1989) surveys the earlier public choice literature.
[8]In this study, we will stick to the more established term "political economy". We give a somewhat eclectic overview of the political economy literature in chapter 2.

review the main topics of the theoretical and empirical literature on political institutions and put our work in perspective. There, it will become clear why political institutions are the right object of analysis for explaining the incentives for economic reforms.

In this chapter, we also show that it is important to choose the appropriate level of analysis for each research project. In the complex interaction of many different political institutions, it is impossible to see the whole picture at once. Thus, for each specific question, we have to decide which political institutions to analyze more closely. Three examples for such an approach are given in chapters 3, 4, and 5. For each type of economic reform, a different level of analysis is chosen.

It is beyond the scope of the present study to give a comprehensive overview of the most important economic reforms in recent times. Instead, in the following chapters, we focus on a few topics with an exemplifying character: We look at political incentives for privatization, the implementation of new policies for foreign aid in a political system where lobbies play an important role, and at political and economic determinants of administrative corruption. In all these examples, we take political institutions as exogenous constraints on policy-makers and examine how they provide incentives for policy choices. We identify reasons for the lack of reform incentives and are able to explain why and under which circumstances some reforms may not be politically viable.

In chapter 3, we take political regimes as our level of analysis. We look at the effects of different types of political regimes on the incentives of the political decision-makers to reform the entrepreneurial sector. Although we make only a very crude distinction between democratic and autocratic regimes, we see that the difference between these regimes creates variations in the incentive structure of politicians. Political regimes shape the incentives to privatize or to restructure state-owned firms.

Until recently, international organizations have promoted privatization as a precondition for economic development. Developing and transition countries have been urged to implement privatization programs. This implies that without this outside pressure, the incentives of governments to reform the entrepreneurial sector would be too low. We compare different government types to identify the political and institutional determinants of the political incentives for privatization. Under privatization, governments loose the possibility to control the employment level. Nevertheless, with respect to the social

optimum, both democratic and autocratic regimes can have inefficiently high incentives to privatize. When this is the case, outside pressure for privatization would be detrimental. We further show that better economic and legal institutions reduce these inefficiencies as they lead to a higher success probability for the restructuring of firms.

Another level of analysis is chosen in chapter 4. There, we look at the involvement of organized interest groups in the political decision-making process. In particular in democratic regimes, the political institutions that define how special interest groups are integrated in the political process constitute an important feature of the political system. When lobbies play an important role, the politicians' decisions may be distorted in the direction of the lobbies' interests. This is the more likely, the larger the scope for lobbying activities that is granted by the political institutions.

We argue that the involvement of interest groups can be a reason for government inertia, or the lack of reform incentives. In many policy areas, we observe a lack of political action despite a public interest in policy change. As an illustrative example, we take the reluctant reaction of western governments to the AIDS crisis in developing countries. We show that the reasons for government inertia lie in the structure of the political decision-making process and the integration of lobbies in that process: Interest groups influence both the policy choice, or legislation, and the subsequent policy implementation, or the allocation of government funds to that policy. The lobbies' ability to compromise on a policy choice and their benefits from the new policy determine to what extent the government allocates resources to implementing the reform. When interest groups are integrated early in the political decision-making process, their incentives to engage in a contest over the policy choice reduces their interests in supporting the implementation of the new policy later on.

In chapter 5, we choose the level of analysis of economic institutions. We do not look only at the effects of political institutions but consider also the influence of the economic environment on policy preferences. The economic institutions that are in place in a country define the sets of choice of the citizens and therefore shape their preferences for economic policies as well as for the design of political institutions.

We show how the exogenous introduction of financial institutions changes the political interests of the citizens in corruption. In transition and developing countries, we observe rather high levels of corruption even if they have

democratic political systems. This is surprising from a political economy perspective, as the majority of people generally suffers from high corruption levels. Our model is based on the observation that in many countries, corrupt officials have to pay an entry fee to get lucrative positions. External sources of financing are needed in order to finance these fees. We show that in this case, a lack of financial institutions can lead to more corruption as more voters become part of the corrupt system. If financial institutions are missing, corrupt officials resort to the informal credit market. Thus, they give an additional group of people an interest in the revenues from corruption. Well-functioning financial institutions, in turn, can increase the political support for anti-corruption measures. While the basic political institution, the electoral system, remains unaffected, the voters' interests in corruption are changed. The citizens' reactions to a change in the economic institutions thus leads to a gradual change of the political system, namely, a reduction of the corruption level in the bureaucracy.

In chapter 6, we briefly summarize our results. Overall, the aim of this study is to present approaches for studying how political institutions shape incentives for economic reforms. Furthermore, we suggest topics for the future research agenda. It should aim at developing a framework for redesigning political institutions in order to improve political reform incentives.

Chapter 2

Political Institutions and Economic Outcomes

2.1 Introduction

In the media, politics are often presented in a personalized way: Policy choices and economic outcomes are communicated as the result of personal decisions of politicians. They choose whether or not a country goes to war, whether or not an economy is transformed into a market economy, whether and in which way social security systems are reformed, or whether or not the state deficit is reduced. In this view, for these and all other political decisions, the personality and the preferences of individual politicians are the most important determinants of the resulting policy. The public perception of politics in this way may help politicians to gain publicity and increase their personal public support. Yet, it is only one part of the total picture. In all political systems, politicians face rules and norms, be they formal or informal, that constrain their decisions.

In a general sense, all formal and informal provisions, rules and norms that guide the political decision-making process together form the system of political institutions. While the study of these institutions per se is already a rewarding exercise, the analysis of their impact on economic outcomes is even more interesting. What were the alternatives that were available to the political decision-makers? Why was one alternative preferred to the other? For what reasons has an unpopular decision been taken, or vice versa, why has a socially beneficial policy not been chosen? Why are certain topics put

on the political agenda at a certain time while others are overlooked? Each policy is the result not only of the preferences of politicians but also of the constraints in which they operate. These are given by the political institutions. For the study of these kinds of questions, we first have to define the concept of political institutions. Then, we can analyze to what extent different political institutions determine policy choices, that is, to what extent they lead to variations in economic outcomes.

Matching the theoretical and practical importance of the topic, a vast literature both in economics and in political science is concerned with political institutions. In this chapter, we seek to collect, structure and clarify some of the ideas in this area of research. We not only want to give an overview of the literature but we attempt to identify the explicit or implicit definitions and uses of the concept of political institutions.

In particular, in structuring the analysis of the concept of political institutions and classifying the political economy literature dealing with this topic, we want to point to the causalities that link political institutions and economic outcomes. It will become clear that a sharp distinction between economic and political institutions is necessary. Because of the many interdependencies between political institutions and economic outcomes, it is not straightforward to identify the effects of political institutions on economic outcomes. Even more, to find reasons for institutional development and change is all but an easy task. Still, we want to argue in this chapter that these questions are not only among of the most difficult to answer in the field of political economy but are also some of the most important ones to ask.

In any political system, the political process is composed of several layers. Political institutions constitute and define these layers of the political process as well as their interdependencies. For a clarification of the term political institutions, we disentangle the concept in a spacial dimension, stretching from constitutional provisions on the one side to the economic institutions that shape individual policy preferences on the other side.

Imagine the picture of a medieval town. We will use this picture to illustrate our arguments throughout the chapter. In the middle, we see the castle, surrounded by its protective wall, maybe situated on a hill. Around the castle, the town in spreading. We see streets that are connecting the different parts of the town, and a marketplace, where trading and social events can take place. The city wall surrounding the town has a few gates that link the town to the

outside world. Farmers and traders come into the city to sell their goods and take with them goods produced in the city.

The picture of the medieval town is an illustration for the structure of a polity, that is, a political system: In the castle, we find the most fundamental elements of the political system. They define the political regime, the government bodies, their interactions, and the allocation of decision-making rights. For democracies, for example, this determines whether we see a presidential system with a strict separation of powers between the executive and the legislature, or a parliamentary system, in which the legislative majority elects the executive and the separation of powers is less pronounced. In most countries, these core political institutions are codified in a constitution.[1] Other important features, such as the the electoral system, may be specified in the constitution or in other pieces of law. The constitution and related laws or legal norms thus prescribe not only which government bodies have the authority to take a decision, but they also determine the entry conditions into the political process. Political institutions also define the internal organization of the legislature, the executive and the bureaucracy.

When we take the bridge over the moat, we are in the town. The castle is very much dependent on this town. If the town is thriving, more taxes can be collected, and there is a higher variety of goods available on the markets. In our picture, the town symbolizes the political interactions in society. The most obvious ones are electoral processes. While the rules of the election are defined in the castle, the electorate is situated in the surrounding town. The political interests of the voters determine who gets elected.

In the town, people cannot move completely freely. They are constrained to use public streets, to trade only on the marketplaces, and to be inside the city walls by the time the gates are closed at night. In the political process, likewise, the expression of political interests has to follow certain constraints. Among the formally institutionalized vehicles for expressing political interests are political parties. They aggregate the political interests of individuals and compete to implement their preferred policies. Likewise, special interest groups promote the interest of their members in a specific political issue in a more

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[1]Yet, as the case of Great Britain shows, a codified constitution where all fundamental rules for the political process are collected in one written document is no prerequisite for a modern democracy. In Great Britain, the constitution is uncodified and has several sources, among them written acts of parliament, Treaties, or EU law, but also the unwritten common law, or conventions.

or less formalized way: Interest groups may use contributions to electoral campaigns or they may be formally included in the legislative process, for example, as external experts. Also the media can be considered to be part of this outer ring of political institutions as they play a crucial role for shaping public opinion.[2]

We now walk through one of the city gates into the countryside. Here, most of the goods that sustain life in the city are produced. Through the gates, goods and new technologies are brought into the town. Turning back to political institutions, we see that so far we have missed part of the picture by taking the political interests of both politicians and society as given. Also economic institutions play a very important role in the political process: The policy preferences of rational individuals arise from their optimization calculus. Evolving economic institutions may restrict the opportunity sets of individuals or add new possibilities of action. Thus, individual preferences may change. For example, investment projects can only be undertaken when property rights are protected and there is a functioning credit market. If entrepreneurial activity is possible, new political interests for the protection of this activity are created. Thus, we should not neglect the city walls that separate the countryside from the town. The opening-times of the gates determine how external influences are allowed to enter the town.

We have used the example in order to show that we need an integrated approach for the study of political institutions. During our walk through the medieval town, we saw that the castle, the town itself, and its surroundings are important determinants of the life in the town. To explain economic outcomes, we have to take a similar walk through the different levels of the polity, the inner circle of the constitution and related legal norms, the outer ring of political interests in society and the surrounding economic environment that shapes the preferences of all political agents.

The picture of the medieval town illustrates an important point: The causality of political institutions is not one-way. As economic institutions influence the sets of choices of individuals, they determine their political interests. Especially in democratic regimes, where the whole population is integrated in the political process, economic interactions play a decisive role in shaping

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[2]Already in the 19th century, we find the idea that the media are the fourth estate in liberal democracies, after executive, legislature and judiciary. For an early documentation of the idea, see Carlyle (1840).

policy preferences. The political institutions then determine which interests are heard and how strongly the interests in society are taken into account in comparison to the self-interest of the political decision-makers.

The outline of the chapter is as follows: In section 2.2, we define the concept of political institutions. For this, we also have to identify the characteristics and the boundary of the realm of politics. Next, we give an overview of the political economy literature on political institutions. It can be divided into two main strands: One takes political institutions as exogenous and analyzes their influence on political decisions and on economic outcomes. Sometimes, also economic institutions are included in such studies. We review this literature in sections 2.3 and 2.4. The other strand of literature endogenously explains the evolution of political institutions. It asks how preferences for institutions are determined and how political institutions may be changed. We discuss this literature in section 2.5. Last, in section 2.6, we focus on the implications of using political institutions to explain incentives for politicians to implement economic reforms.

2.2 Defining Political Institutions

To get a clearer idea of the concept of political institutions, we first ask the more general question: What are institutions? Then, we define the political sphere and apply the concept of institutions to that sphere. In our picture, we thus walk back from the countryside into the town. A clear definition is important for identifying the objects of analysis, whether we want to study existing institutions, their origins, or their effects.

In the literature, there exist many different concepts of institutions. The following definition by North (1990, p.3) can be taken as the common denominator: "Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction." While the notion of institutions as constraints takes them as exogenous, institutions have no life of their own. They are created in the history of human interaction. North and Thomas (1973) and North (1990, 1991) describe how basic market institutions might have evolved and how, in turn, they might have enabled the development of modern economies.[3] While this account explains

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[3]North (1990) shows that only some trading institutions enabled mutual gains from trade

the presence of today's market institutions, it does not give a reason of existence for institutions. As with all questions for fundamental reasons, this is a very difficult one. We can approach it by thinking about the purposes of institutions: Institutions structure expectations about the behavior of others and enable coordination among individuals. As coordinating institutions bring mutual gains for all individuals, they are particularly likely to arise.[4]

Can political institutions be seen as coordination devices? To answer this, we have to be clear about what we understand by politics. Some political institutions like the rules of the legislative process or electoral systems might have coordinative components. Yet, politics involve more than coordination. In most policy areas, pareto improvements are not feasible. However, even if they were feasible in general, the political decision-makers could decide to implement a different policy that inflicts gains or losses on others.[5] Moe (1990, p. 221) makes this point: "The unique thing about public authority is that whoever gets to exercise it has the right to tell anyone else what to do, whether they want to do it or not." A result where some gain and others loose would not be feasible in pure voluntary economic exchange. This is a crucial difference of political and economic decisions. The political process has to achieve the aggregation of conflicting preferences over policy choices into a single implementable policy. Already the modalities of the aggregation of interests, that is, the political institutions that shape this aggregation, determine the outcome and the winners or losers of a policy.

Of all decisions taken in a society, political decisions are among the most constrained. In no other field, we find so many rules, laws, and provisions to bind the self-interest of decision-makers. The reason for this lies exactly in the characteristics of politics. The coercive power of the state gives political decision-makers the power to inflict gains or losses on the citizens. Therefore, in addition to coordination, political institutions have the second purpose to

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and beneficial technology spillovers, thereby triggering the development of modern market economies. Countries with inefficient institutions were excluded from this development path. For example, as argued by Milgrom, North and Weingast (1990), the system of private judges in the middle ages has been an institution that served to build reputation for merchants.

[4]The most commonly used example is the development of the rules of traffic, such as the convention to drive on the right side of the street.

[5]In his famous lecture "Politik als Beruf" (Politics as a Vocation), Max Weber defines politics as all interactions where agents strive for the power to implement their preferred choice. The state is the only owner of the legitimate right to use force on others in order to ensure the enforcement of that choice.

protect the political interest of society from the self-interest of the political decision-makers. That is, political institutions have to be designed in order to constrain political power.

Until modern times, the notion that sovereignty rests with the king has been the valid legitimation of political power. As the fate of a country depended on the personality of the king, political philosophers placed a large weight on the importance of having benevolent rulers. The idea that political decision-makers can be allowed to pursue their self-interests when they are subject to constraints in their decisions, is comparably newer. In his famous argument for a federal constitution for the United States of America, Madison (1788) explained the necessity of such a binding constitution: "If men were angels, no government would be necessary. If angels were to govern men, neither external nor internal controls on government would be necessary." The logical consequence put forward in the *Federalist Articles* is thus to establish political institutions that constrain individual decisions in such a way that the social interest instead of only the politician's self-interest is served.[6]

According to Wittman (1995), political institutions arise exactly in order to mitigate potential "political market failures", such as principal-agent problems between voters and politicians or among political bodies. Competition for political office reduces political opportunism. Furthermore, political institutions efficiently reduce transaction costs in the political process. However, while it is already contestable that existing political institutions are efficient, this functionalist approach is also not able to answer the question why these efficient institutions should have evolved rather than other, less efficient ones.

There is a large and quite recent political science literature about the relation of institutions and outcomes of policy choices, labelled the "New Institutionalism". A substantial part of this literature discusses the appropriate definition of political institutions and stresses the importance of such a definition: It simultaneously outlines the research agenda and determines the level of analysis for specific research questions.[7]

All definitions in that literature have in common that institutions are taken to link individual preferences and outcomes. Yet, the approaches differ in the

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[6]See Grofman and Wittman (1989) for a collection of articles on the implications of the *Federalist's* ideas for the modern study of political institutions.

[7]Overviews of part of that literature can be found in the edited volumes by Czada and Windhoff-Héritier (1991), or Steunenberg and van Vught (1997).

causality that they assume. Keman (1997) divides the literature into three strands: the historical-traditional approach, the cultural theory approach, and the rational choice approach. The historical-traditional approach, see, e.g., Schmidt (1987), Lijphart (1984), Hall (1986), Esping-Andersen (1990), Putnam (1993), and Cox (1997), sees institutions as essential ingredients of political decisions. It mainly consists of detailed and often comparative studies of existing political systems. The studies focus on relations between formal political institutions, such as constitutional provisions, and the development and organization of parties and interest groups. However, they do not look for general mechanisms by which political institutions affect economic outcomes.[8]

The cultural approach, shaped by Laitin and Wildavsky (1988), March and Olsen (1983, 1989, 1995), and Olsen (1991), takes political institutions as being part of and evolving with the rules and norms in a society. March and Olsen (1996) stress the autonomy of political institutions as well as political identities. Political identities that shape policy preferences are crucial for the interpretation of institutional constraints. Only this interpretation fills the institutions with meaning. In this view, political institutions are created and changed in social interaction. They also develop a life of their own by constraining not only decisions but also future institutional choices.

For Krasner, these political identities and preferences are the product of earlier institutional choices. Institutions thus define individual preferences. For example, the institution of sovereign nation states defines citizenship. For the individuals, this creates a whole new set of preferences for political participation and the promotion of their political interests (Krasner, 1988, p. 74). The cultural approach sets out a very rich agenda for the study of political institutions. However, as it takes into account all these interdependencies, the cultural approach has more difficulties to identify the direction of the causalities between individuals and institutions than the simpler view of institutions as constraints on political decisions.[9]

In contrast to the other two, the rational choice approach takes preferences as exogenous. In such a framework, different outcomes are determined by differences in institutions. These act as constraints on the individual max-

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[8]This strand of literature is what Persson refers to when he states that "...the analysis has generally been confined to purely political phenomena, such as the number of parties, the propensity for crises, etc. It has ignored economic policy,...", Persson (2002, p. 886).

[9]This point is also made by Keman (1997), p. 15.

imization problems and define the sets of feasible alternatives from which an individual chooses (Windhoff-Héritier, 1991). For Frey (1997), the assumption of the rational homo oeconomicus with exogenously given preferences is the one that is best for analyzing political institutions.

This definition of political institutions is the one that is most familiar to economists: In economics, institutions are exogenous constraints for the optimization calculus of individuals with exogenously given preferences. Applied to a polity, this means that political institutions shape policy decisions by constraining the set of feasible choices of the decision-makers. We will follow this definition as it is the most useful for our research question. In the next sections, we will show this concept of political institutions is implicit in most of the political economy literature.

Still, the view of political institutions as constraints leaves some important questions unanswered: The first is where to draw the boundary between the political and the economic realm. If political institutions are constraints for policy choices, we have to clarify how these constraints can be distinguished from other exogenous factors that might shape the objective function of politicians. Myerson (1997) takes a narrow concept of political institutions when he stresses the need for studying constitutional structures as the rules of the political game (Myerson, 1997, p. 47). Yet, as we think that the expression of political interests in society also is an essential element of politics, we have to draw a wider boundary.[10]

However, we still need a well-defined delineation of the political realm. In our picture of the medieval town, this means that we have to build a strong city wall. Of course, the city wall should not completely bar the city from the outside world. Yet, it should be so high that influences from the outside can only enter through the gates, that is, in well-defined ways. For the analysis of the effects of political institutions on economic outcomes, it should be clear which explanatory variables stem from the political institutions themselves and which are introduced from the economic environment. If this distinction is not made, it is very difficult, theoretically and empirically, to disentangle

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[10]In political science, there is a large area of research concerned with international organization and international governance. Also this field has moved from the study of formal international organizations to a broader concept of international institutions, captured by the notion of international regimes that can comprise formal or informal principles, norms, and rules of international governance. See, for example, Kratochwil and Ruggie (1986) or Young (1991). We advocate a similar move for the field of political economy.

the effects of political institutions from the effects of other sources, such as market institutions, human capital formation, or growth.[11]

The paper by Acemoglu, Johnson and Robinson (2004) is a recent example for the effort to disentangle political and economic institutions and their respective effects. Their framework draws a simple and yet realistic picture of both the evolution and the effects of political and economic institutions. The authors distinguish between the distribution of resources that convey de facto political power, and the political institutions that grant de iure political power. Decisions on the current economic institutions and on future political institutions are determined by this distribution of power (Acemoglu et al., 2004, p. 6). Then, in turn, the current economic institutions determine the new distribution of resources.

The authors explicitly distinguish between economic and political institutions. Yet, their concept of a distribution of resources that grants de facto political power blurs the dividing line between the political and the economic realms: If we want to analyze the effects of political institutions, it is then very hard to identify the objects of analysis. Political institutions are only one part of the political realm. They are supplemented by the de facto political power that stems from the distribution of economic resources. This means that all economic outcomes can be assigned either to the present political institutions or to the de facto political power of certain groups. The de facto decision-making power of these groups is, in turn, defined by their economic endowment. Thus, this framework risks to be unrefutable, as every outcome can either be explained by formal (de iure) or informal (de facto) political power. Furthermore, it remains unclear whether the distribution of resources should be considered as part of the political system. For concrete applications, it is necessary to pin down exactly how de facto political power is created and through which channels it influences the political process.

In the recursive setting of Acemoglu et al. (2004), economic institutions are endogenous and "determined by political institutions and distribution (*sic*) of resources in society"(Acemoglu et al., 2004, p. 6). This is at least partially contrary to what we have proposed in this chapter. Think of our example of the medieval town: It implies that economic institutions, i.e., the countryside, are more fundamental than political institutions, i.e., the town and the castle.

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[11]The problems of measuring the effects of political institutions on growth are discussed in Glaeser et al. (2004). The question is considered in detail in section 2.3.

This leads us to another and probably the most difficult question of the analysis of political institutions: Each definition of political institutions constructs a causality between institutions and outcomes. This causality is sometimes not spelled out explicitly. For Moe (1990), political institutions are a consequence of structural choices by the winners of the political struggle for power. Acemoglu et al. (2004) postulate a "hierarchy of institutions", where political institutions are the determinants of economic institutions. Yet, the definition of economic institutions is left unclear. For the authors, economic institutions, such as the protection of property rights, are political decisions that can be overthrown if the political institutions do not prohibit that.

There is no doubt that many economic institutions can be introduced by choice. For example, a government can decide to build up financial markets, open a stock exchange in the country, or allow private individuals to buy land. However, an economic institution like the protection of property rights has two dimensions. One is the actual enforcement of property rights protection. Another dimension is the content of the concept "property rights" as such. Infringements on property rights can only be prosecuted if property is well-defined. The fundamental role of economic institutions to define rules for economic interaction seems to be exogenous to any political decision. It is a precondition for politics in the sense that it defines the space of feasible choices. These fundamental institutions more likely are the result of a long evolution than of political choices.

We find no agreement on whether political or economic institutions are the more basic ones. In sum, this is the question about causality: Do political institutions determine economic outcomes or do economic parameters, such as economic institutions or the distribution of resources determine the design of political institutions? It seems to be much less controversial that for the analysis of economic outcomes, both economic and political institutions can be taken as exogenous. This is what a large part of the political economy literature on political institutions does. In the next section, we will review the concepts of political institutions implicit in the political economy literature, differentiating them by the scope they assign to political institutions. We will see that there are some approaches that consider only formal institutions, as well as others that encompass the interaction of formal political bodies with the political powers in society. We come back to the question of the causality of economic and political institutions in section 2.4.

2.3 The Effects of Political Institutions on Economic Outcomes

2.3.1 Theoretical Literature

There is quite a rich theoretical literature about the effects of political institutions on economic outcomes. Mostly, the definition of political institutions is not made explicit, but certain institutional features are assumed. In general, the focus on specific political institutions is driven by the choice of the policy question. It is not possible to review the whole political economy literature in this chapter. Also, we do not want to dwell on all theoretical problems or open questions of that literature.[12]

Rather, we discuss some examples of the literature in order to make two points: First, it is clear that so far, there is no single standard approach for analyzing the effects of political institutions on economic reforms. Second, we examine how political institutions are captured in the theoretical models. Our aim is to identify the general assumptions about the nature of political institutions that underlie the different approaches. We then relate these implicit definitions of political institutions in the theoretical literature to the empirical discussion on the effects of political institutions on economic outcomes.

In our picture of the medieval town, we will take a walk from the castle to the city wall. We start inside the castle. A very large part of the political economy literature deals with formal political institutions, such as constitutional provisions. Especially for democratic regimes, where the citizens are the sovereign and therefore the initial owners of the decision-making rights, the provisions that define the representation of political power are of highest importance. Political institutions have several layers: While the notion of sovereignty in itself is the fundamental principle, or, in our picture, the foundation of the castle, specific constitutional provisions define the position of the castle's gates through which the outside world is allowed to enter.

As the electoral system transfers decision-making power from the sovereign to the politicians, it is an essential feature of democratic political institutions. The theoretical political economy literature explicitly or implicitly makes cer-

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[12]A recent overview of the most prominent questions in the field of political economy is given in Persson and Tabellini (2000).

tain assumptions about the structure of political participation.[13] In particular, voting models presume a specific electoral system. In median voter models, going back to Hotelling (1929), Black (1948) and Downs (1957), it is assumed that the winning candidate or party is the one that gains the majority of votes, that is, the one that caters to the interest of the median of the population. Models of probabilistic voting, e.g., Ledyard (1984) or Lindbeck and Weibull (1987), introduce an additional policy dimension, namely personal preferences of the voters for specific candidates.

In these models and all applications to specific policy questions that follow these approaches, policy choices are explained in a two-party setting with a strict majority voting rule.[14] By assuming Downsian electoral competition, the preferences of the politicians for winning the elections are taken as given. The rules of electoral competition together with the politician's desire to be reelected then determine the policy choices.

Additional implicit assumptions about political institutions are made when political agency is introduced. Agency problems between the politician and the electorate can arise when the politicians strive to appropriate rents from holding office. These rents can be of different nature: On the one hand, they can reflect the politicians' utility from having the decision-making power. The holders of a political office are able to choose their preferred policy instead of the one of the electorate today, and after they have achieved reelection, also in the future. This presupposes individual policy preferences of the politician apart from just the objective to stay in office. Such models with outcome-motivated politicians are for example presented by Wittman (1977), Calvert (1985), or Alesina (1988).

On the other hand, politicians might try to appropriate parts of the government's budget for themselves. Then, it would be in the interest of the voters to limit such a rent-seeking behavior. The notion of the government as a Leviathan, a malevolent, revenue-maximizing government, goes back to Hobbes (1651). It has been revived for modern political theory by Brennan and Buchanan (1985).

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[13]Feddersen (2004) gives an account of the literature dealing with the voter-paradox, the question of why individual voters turn out to cast their votes at all, in particular, when voting is costly.

[14]Redoano and Scharf (2004) are an exception as they compare outcomes of decisions by elected politicians with decisions by direct referendum.

An important issue in this context is in how far politicians are able or willing to commit to their electoral promises. While commitment ability is assumed in many political economy models, there is so far no fully convincing explanation as to how such a commitment power can be achieved. Agency problems have other implications when politicians have no commitment power: Here, the role of elections in the political process is quite different. Instead of choosing the politicians who promise to cater best to the voters' interests, the electorate now can only ex post punish politicians by not reelecting them. This idea has been formalized first by Ferejohn (1986), Austen-Smith and Banks (1989), and Banks and Sundaram (1993). In another variant, politicians are motivated by career concerns: Policy choices then are signals for the competence of a politician whom voters might reward by reelection.[15]

What are the assumptions about political institutions in the context of agency problems between voters and rent-seeking politicians? When we take our definition of political institutions as constraints, we find that these constraints must be imperfect. The preference of the politician for rent-seeking is given exogenously. However, the opportunities for this activity are granted by the imperfections of political institutions. If elections are imperfect monitoring devices, or if multidimensional policy decisions can be used to blur a diversion of resources, this gives some scope for rent-seeking.

In the literature so far, there is no clear decision for either preelection politics that assume commitment power of the politicians or postelection politics that do not allow for commitment and focus on retrospective voting. Attempts to combine the two approaches to get a more realistic picture of the political process are scarce (Persson and Tabellini, 2000, p. 89).[16] For analyzing the effects of political institutions on economic outcomes and for testing the theories empirically, a set of standard assumptions about the nature of the relation between electorate and politicians would be useful.

All models that have been discussed so far assumed that electoral competition follows a strict majority role. In contrast, the empirical literature considers the distinction of majority versus proportional representation as an important determinant of policy decisions (Persson and Tabellini, 2003, see below). The political economy literature has so far mostly neglected this dis-

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[15]This idea is an application to politics of the work of Dewatripont, Jewitt, and Tirole (1999a, 1999b). See Persson and Tabellini (2000, Chpt. 4).

[16]One exception is Austen-Smith and Banks (1989).

tinction. Persson and Tabellini (2000) suggest a formal framework to compare policy results for majoritarian and proportional elections. Yet, the authors assume two party competition throughout. This is an important drawback, as both the theoretical (e.g. Cox, 1987, 1990), and the empirical political science literature (Lijphart, 1994) shows that proportional electoral systems lead to a larger number of political parties.

If this we have more than two parties, the bargaining process over government formation becomes an additional important issue. However, political economy treatments of this topic are relatively scarce. Myerson (1999) gives an overview of the literature. An exception is Merlo (1997) who empirically tests his bargaining model for the case of Italy. As yet, there is no standard formal model for analyzing complex policy questions in a framework with multiparty competition (Persson and Tabellini, 2000, p. 5). For reasons of formal tractability, political economic theory has thus neglected a substantial part of today's political institutions. Thus, it also remains unclear from a theoretical perspective whether majority or proportional electoral systems create stronger constraints for political decisions.

The literature on legislative bargaining abstracts from electoral competition and instead tries to capture the mechanisms of coalition formation and of committee decisions on policies. In this literature, e.g. Romer and Rosenthal (1978, 1979) and Baron and Ferejohn (1989), political institutions allocate the right to be the agenda setter and determine the possibilities for forming minimum winning coalitions. In his literature review, Krehbiel (2004) identifies two main problems of legislative organization: First, decisions on narrowly targeted distributive policies require logrolling strategies, that is, reciprocal voting coalitions, to receive the necessary majority. Second, incentives for the strategic use of information may conflict with the goals of information collection and truthful communication among legislators.[17]

The black box of government, for which the models discussed further above just assumed unanimous preferences given by majority rule, is opened. Yet, in this literature, links to other political institutions, such as the mode of electoral competition, remain scarce. One exception are Austen-Smith and Banks (1988), who analyze electoral competition and legislative bargaining in a multi-stage setting.

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[17]For example, Krishna and Morgan (2001) analyze the informational efficiency of specific legislative amendment rules in the U.S. House of Representatives.

A related issue is the selection of preferences through political institutions: The models discussed above assume exogenous preferences of politicians and voters. The politicians can have own policy preferences or preferences that are given by the desire to stay in office or to appropriate rents while holding office. A small theoretical literature deals with the question how politicians are selected: The citizen-candidate models derived by Osborne and Slivinski (1996) and Besley and Coate (1997) analyze which types of citizens have incentives to enter the electoral competition. All citizens have individual preferences over economic outcomes. A political office is attractive because the winners are able to implement their own preferred policy. Here, the preferences of the politicians are endogenized. The political institutions do not only act as constraints for given preferences but they provide a selection mechanism: Only candidates with such preferences that they have a positive chance of winning will enter the elections. In this context, issues of strategic delegation arise: Citizens might choose to vote for candidates with different preferences than their own if they assign them a better chance of winning.

For our research question, namely, how political institutions influence the incentives of politicians to choose certain policies, this is an important point. We find different conceptions of the causality of political institutions for the incentives of politicians and for economic outcomes: In the first view, political institutions set the incentive structure for the politician. Political institutions thus define the set of feasible policy choices, given the politician's preferences. In the second view, political institutions determine which citizens and therefore which kinds of preferences are the most successful in the political process. The incentives of politicians are here defined in the earlier stage of the selection of the citizen-candidates.

If we observe the preferences of a politician, they thus do not have to stem only from exogenous fundamentals. The political institutions are still exogenous. Yet, the preferences of politicians become an endogenous variable. Political institutions can influence economic outcomes by providing a selection mechanism for these preferences.

All models considered so far deal with electoral processes and can therefore be applied only to democratic political regimes. However, political institutions are not constrained to democratic regimes. Even more, the political regime as such, be it democratic, autocratic, or even totalitarian, is already a political institution in itself.

When modelling autocratic regimes, the issue of distinguishing the objectives of the political decision-makers from the institutional constraints that they face becomes much more difficult. Constitutional provisions, if there are any, might well be choices of the dictator instead of constraints that are binding the dictator's decisions. Thus, we have to ask whether the political decision-makers in autocratic regimes have the same objectives as in democratic regimes, e.g., to stay in office, and just face a different set of constraints, or whether their preferences are totally different.

In the literature, this question is asked by Olson (1995). He sees a long time-horizon of the dictator as the constraining force on incentives to expropriate the citizens. Grossman (1991, 1994, and 1999) and Grossman and Kim (1996) analyze political regimes that do not have elections to control agency problems. In a broad sense, a constraint similar to elections could be that an autocratic ruler has to face the risk of a revolution or a coup d'état. This might provide incentives not to totally neglect the welfare of the citizens. However, the possibility of a revolution is not an institutionalized feature of political regimes and can therefore not be considered as a political institution in our sense. Political institutions that are to be constraints on the political decision-makers also in autocratic regimes are those that define interactions inside the government: For autocratic regimes, one of the strongest institutional constraints is the dependence on the bureaucracy for information gathering and policy implementation.[18]

The institutions regulating the interaction of political bodies are important determinants of policy decisions. In reality, we find most of these institutions only in democratic regimes. They define, for example, the nature of the political system: The pure types are the presidential system, where the executive and the legislature are strictly separated, and the parliamentary system, where the legislative majority elects the executive. There also exist several variants of hybrid political systems.

In theory, such institutions are independent from the institution of an electoral system. The most common political institutions of this kind are the concept of checks and balances and the separation of powers, that is, the

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[18]In the analysis of the bureaucracy, not only the black box of government as a whole but also the black box of the executive is opened. We have neglected a discussion of the literature on bureaucracies also in our review of the literature on democratic regimes. It is outside the scope of this study to discuss the literature on bureaucratic institutions. For a comprehensive treatment of the issue see Wilson (1989).

assignment of the legislative, executive, and judiciary powers to different in-
dependent bodies of government, going back to Montesquieu (1748).

There exists a small formal political economy literature on these aspects of
political institutions. These models focus mainly on the rationale for checks
and balances. Persson, Roland, and Tabellini (1997) demonstrate that, due to
a common pool problem, having two selfish decision-makers may be worse than
having a single one. The right timing and a clear accountability of decisions
as well as requiring consent by establishing veto rights may solve the com-
mon pool problem and successfully curb rent extraction by the policy-makers.
Laffont (1999) stresses the importance of the design of the incentive struc-
ture in political institutions. He interprets constitutions as optimal contracts
among the sovereign and the politicians. For example, he shows that it may
be cheaper to extract information from two informed agents than from a single
one. Checks and balances therefore improve efficiency and should be able to
abolish the politicians' incentives for collusion.

If we see the constitution as a contract that binds the government, how-
ever, we have to look for mechanisms of contract enforcement on the level of
the state sovereign. There, we find constitutional review, that is, the control
of the legislature by the judiciary. Yet, constitutional review is not equally
institutionalized in all countries. Strong systems of constitutional review are
established for example in the United States or Germany. In France, the pos-
sibilities for a judiciary control of the legislature are much weaker.

Let us come back to our picture of the medieval town. So far, we have stayed
inside the castle. We have identified the position of the castle's windows and
gates, through which the outside world is allowed to enter. The analysis of
electoral outcomes presupposes certain mechanisms for the transformation of
the political interests of the voters into policy choices. The representation of
citizens can be more or less perfect, depending on how well the political insti-
tutions allow to condition the politicians' decisions on the voters' preferences.
Then, we have taken a look inside the castle: The separation of powers and
checks and balances define the interactions of the political bodies.

In the introduction of this chapter, we have argued that also the town
around the castle stands for political institutions. What do we find when we
walk from the castle into the town? Political institutions are not confined only
to electoral processes or to interactions inside the government. They can also
enable the interaction between society and the political representatives. The

two most important institutions linking society and government are political parties and special interest groups where citizens with similar interests organize in order to increase their political influence. Political parties participate in the political process via the elections that are part of the inner circle of political institutions. They channel a large fraction of the interactions between society and government. In Germany, for example, their role of aggregating and shaping public opinion is explicitly acknowledged in the constitution.[19]

The formal literature on the formation and the role of political parties is still quite small. In a very recent contribution, Morelli (2004) relates the degree of asymmetry of citizens' preferences in multi-district elections to Duverger's (1954) hypotheses about the number of political parties in a political system: Duverger showed that majoritarian electoral systems lead to a two party system. Furthermore, he conjectured that proportional electoral rules would give rise to the formation of many political parties. Morelli shows that these conclusions can only be contradicted for very asymmetric preferences of the voters. The role of political parties in his setting is to serve as coordination devices for strategic voting and as commitment devices for the politicians that enables them to credibly announce policy platforms. Also Levy (2002) emphasizes the role of parties as commitment devices. Glazer and Grofman (1989) identify a signalling effect of political ideology. Caillaud and Tirole (1999) model how parties may select high-quality candidates by acting as information intermediaries.[20] Caillaud and Tirole (2002) is one of the few studies that formally analyzes the internal organization of parties.

Also for special interest groups, there are political institutions that define how they are involved in the political process. The decisive political institutions are those that set up the channels of influence for the special interest groups. This can be a formal inclusion in the decision-making process, as, for example in parliamentary committee hearings, or officially regulated campaign contributions. Yet, interest groups also have more informal possibilities of influence, for example via campaign contributions to politicians that support their own interests. Even public advertising campaigns of special interest groups that aim at changing the preferences of the voters and thereby indirectly the decisions of the government, can be considered as political institutions.

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[19]See: Grundgesetz für die Bundesrepublik Deutschland vom 23. Mai 1949, Art.21 I, S.1.
[20]Piketty (1999) reviews the literature about the information-aggregation role of political institutions.

Initially, the research in this area focussed on certain policy issues, such as lobbying for trade restrictions (Grossman and Helpman, 1994, 1996). Meanwhile, lobbying models have become an essential part of the political economy literature. Grossman and Helpman (2001) set out many of the state-of-the-art concepts in this area. In one strand of the literature, special interest groups influence political decisions by giving the decision-makers additional incentives to choose certain policy options: By offering contingent benefits in exchange for policy choices, they can distort the decisions of the politician. This literature uses the common agency approach (Bernheim and Whinston, 1986a, 1986b, Grossman and Helpman, 1994, 2001, and Dixit, Grossman, and Helpman, 1997).[21] Grossman and Helpman (1996) and Prat (2002a) introduce elections: Interest groups make campaign contributions which the politician uses to influence the opinions of the partly uninformed voters.

There is also a small theoretical literature that tries to capture the interest groups' role of shaping public opinion by sending advertising messages to the public. In most of the existing models of political advertising, however, it is the government that uses the contributions of lobbies for its own campaigns to influence voting decisions.[22]

What do we learn about political institutions from the lobbying literature? There are two implicit assumptions: First, unless we consider pure advertising, the political system must allow for transfers of resources from lobbies to politicians. Second, politicians have to have preferences for receiving these additional rents. If the transfers are seen as illegal bribes, this channel of influence might be closed in transparent political systems. However, the benefits can also be campaign contributions that are a feature of all modern democratic systems.

In all these models, the existence of special interest groups is taken as given. Yet, not only the channels of influence for lobbies, but also special interest groups as such can be considered as political institutions. Such institutions emerge if individuals see some scope for increasing their political

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[21]The lobbying literature is surveyed extensively in chapter 4. Applications of the common agency framework are by now numerous. See, for example, Persson and Tabellini (1994), Rama and Tabellini (1998), Aidt (1998), Dixit (1996), Marceau and Smart (2003), Kirchsteiger and Prat (2001), and Drazen and Limão (2003).

[22]Among those are Austen-Smith (1987), Potters, Sloof, and van Winden (1997), Coate (2001), Gersbach and Liessem (2002), Prat (2002b), Bennedsen and Feldman (2001), and Baron (2003).

bargaining power by organizing into groups. That is, the political structure has to provide opportunities for such groups to influence political decisions.[23] Then, groups that are able to organize distort policy decisions in the direction of their interests. Groups that are not represented by special interests may suffer from such policy distortions.

The theoretical literature on the effects of political institutions on policy choices is too rich to give a comprehensive overview of all its findings. Instead, we have focussed on the underlying assumptions about political institutions in that literature. We have seen that the concept of political institutions is shaped to a large extent by the formal rules and constitutional provisions that define political regimes, the electoral system, and the interaction of political bodies inside the government. In addition, the lobbying literature makes some assumptions about political institutions that structure the involvement of organized groups in the political decision-making process. We can bear these findings in mind when we now look at the empirical literature on the effects of political institutions.

2.3.2 Empirical Literature

In the empirical literature on the effects of political institutions, two large and very recent projects receive special attention. The first uses cross-country comparisons to look at the effects of constitutional features on economic outcomes. An overview of these studies is given by Persson and Tabellini (2004). Persson and Tabellini (2003) and Persson (2002) focus explicitly and exclusively on the effects of two formal political institutions, namely, the electoral system and the separation of executive and legislature, that is, the nature of the political system.

Persson and Tabellini (2003) analyze whether majoritarian or proportional electoral systems and parliamentary or presidential political systems lead to differences in economic outcomes.[24] Their set of dependent variables includes

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[23]We do not go into the details of the formation of interest groups as our focus lies on the effects and not on the emergence of political institutions. The standard reference still is Olson (1965).

[24]The approach to use the distinction between parliamentary and presidential systems as the explanation for different economic outcomes is also taken in the comparative studies collected in Weaver and Rockman (1993). Moe and Caldwell (1994) review theoretical arguments relating to the differences of parliamentary and presidential systems.

the size of government, government deficits, structural policies, the overall
economic performance of a country, the adjustment to economic shocks, the
composition of redistributive programs, i.e., whether they are targeted at a
broad or a narrow group, and the extent of rent extraction by the government.
Their data sets have cross-section data for 85 countries, measuring average
economic outcomes in the 1990s in terms of government spending, budget
deficits, productivity, structural policies, and political rents. In addition, the
study uses a panel data set over 60 democratic countries, measuring annual
economic outcomes over the period from 1960 to 1998.

For some of their variables, the authors find interesting and highly signifi-
cant relationships: For example, the electoral rules have a strong effect on fiscal
policy. The study shows that the welfare state is smaller in countries with ma-
joritarian electoral systems. A switch from a proportional to a majoritarian
electoral system reduces government spending by about 5% of GDP, welfare
spending by 2-3% of GDP, and budget deficits by 2% of GDP (Persson and
Tabellini, 2003, p. 270). For a number of other variables, the results are less
clear-cut, but seem to depend more on the details of the electoral system, such
as the district size and the ballot structure. For the effects of different political
systems, the study finds that presidential systems have smaller governments
by at least 5% of GDP. However, there is no significant relationship between
the political system and the level of rent extraction (Persson and Tabellini,
2003, p. 274).

The authors explicitly confine themselves to the use of formal political
institutions as explanatory variables. However, their measures of these in-
stitutions are not purely constitutional: For example, the electoral system is
approximated by the number of legislators that get elected in each district,
the district magnitude, and the ballot structure that defines whether votes are
cast for parties or for individuals. In particular, the sizes of voting districts
are usually quite variable. Furthermore, they are subject to political decisions,
even if politicians that change the district size are then publicly criticized for
trying to manipulate the electoral results. It is hard to see the district size
as a political institution that constrains the decisions of politicians more than
the electoral rule itself.[25]

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[25]Nevertheless, also the electoral system is subject to changes: The authors identify a few
instances where changes of the electoral system have been effectuated in the 1990s: Italy
has introduced majority voting for 75% of the seats of its national assembly, whereas New
Zealand has moved into the direction of a more proportional voting system.

For the distinction of parliamentary and presidential political system, the study takes as measures the separation of powers in the legislative process and the level of accountability of the executive towards the legislature. In this case, the data display a truly constitutional feature of the political institutions. A presidential system displays a stronger separation of tasks and of accountability between executive and legislature. In the data, this is measured by the absence of a confidence requirement for the executive.

Persson and Tabellini (2003) show that formal constitutional institutions have real effects on economic outcomes. To speak in the terms of our picture, a great deal of what happens in the outside world is determined inside the castle. This is true especially for the effects on fiscal policy. For the propensity to economic reforms in the response to outside shocks, for structural policies, and also for political rent extraction, the outcomes seem to depend also on other features of the political system. There, the distinction of constitutional characteristics shows no clear-cut results.

Besley and Case (2003) study institutional effects on a lower level of political institutions, using data from the U.S. state governments. Their set of explanatory variables includes voter registration, candidate selection rules, legislative redistricting and campaign finance. They find that their variables are the causes of variations in economic outcomes. Furthermore, they also explain differences in secondary features of the political system, such as the composition of parties and legislatures and voter turnout. This focus on secondary political outcomes differentiates their study from Persson and Tabellini (2003).

A comparison of the studies described above helps to make a general point. Because of the complex nature of political institutions, any study of the effects of political institutions on economic outcomes has to make a careful choice of the level of analysis. Going back to our picture, it is never possible to assess the effects of the whole structure of the castle and the surrounding town at once. Also, this would not be sensible from a scientific-theoretic point of view: Having an encompassing set of explanatory variables would make the theory unrefutable. Given that, we have to choose in advance which part of the town we want to isolate as the explanation for a particular economic outcome. The solid walls of the castle, the position of the castle's gates and windows, and the interdependencies of town and castle are symbols for different levels of political institutions that each are useful for explaining specific policy questions.[26]

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[26]The choice of the level of analysis is closely related to the problems of the causality and

The second recent project looks at the effects of political institutions for economic growth. Most of the studies, e.g., Knack and Keefer (1995), Mauro (1995), Alesina et al. (1996), Hall and Jones (1999), Acemoglu, Johnson and Robinson (2001, 2002), Rodrik, Subramanian, and Trebbi (2002), Easterly and Levine (2003), Dollar and Kraay (2003), and La Porta et al. (2004), have found a positive relationship between good political institutions and growth. Without going into the details of the different studies, we can summarize the general approach: Political institutions generally capture constraints on the government. Good institutions are effective in limiting governments in their abilities to expropriate rents, to reverse policy reforms, and to abolish property rights. With this, these studies share our understanding of political institutions as constraints on policy-makers.

The studies use different variables to capture good political institutions. La Porta et al. (2004) are closest to Persson and Tabellini (2003) as they take constitutional features as the characteristics of good political institutions. Yet, instead of political systems, they use legal institutions, namely, judicial independence and constitutional review. With these explanatory variables, they assess the quality of political institutions, that is, in particular, the guarantees of democratic rights and political freedom. In this way, the study differs from the other approaches in this area: While it considers genuine constitutional features, the others mainly use outcome measures for political institutions.[27]

Of these other studies, Knack and Keefer (1995) take contract enforceability and the risk of expropriation as their key measures for country risk evaluations. The enforceability of contracts depends not only on the political decision to introduce such an institution, but also on the existence of functioning legal institutions and effective enforcement mechanisms. Thus, the measure of enforceability does not capture only political institutions. The risk of expropriation by the government, moreover, can be low when political institutions constrain the government. Yet, a low expropriation level is also observed when an unconstrained government chooses not to expropriate private rents. Thus, also the measure of expropriation risk does not capture that political institutions act as constraints on politicians.

Glaeser et al. (2004) relate these measurement problems of political institutions to the underlying difficulties of appropriately defining political insti-

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the continuity of political institutions. We come back to this point in section 2.6.

[27]This point is also made in Glaeser (2004).

tutions. The authors demonstrate that most of the studies mentioned above use outcome-oriented measures of good political institutions. As shown above, with these measures, it remains unclear whether an observation stemmed from constraints on government activity or from the choices of unconstrained political decision-makers. Such empirical results only show effects of political institutions in the cases when the observations are the result of government constraints. However, since the measures in these studies are not able to achieve the necessary differentiation and treat constraints on government as equal to dictatorial choices, they are not able to explain the effects of institutions on growth (Glaeser et al., 2004, p. 4). The authors thus conclude that because of these problems, studies on political institutions should focus on formal rulesand constitutional provisions rather than on measures of institutional outcomes (Glaeser et al., 2004, p. 26).

When thinking about the implications for our aim of analyzing the effects of political institutions on economic outcomes, we find that it is very important to ask for the level of analysis: In which parts of our castle or town do we find the explanatory variables for our research question? If we follow the critique by Glaeser et al. (2004), we have to be in the castle, analyzing the effects of constitutional provisions on policy choices and economic outcomes. Otherwise, we have to ask additional questions: Do we find the explanatory variables in the castle or the town at all? If the explanatory variables are not found in the castle or the town, where do we have to look for them? What is then the role of political institutions for explaining economic outcomes? These questions are guiding us in the next two sections of this chapter.

2.4 Political and Economic Institutions

Let us first try to identify the level of analysis chosen in the empirical studies mentioned in the last section. As we are not able to treat all the studies in this literature in detail, we only focussed on the most general features: When looking for the effects of good institutions on growth, most studies mentioned above do not clearly distinguish political from economic institutions. To speak in the terms of our picture, the city wall around the town is not well constructed.

Take for example the enforceability of contracts. The possibility to enforce contracts clearly is an economic institution. The role of politics is to guarantee the enforcement of that rule, but contract enforcement per se is not a direct

constraint on government activity. Moreover, contract enforcement is not the end of the story: We need well-defined property rights in order to enable contracts at all. This takes us to a deeper level where such basic principles as property rights are defined. This is the realm of economic institutions, in our picture, the world outside the city wall.

A number of studies analyze the effects of economic institutions. The largest project is the one by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (LLSV). In a series of studies, LLSV (1997, 1998, and 2000) show the effects of legal institutions on different aspects of economic development. The authors focus on the differences between the legal systems in countries with common law, civil law, and socialist law. The distinguishing feature of common law is its higher degree of judicial independence. Its more decentralized system of law enforcement creates more distance between the judges and the policy-makers. Civil law countries, to the contrary, have a more centralized judiciary and a greater reliance on written law. This makes the judiciary immune against private manipulation, but more vulnerable to state intervention.[28]

In their studies, LLSV find that common law countries provide for a better protection of investor rights. Moreover, the legal system influences the financing decisions of firms (LLSV, 2000). With a similar approach, Djankov et al. (2002) show that common law countries exhibit a less rigid regulation of market entry. Without going into the details of this work it is easy to see that basic economic institutions, such as the enforcement of property rights, and legal institutions, such as the court system enabling this enforcement, are determinants of economic outcomes. In these approaches, political institutions play only a marginal role.

Glaeser et al. (2004) critically discuss the literature that sees political institutions as causal for growth. They argue that the social and the human capital of a society determines its potential both for growth and for developing good political institutions. Thus, basic economic institutions, especially those creating human capital, are seen as the causes for both economic and political development (see also Djankov et al., 2003).

In a similar vein, LLSV (1999) take a broad class of economic institutions as explanatory variables for the quality of government. Outcome measures of government quality are instances of government intervention, public sector

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[28]The theoretic argument used for these studies is made by Glaeser and Shleifer (2002).

efficiency, public good provision, the size of government, and political freedom, i.e., democratic individual rights. The authors distinguish three different sets of explanatory variables for the quality of government: First, the quality of government increases with a better economic performance in the country. Richer countries have better political institutions. Second, political divergence, i.e., different social or ethnic interests, is an obstacle to effective government performance. Third, from cultural theories, the authors take the role of religion for shaping social norms such as trust or tolerance. Also those can facilitate good government performance.

Looking at this literature, we come back to our initial question of how to capture the effects of political institutions. By resorting to more basic explanatory variables, that is, by leaving the city walls of political institutions behind, we can either explain economic outcomes, as in the first strand of literature reported in this section, or we can look for reasons for the quality of political institutions. What is then still missing is the causal link between economic outcomes and political institutions. LLSV (1999) focus only on the quality of political institutions, without taking into account their effects on economic outcomes. The question of how political institutions work as constraints on policy choices is left aside. Where do we find the explanatory variables for policy choices? In answering this question that we posed at the end of the previous section, we have to conclude that the existing literature does not provide us with a clear separation of economic and political institutions.

2.5 Endogenous Political Institutions

Why are we concerned about the lack of a boundary between economic and political institutions? The reason is our aim to identify the role of political institutions for explaining economic outcomes. When political institutions are defined too broadly, that is, when the city wall is not firmly built or even partly torn down, we run into difficulties when we want to assess the causality of political institutions for economic outcomes. As we have seen above, the impact of political institutions on growth remains unclear when growth is traced back to economic indicators. Did policy decisions create the economic institutions that promote growth? Or are the political institutions a consequence of well-developed economic institutions? For example, the emergence of property rights could have triggered the desire for contract enforcement as well as the

desire for a limited government that guarantees the continuity of these economic institutions. In essence, we are here asking a very basic question: Are political institutions exogenous or endogenous?

To ask for the origins of the state has a long tradition in political philosophy. Hobbes (1651) and Locke (1690) stress the importance of the state in structuring expectations about the behavior of others and enforcing property rights. In the modern literature, Brennan and Buchanan (1965) explain the formation of the state and the agreement on rules of public choice by the individual incentives to collectively organize decisions that inflict externalities on others. In these views, political institutions emerge from the desire of individuals to create guarantees of property rights and other basic institutions that enable economic interaction.

Rawls (1971) created a comprehensive framework for explaining the choice of political institutions. In his theory, individuals choose some basic principles and rules for their society behind a veil of ignorance, i.e., without being informed about their individual endowment and capabilities. Rawls argues that this choice will reflect the basic democratic rights that we have today. His thought experiment can thus be taken as a legitimation for contemporary democratic systems.

While there are many political economy models about the economic effects of political institutions, the political economy literature explaining the emergence or evolution of political institutions is much smaller. Aghion and Bolton (2003) model the decision on rules of social choice and show that most of the time, majority rules are preferred to unanimity. A recent paper that focusses on the optimal constitutional choice is the one by Aghion, Alesina, and Trebbi (2004). The authors derive a fundamental trade-off for the delegation of unchecked power to the political decision-makers: The abuse of power is the more probable, the more unchecked power is transferred to a political leader. On the other hand, too many checks and balances make necessary reforms unlikely, as these can then easily be blocked by a minority of citizens.[29]

The trade-off between protection against the abuse of power and political flexibility is analyzed by looking at the choice of a minimum veto require-

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[29]A similar trade-off is identified by MacIntyre (2003, Chpt. 2), who distinguishes the easiness of reaching decisions in a polity from the commitment possibilities of political decision-makers. The more dispersed the political power, the better are commitment possibilities, but the more difficult is it to make flexible policy decisions.

ment.[30] The authors show that the delegation of powers to political leaders depends on the features of a society, such as the size of the aggregate improvement from reform, the uncertainty over reform outcomes, political polarization, and the degree of property rights protection. Also in this paper, we find that a clear boundary between the political and the economic realm is missing: While the expropriation possibilities for the government should in this model depend on the amount of its discretionary power, the authors take the degree of property rights protection to be exogenous.

Börner and Herold (2004) give a theoretical explanation for the emergence of the institution of a separation of powers between the legislature and the executive. The constitution is modelled as an incomplete contract between the legislature and the executive, giving the executive the residual decision-making rights. For deriving the constitutional choice, this and also all the other models mentioned here use the Rawlsian concept of a choice behind the veil of ignorance.

The formal literature is still very small. However, while these models derive conditions for the optimality of certain political institutions, they cannot give reasons for the features of our existing political systems. The empirical literature discussed above can link the quality of political institutions to economic fundamentals. But also there, causal relationships are very difficult to identify. It thus seems that asking for the causes of political institutions is one of the most difficult questions in the field of political economy.

The question not only relates to the origins, but also to the evolution and changes of political institutions. How do these changes come about? In our picture of the medieval town, what are the influences that lead to a restructuring of the castle, a reorganization of the town or to a rebuilding of the city walls? Asking this question has implications for our definition of political institutions as constraints on policy-makers: In our analysis so far, we have neglected one important aspect that has been implicit in our picture of the town. The town has a longer time horizon than its individual inhabitants.

When political institutions are to serve as rules that constrain political decision-makers, they have to be of a binding character. North and Weingast (1989) point to the importance of institutional constraints and of the ability of the government to make binding commitments, for example, to protect

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[30]Also Messner and Polborn (2004) look at the choice of such a supermajority rule.

property rights. An institution that can be adjusted to any single decision lacks all commitment power and will not serve as a constraint. Whether political institutions are informal social norms or formal constitutional provisions, they have to fulfill this criterion of relative permanence.

Those political institutions that install a the separation of political powers or that introduce checks and balances between the political bodies limit the discretion of politicians in their choices both of new policies and of institutional changes. Henisz (2004) empirically shows that checks and balances reduce the volatility of fiscal policies. Furthermore, many modern constitutions include provisions to ensure such a continuity.[31]

However, in our picture, when changes in the outside world happen, the town might not anymore serve the needs of the population. There might be pressure to extend the city walls, to open the gates longer at night, or to let the rural population move in. This pressure arises if individuals have new possibilities of action. Some constraints may then be perceived as binding too restrictively. Although constitutional constraints are desirable for the stability of the political system, there might arise the desire to abolish some of them or to introduce new ones. Considering this, the binding character of political institutions should not obstruct their flexibility to adjust to changes in the economic environment. Furthermore, whether institutions are changed, depends on the interests of the groups that have political power. According to Moe (1990), the groups that have political authority will design the institutions according to their needs. Concerning institutional reforms, we again face the trade-off defined by Aghion, Alesina, and Trebbi (2004) between flexibility to introduce reforms and protection against the abuse of power.

The question of how the continuity of political institutions can be guaranteed has received some attention in the literature: North and Weingast (1989, p. 806) postulate that political institutions have to be self-enforcing. The parties that agree on, for example, a constitutional provision must also ex post have incentives to abide by the newly created constraints. Weingast (1995) sees the role for political institutions in providing the appropriate foundations for economic policy-making. Because of the threat of reform reversal, economic reforms only find political support if the political institutions are binding. For Weingast, this is created by the institution of federalism: By

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[31]In Germany, for example, Art.1, Art 20, and Art. 79 III of the "Grundgesetz" guarantee the permanence of the basic democratic institutions.

distributing political decision-making rights on several levels of government, reforms, once they have been decided, are difficult to abolish. The trade-off between flexibility and the abuse of power is here clearly shifted in the direction of protection against the abuse of political power.[32] According to North (1990, pp. 83), institutional change and stability are reconciled as institutional changes evolve in incremental steps. Institutions consist of a complex set of constraints and rules, often set out in a hierarchical order. A change of many of these constraints at once would create prohibitively high costs.

Another explanation is put forward by Olson (1995): He takes all political rulers to be interested in the extraction of rents from their subjects. Then, he distinguishes two kinds of such "bandits", roving bandits and stationary bandits. Roving bandits have a short-term horizon, appropriate all assets at once and therefore destroy any incentives to invest. In contrast, stationary bandits have an interest in creating stability and even providing public goods. For the extraction of rents, the stationary bandits then use taxes. Whenever the time horizon is long enough so that the continuous tax revenues are higher than the value of the initial asset, it pays for the stationary bandit to protect property rights and even support investment by providing public goods. For Olson, a long time-horizon does not necessarily have to be linked to a democratic regime. Yet, he sees additional difficulties in autocracies: The uncertainty of succession in such regimes might cut off long-term considerations of political rulers. Also, expectations of the probable succession of an autocrat with a short time horizon can reduce investment incentives.

While some continuity of political institutions seems desirable, there is also the danger that political institutions impede necessary reforms and thus create a status-quo bias of politics. Jones, Sulkin, and Larsen (2003) provide some empirical evidence for the "stickiness" of political institutions. In their view, political institutions create transaction costs for implementing new policies. Because of these costs, economic reforms are not enacted in many small steps, but rather may be delayed and then implemented all at once. This leads to "jumps" in the amount of implemented new policies and in economic outcomes.

Following a similar idea, Roland (2004) distinguishes slow-moving, gradually and continuously changing institutions and fast-moving institutions, that experience rapid, discontinuous changes. In Roland's view, political institu-

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[32]This fits to the observation that in the current political debate in Germany, the federalist institutions are blamed for the lack of reforms.

tions have to be counted among the latter as they are subject to change by
political choice. Social norms that evolve in the interactions of humans in
society would be slow-moving institutions.

While it is plausible that social norms cannot be changed by a centralized
policy decision, it is, however, not all that clear that political institutions can
be changed rapidly and discontinuously. From a political economy point of
view, also a change of institutions has to be decided in a public choice process.
If the interests of the agents are not sufficiently in favor of a large institutional
change, it is not implementable. If slow-moving social norms are an important
determinant of political interests, it may be very difficult to implement large
changes of political institutions in a peaceful way.

Acemoglu and Robinson (2002) show that economic and institutional de-
velopment may be blocked by political elites that fear to loose influence. In
this view, political institutions themselves are the causes of the absence of
economic and political reforms as they grant decision-making power to those
that have incentives to preserve the status quo. This argument is also made
by Moe (1990) and Acemoglu (2002). These authors see political institutions
as the choices of the winners of the struggle for political power. When they
have political authority, this enables them to design the institutions in such a
way that they preserve their power. Also for Bueno de Mesquita et al. (2000),
political institutions can perpetuate inefficient policy choices as they may help
political decision-makers to retain office despite their unpopular decisions.

Olson (1982) sees the reaction of agents to existing institutions as the main
impediment to institutional change: He explains the persistence of inefficient
policies by the adaptation of organized groups to the existing institutions. This
gives special interest groups a strong status-quo bias. In an interesting analysis
of cases of institutional change, Hood (1994) finds four main reasons for policy
reversals, that is, for switches of basic policy guidelines, such as the switch from
policies of regulation to market deregulation. Policy reversals can be triggered
by changing ideas, interests, and by changes in the economic environment.
Furthermore, Hood argues that political institutions may be self-destructing
as agents find more rent-seeking opportunities the longer an institution exists.
This may in the extreme lead to a breakdown of this institutions.

We can sum up the answer to our second question: What is the role of polit-
ical institutions for explaining economic outcomes? First, political institutions
seem to be positively correlated with economic performance. Yet, it remains

unclear in which way the causality works: Are good economic outcomes the consequence of high-quality political institutions? Or are good political institutions the deliberate political choice in countries with developing economies? Recent research seems to suggest that the latter case is more likely. Then, political institutions can be traced back to economic fundamentals. This seems to be true especially for long-term economic measures, such as economic growth.

However, when we believe that political institutions shape economic outcomes by putting constraints on political decision-making, they have to exhibit a continuity that extends beyond the time horizon of single economic policy decisions. Also here, we find no standard explanation for how this continuity is actually achieved. Moreover, some studies point to the downside of this continuity: A lack of institutional flexibility can prohibit necessary reforms.

2.6 Political Institutions and Economic Reforms

We have seen in the previous sections of this chapter that it is not trivial to capture the role of political institutions in an economy. First, it is already a challenge to define the concept. We have argued that the definition of political institutions as constraints on policy-making is a very general and also the most appropriate definition for analyzing political economy questions.

We have then reviewed examples of the large theoretical literature on the effects of political institutions on economic outcomes. There, it became clear that because of the complexity of the issue, different questions require different levels of analysis. The review of the empirical studies on the effects of political institutions has shown that this literature fails to distinguish clearly between the political and the economic realm. This blurs not only the definition of political institutions but also makes it difficult to identify the direction of the causalities between the political and the economic spheres.

Are political institutions causes or consequences of economic outcomes? In the empirical literature, this question has not been fully resolved. The small theoretical literature on this topic so far deals only with the origins of political institutions and does not ask for their economic effects. Also the tension between the flexibility of political institutions and their constraining power has so far not received a fully convincing answer.

Yet, whether we can take political institutions as exogenous constraints on political decision-making is also a question of scale: While political institutions may be endogenous for the whole development path of an economy, that is, concerning the determinants of economic growth, they may be much less so for political decisions with a smaller scope.

In the remainder of this section, we will argue that it is necessary to take political institutions as exogenous constraints when specific political decisions and economic outcomes in specific policy areas are analyzed. In particular, we want to focus on the incentives of politicians to implement economic reforms. Note that this kind of reform is taken only to influence the economic outcomes and not the institutional framework. An economic reform is a policy that qualitatively changes some economic outcomes. For example, the introduction of a new tax or transfer would be a reform while an increase in an existing redistributive tax or transfer would only be an incremental policy change. To explain it from the point of view of the citizens: After a reform, individuals do not only have to adjust the scale of their previous response to a policy. Rather, they may have to change their behavior and find new strategies in reaction to the new policy.

Economic development consists of a series of economic reforms. Some of these reforms may at once have a large impact on the economy, while others may take many small steps: Roland and Dewatripont (1995) and Roland (2002) draw a distinction between one-shot, "big-bang" strategies and gradualist reform packages. The decisive question for the success of economic reforms is whether the reforms are politically feasible, that is, whether they receive the necessary political support. Also, in the long term, reform policies should ideally aim at reinforcing support for further reform steps.

Although economic reforms can have long-term impacts on growth, they are at the same time one-shot political decisions. For a single political decision, the policy-maker encounters a very specific institutional environment. If political institutions exhibit any continuity, as we have postulated in the previous section, the politician has to take these institutional constraints as given, at least for that specific policy choice. For example, as long as we have a democratic system, policies need the support of a majority of voters in order to be implementable. Furthermore, when politicians are interested in reelection, they might have a time-horizon that is too short to embark on substantial reforms of the political institutions.

Where the political support for a reform comes from, depends on the policy issue and on the level of political institutions that is most important for this issue. We illustrate this point by once more taking a walk through our medieval castle and the surrounding town. This will also make clear how the following chapters fit in our general research question on the effects of political institutions on reform incentives.

First, we find ourselves in the castle in the middle of the town. There, we see the fundamental, formal political institutions: The political support for a reform depends on the political regime. Let us assume the desire to stay in office as the exogenous preference of the politician. The politician then has different incentives to implement an economic reform in a democracy than in an autocracy: In a democracy, the incentives are to implement such policies that are best able to ensure reelection. Thus, the politician will prefer policies that create additional utility for the majority of citizens. For an autocratic ruler, it might be more important to cater to certain powerful groups in the country, for example, the military, in order to avoid a revolution. A dictator might thus decide to implement different kinds of reforms than the politician in a democracy. In chapter 3, we analyze the effects of different kinds of political regimes on the incentives of political decision-makers to reform their entrepreneurial sector. It turns out that the crude categorization of political regimes in democratic and autocratic regimes already displays changes in the incentive structure of the politicians to embark on this kind of reforms.[33]

When we walk out of the castle into the city, we are on the level of political institutions that integrate interest groups in the political decision-making process. Also these institutions influence the incentives of the politicians to implement reforms. The incentives of the politicians depend on how much influence the political institutions grant to the lobby groups. If, again, the politicians' preferences are to stay in office, they might have to rely on campaign contributions from the interest groups. If politicians are also interested in appropriating rents, this makes them even more dependent on the interest

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[33]Mulligan, Gil, and Sala-i-Martin (2004) empirically measure differences in economic outcomes between democratic and non-democratic regimes, using the Polity IV (2000) dataset. While their empirical study of democratic and autocratic regimes shows no significant variations in economic *outcomes*, we have a different focus: We look for changes in the *incentives* for reforms. Our results are thus not in contradiction to this study. Haggard and Webb (1993) review some of the studies that examine the relative success of autocratic and democratic regimes in implementing and maintaining economic reforms.

groups' contributions. Then, the politicians have incentives to choose policies that are closer to the interest groups' preferences. Chapter 4 theoretically deals with the case where the politicians' incentives to implement policy reforms are largely determined by their interactions with interest groups.

In the longer run, economic reforms will change the sets of available actions of citizens and with that, their policy preferences. But not everything can be changed at once. As discussed above, economic reforms also require some commitment power of the government. Gradually, however, changed economic preferences will also lead to interests in changes of the political institutions. In our picture of the medieval town, the outside world behind the city wall will intrude at least parts of the town and also the castle. Chapter 5 theoretically analyzes such a scenario: We show that the exogenous introduction of new economic institutions alters the set of preferences of the citizens over the level of corruption in the bureaucracy. In this case, it is the effect of an economic institution that leads to a gradual change of the political system, namely the reduction of the corruption level in the bureaucracy.

We have learnt in this chapter that it is important to choose the right level of analysis for different policy questions. Furthermore, we have argued that for analyzing political incentives for economic reforms, it is best to take political institutions as exogenous constraints on policy-making. We give three examples for this approach in the next chapters.

Political institutions shape the incentives of politicians to choose certain policies. Different incentive structures given by variations in the political institutions lead to different policy choices and different economic outcomes. Do personal politics then still matter? First, this is only the case if politicians have individual policy preferences rather than only the preferences for staying in office or appropriating rents. Second, it depends on the strength of the constraints that political institutions create: Only when these constraints are relatively weak, the individual characteristics of politicians play a decisive role.

Chapter 3

The Political Economy of Privatization: Why Do Governments Want Reforms?

3.1 Introduction

During the last decade, international organizations have promoted privatization as a prerequisite for economic development. The idea is that the privatization of the state-owned sector enhances the efficiency and competitiveness of an economy. Empirically, however, the success of privatization programs is mixed. For some countries, such as the Czech Republic or Russia, the first positive assessments have changed. Kenneth Arrow called the Russian privatization "a predictable economic disaster" (Nellis, 1999, p. 10). The negative record does not only concern transition countries: For the British railroads, recent considerations now include a partial reversal of privatization.

What is the reason for this mixed success of privatization? From looking at the evidence, there seems to be no simple answer.[1] The common denominator of most studies is that there are flaws in the privatization method and in the way that privatization programs were implemented. We propose an alternative explanation: Governments may have interests other than enhancing productive efficiency. Influenced by their private incentives, they may choose

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[1] For empirical cross-country studies see Djankov and Murrell (2002) or Sheshinski and Lopez-Calva (2003), and the overview by Megginson and Netter (2001). A close analysis of several industrialized and developing countries is given by Galal et al. (1994).

privatization when this is not efficient. Thus, not only may the implementation of privatization policies fail, but privatization may be a suboptimal option from the beginning. The success of privatization depends on efficient incentives of the political leadership, supported by a functioning economic environment.

In the existing literature, the incentives to privatize are often taken to be triggered by a switch of government preferences towards efficiency.[2] Yet, such a switch in preferences, for example through outside pressure, is not a satisfying explanation for political decisions. In this model, we compare the privatization decision for different government types. In this way, we can identify the determinants of the political incentives to implement privatization programs. There are some studies that mention but do not formally model political incentives for privatization: Cook (1997) points to privatization as a means of buying votes, rewarding political allies, or reducing public accountability. As Vickers and Yarrow (1991) argue, privatization can be used as a powerful tool for redistribution, e.g., by the choice of the privatization price. A low price distributes wealth from taxpayers to the new owners. For Frydman and Rapaczynski (1993), it is likely that privatization decisions in transition countries reflect the interests of the new political leaders. Other studies that see political motives as the predominant causes for privatization are Armijo (1999) or Feigenbaum and Henig (1997). We show that governments that seek rents and power can very well have incentives to privatize.

The World Bank (1995) has formulated the political requirements for a successful privatization: desirability for the political leadership, feasibility, i.e., the possibility to create support for the policy, and credibility, i.e., no easy policy reversal (see also Shirley, 1997, 1999). The political economy literature in this area has so far focused on the feasibility and the credibility of privatization.[3] As we look at the *incentives* to privatize, we address the first requirement, the desirability of privatization.

We analyze the incentives to privatize for different types of government, namely, a voter-oriented government that is interested in winning the next elections, and a revenue-oriented government that is interested in private rents. The social planner is used as the benchmark. Governments can privatize or

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[2]Shirley and Walsh (2000, p. 44), state: "Instead of maximizing its own rents and power, the government places a priority on efficiency. It can be argued that governments that engage in privatization are not the ones that seek only rents and power."

[3]For overviews see Haggard and Webb (1994), Vickers and Yarrow (1994), or Shirley and Walsh (2000).

restructure a state-owned firm. Under restructuring, the firm remains in state ownership, but its production process is reorganized. To describe the trade-off for governments in this decision, we focus on the employment choice in the firm, that is, the input side of production. Privatization leads to a productivity increase in the firm. However, this has to be bought by lay-offs of workers.

Our contribution is threefold: First, we look at the incentives of governments for the decision to privatize. Second, once the incentives are identified, we ask whether or not they are efficient. For reasons depending on their objective functions, all government types have incentives to implement privatization programs. These incentives can be inefficiently high: Governments that are not interested in improving the efficiency of their economies may destroy social value by choosing too much privatization. For the voter-oriented government, privatization is the more effective option to distribute surplus to the voters. The revenue-oriented government may privatize too much as its interest in profits lets it undervalue the social costs of privatization. Third, we examine how these incentives change with the institutional environment of a country: Better institutions may improve the prospects of a reorganization of the firm both under privatization and restructuring. We show that in this case, also the inefficiency of privatization incentives is reduced. This provides an explanation for the higher number of successful privatization programs in industrialized countries.

The results show that privatization cannot be the panacea for efficiency problems in the state-owned enterprises sector. Privatization does not always promote efficiency.

To the best of our knowledge, Debande and Friebel (2004) is the only other study that examines the privatization incentives of governments in a political economy framework. The authors focus on "give-away" privatization, that is, mass-privatization with a price of zero. In their model, governments may want to privatize as this improves managerial incentives *and* leads to higher employment: If a firm is privatized and subsequently restructured, jobs that would have been lost in unprofitable state-owned enterprises are saved. Governments trade this positive effect off against the loss of control over the firms. Private ownership gives rise to a soft budget-constraint problem where the government refinances inefficient firms in order to avoid their bankruptcy. The main difference to our model is the assumption about the employment effects of privatization. In our model, as also in Shleifer and Vishny (1994) and most other

studies, privatization always has negative effects on employment because workers are laid off to increase productive efficiency. When Debande and Friebel argue that privatization can actually save jobs, they give privatization an additional advantage from the point of view of the government. In this respect, our model is more restrictive: It shows that governments can have inefficiently high incentives to privatize even though privatization does not have positive employment effects.

Bennedsen and Schultz (2003) look at government incentives to contract public good provision out to private providers. In their setting, voters delegate the outsourcing decision to the politicians. Left-wing, public service-loving politicians may be preferred as they guarantee a higher quality of government services.[4] Thus, politicians with low incentives for contracting out are selected.

It is not obvious why governments should desire privatization: In his puzzle of selective intervention, Williamson (1985) asks why privatization should be socially optimal at all. The government could always imitate a private owner and deviate from this strategy only when this improves welfare. One approach to tackle this puzzle has been to use the concept of incomplete contracts (Laffont and Tirole, 1991, Lülfesmann, 2002, Schmidt and Schnitzer, 1993, Schmidt, 1996a and 1996b). In these models, incomplete contracts create costs of public ownership because the interests of owner and manager are better aligned in a private firm.[5] Schmidt (1996b) shows that the social planner can use privatization as a commitment device to create a harder budget constraint for privatized firms. This disciplines the manager and enhances productive efficiency. Under restructuring, this commitment is not credible: Ex post, the government always has the incentive to implement the socially optimal production level. This leads to weakened managerial incentives.[6]

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[4]The seminal paper on this topic is Hart, Shleifer, and Vishny (1997) who argue that contracting out is optimal if cost reductions can be controlled and quality innovations are important. However, contracting out is a slightly different topic than outright privatization.

[5]Although they do not have an incomplete contracts framework, Shapiro and Willig (1990) also see the basic difference between public and private enterprises in the incentives for managers that are determined by the allocation of information.

[6]Governments do not always have a disadvantage in creating incentives: Acemoglu, Kremer, and Mian (2003) demonstrate that the ability of governments to commit to low-powered incentives is advantageous in areas where high-powered incentives trigger unproductive signalling effort. Delfgaauw and Dur (2003) argue that when workers are heterogeneous in their motivations, a monopolistic public firm can exploit the intrinsic motivation of workers. In the private sector, competition for the most talented workers leads to higher wages.

The way we model the difference between a privatized and a state-owned firm is close to Schmidt's (1996b) approach. Yet, in contrast to Schmidt, we create the trade-off for governments not by public good provision but by the employment choice in the firm: Under privatization, the private investors choose the employment level. By privatizing the firm, the government commits not to influence this employment choice, even if that means higher costs of unemployment. Under restructuring, the government chooses the employment level according to its own objectives. Yet, any deviation from the profit-maximizing employment choice reduces the firm's profits and lowers the incentives of the manager. By looking at employment decisions instead of public good provision, we bring our model closer to the situation in transition countries, where privatization concerns firms producing private goods and where unemployment is an important political issue. Employment is a crucial determinant of privatization strategies. The impact of employment considerations on incentives to privatize has so far not been sufficiently analyzed.

When interests in political power or private benefits are guiding political decisions, government officials trade the expected privatization revenues off against the option to interfere with the production process to their own advantage. Bennedsen (2000) compares the realization of excess labor for a firm where the government controls labor to the case where private owners control labor. A labor union and the private owners can lobby the government. Excess labor arises when the private owners possess few cash-flow rights. Then, the costs of excess employment are burdened on the unorganized taxpayers and are not internalized by any of the lobbying groups. Boycko, Shleifer and Vishny (1996) argue that a government interested in high employment encounters higher costs when trying to distort the employment level in a privatized firm. As also in Shleifer and Vishny (1994), privatization is always efficiency enhancing. While these models do not explicitly consider the decision whether or not to privatize, the results imply that privatization is not attractive for a self-interested government. In our model, we come to the opposite conclusion: A government interested in high employment can have inefficiently high incentives to privatize.[7]

The feasibility of privatization is one of the main questions in the political economy literature on privatization: Given that it has decided to privatize,

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[7]We assume that governments have no possibility to retain parts of the firm. Such joint-ownership solutions can be optimal under certain circumstances (Schmitz, 2000).

how can a government secure political support for this measure? Biais and Perotti (1997, 2002) argue that right-wing governments use mass privatization to increase their chance of re-election. When voters become shareholders, they oppose drastic redistribution measures. Schmidt (2000) shows that mass privatization can be a commitment against policy reversal and thus secures political support for privatization. Bös and Harms (1997) also make a point for mass privatization: Dispersed owners have less control over the management. Therefore, the government has the incentive to mass privatize whenever the manager has a large political weight.

This literature explains the incentives to use mass privatization instead of other privatization strategies. It assumes a general preference for privatization. In contrast to that, we seek to explain why governments prefer privatization to other policies, such as restructuring the state-owned sector. We do not address the issue of the best privatization method. However, the choice of the privatization price is integrated in our model: As governments have different incentives to privatize, they may also demand different prices for a firm.

This chapter is organized as follows: In section 3.2, we present the setup of the model. In sections 3.3, 3.4, and 3.5, we describe the welfare-oriented, the voter-oriented, and the revenue-oriented government and their respective choices of privatization or restructuring. The results of the model are shown in section 3.6, where we assess the efficiency of the incentives to privatize for the different government types. Next, in section 3.7, we examine the impact of improving economic institutions. We compare the incentives of the government types in section 3.8. In section 3.9, we illustrate the results of the model with some empirical observations and relate our findings to the existing empirical studies. The conclusion summarizes our results.

3.2   The Model

In the model, we have one state-owned firm. The government can choose to privatize (P) or to restructure (R) the firm. We compare three types of government: The welfare-oriented government maximizes the social surplus of the economy, the voter-oriented government maximizes its chance of winning the next elections, and the political leaders in the revenue-oriented government maximize their private revenue. The setup is summarized in figure 3.1.

Figure 3.1: Government Types and Policy Options

Government Types	Policy Options
I) Welfare Maximizer	1) Privatization
II) Vote Maximizer	2) Reform of State-Owned Enterprise
III) Private Revenue Maximizer	

We model privatization and restructuring as investments in cost reduction. In both cases, a manager is needed to reorganize the production process. The success probability of the reorganization is stochastic and depends on the manager's effort. In case of privatization, the manager is hired by the private investors. In case of restructuring, the government hires the manager.

The policy option determines the allocation of the right to choose the employment level. In case of privatization, the owners of the firm decide on employment without internalizing the negative effects on unemployment. The government bears the costs of unemployment. By privatizing the firm, it commits not to interfere with the private employment choice. The credibility of this commitment can be created by the informational structure in the subgame after privatization. After it has privatized the firm, the government has no information about the production costs before it observes the unemployment level. Still, subsidy schemes can be a way to influence the decisions taken in privatized firms. These subsidies would be associated with additional costs.[8] We do not include such subsidies in our model. This is not overly restrictive as it only further strengthens our result that the incentives to privatize may be sub-optimally high. The reason is that from the point of view of the government, not allowing for subsidies creates a disadvantage of privatization. In case of restructuring, the government has the right to choose the employment level. It can therefore internalize the costs of unemployment.

3.2.1 General Features

Independent of the government type, the model has some general features: The firm produces an output with value $Y(L)$ with the input factor labor $L \in [0; 1]$.

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[8]In Schmidt (1996b), the government can use subsidies to influence the production level of the firm. Then, it has to give an information rent to the private owner. To reduce the information rent in the good state of the world, the government hardens the budget constraint for the firm if high costs realize.

The identical citizens in the economy are of total mass 1 and are all potential workers in the firm. The profit function of the firm is:

$$\pi(L, \gamma_k) = Y(L) - (w + \gamma_k)L \tag{3.1}$$

$Y(L)$ describes a standard production process with $Y(L)$ twice continuously differentiable and $Y_L > 0$, $Y_{LL} < 0$, defined on $L \in [0; 1]$. The input price is the fixed wage w. There are additional production costs of γ_k, $k = \{g, b\}$. This captures a suboptimal organization of the production process with badly designed logistics, an inefficient assignment of workers to their tasks, or where the maintenance of the machines consumes working time. Depending on whether the economy is in the good ($k = g$) or the bad ($k = b$) state of the world, there are low or high losses in the production process, $\gamma_g < \gamma_b$. The state of the world is drawn by nature. The probabilities depend on the effort of the manager in the firm.

The employment level is chosen after the owners of the firm learn about the production costs γ_k. When the low-costs γ_g realize, the reorganization of the firm is successful. The owners of the firm can then decide on the employment level, depending on their objectives.

When the bad state of the world, γ_b, realizes, we assume that the costs are too high to keep up production. The firm is shut down. Then, there is zero production and zero employment. No additional costs have to be incurred for closing down the firm. To model this explicitly, we could introduce some kind of fixed costs or a minimum output requirement: When the costs are so high that only a very small fraction of people are employed and output is very low, production is not possible and the firm is closed down.

To implement the reorganization of the firm, the owners hire a manager. Managers compete for jobs in a competitive market. A manager has the reservation utility $\underline{v}^m = 0$. We assume that the manager is risk-neutral and credit-constrained, so he cannot own the firm. His utility function is given by:

$$v^m = w^m - e + E[u(\pi(L))] \tag{3.2}$$

We assume that $u_\pi > 0$ and $u_{\pi\pi} < 0$. The manager derives utility from his wage, he bears his effort costs, and he has some expected private benefit from the profits of the firm. This particular form of the manager's utility could be

explicitly modelled with a contract between the owners and the manager:[9] The manager could get a linear contract that gives him a certain fraction of the firm's profits in the form of shares or other titles. Another idea that is widely used in the theory of the firm is that the manager is interested in consumption on the job or fringe benefits. These increase when the firm is more successful. We assume the latter case: The manager's utility from the firm's profits does not reduce the amount of profits that the owners can appropriate. That also precludes that the manager might be able to divert a part of the profits.

Our assumptions about the manager's utility and the non-verifiability of the production costs are essential in order to create a trade-off between privatization and restructuring for the social planner. The government is deprived of the option to offer the manager the optimal contract that conditions directly on the realization of the production costs γ_k. This potentially leads to a disadvantage for restructuring: As the manager is profit-orientated, he shares the objective of profit maximization with the private owners of the firm. When the government, following other objectives, distorts the employment level, the manager receives less private benefits. As the government cannot credibly commit not to distort the employment level ex post, it cannot induce the manager to exert the same high effort as under privatization.[10]

The manager invests effort e to reorganize the production process before the state of the world realizes. His effort level determines the probability distribution over the good and the bad state of the world. At the end of period one, nature draws the good state of the world γ_g with probability $p(e)$, and the bad state of the world γ_b with $1-p(e)$. We assume $p(e)$ to be twice continuously differentiable, with $p_e(e) > 0$ and $p_{ee}(e) < 0$. If the manager invests effort, the scope for the success of the firm's reorganization is determined by the economic environment, i.e., the infrastructure or the possibilities of monitoring the workers. We analyze the effects of better institutions in section 3.7.

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[9]With this kind of utility function, the model does not allow for the optimal contract between the owners of the firm and the manager. Yet, our aim is to compare private with state ownership. We assume the same form of contracts in both cases. As the same distortion is committed twice, it does not matter for the comparison of the two cases. For a similar utility function of the manager, see Schmidt (1996b).

[10]While this assumption is quite standard, it is not necessarily the case that the government has this disadvantage: In a dynamic adverse selection model, Roland and Sekkat (2000) argue that prospects of an emerging managerial labor market increase restructuring incentives and eliminate the ratchet effect, i.e., that the government reduces the reward for the manager's effort in the good state of the world.

In the good state of the world, the firm remains in operation and the owners of the firm choose the employment level according to their objectives. Whenever we have less than full employment, $L < 1$, unemployment benefits in the amount of $\underline{w}(1-L)$ have to be paid out to the citizens. We do not consider other costs of unemployment, such as, e.g., reintegration costs or social unrest due to high unemployment. The expected wage for a citizen in the economy is given by $Lw + (1-L)\underline{w}$. We assume that all types of government have to cover the unemployment costs, even if they are not interested in the well-being of the citizens.

When the government distributes money to the citizens, this is not without costs. We assume that the government has a "leaky bucket". Of every unit of money that passes through the government's hands before reaching the citizens, a fraction $\lambda \in [0;1]$ is lost, e.g., due to administrative transaction costs or the costs of maintaining the bureaucracy. The revenue needed to cover the unemployment costs thus amounts to $(1+\lambda)\underline{w}(1-L)$. The redistribution costs also occur for other redistributive payments by the government. The assumption has the purpose to distinguish the social planner from the other government types. For the social planner, it does not play a role who appropriates revenues or how a surplus is redistributed. Note, however, that also the social planner is constrained to cover the unemployment costs.

As we want to focus on the employment choice as the motive for privatization, we exclude any incentives for the government that could stem from a tight budget constraint. We endow all governments with the initial funds E, where $E > 0$ is always high enough to cover the unemployment costs. [11]

Time Structure

In *period 0*, the firm is state-owned. The production costs are high. That means that the firm has to be shut down for sure if the production process is not reorganized. Thus, all types of government have the incentive to choose

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[11] The need to create revenue is certainly an important incentive to privatize for governments of all types. A thorough analysis of this question would, however, need a different theoretical framework: The trade-off between realizing a gain from privatization once and receiving lower revenue from a state-owned firm for a longer period of time is best captured in a dynamic or, at least, multi-period model. Furthermore, taxes and the possibility of a state deficit would have to be included in the model. Yarrow (1999) theoretically deals with this question.

either privatization or restructuring.[12]

In the beginning of *period 1*, the government restructures or privatizes the firm. Then, the respective owner of the firm hires a manager and offers him the fixed wage w^m. The manager reorganizes the production process by investing e in period 1, *before* the state of the world realizes. The success probability of reform is given by $p(e)$. With probability $1 - p(e)$, the reform fails and the firm is shut down.

In the beginning of *period 2*, nature draws the state of the world γ_k. The probabilities are determined by the manager's investment. If the reform is successful, the owners of the firm choose the input labor L. At the end of period 2, the output is produced and all payoffs are realized. The time structure of the model is summarized in figure 3.2.

Figure 3.2: Time Structure

Period 0	Period 1		Period 2		
SOE, γ_b	government chooses P or R	manager is hired and chooses e	nature draws γ_k	employ-ment choice	payoffs realize
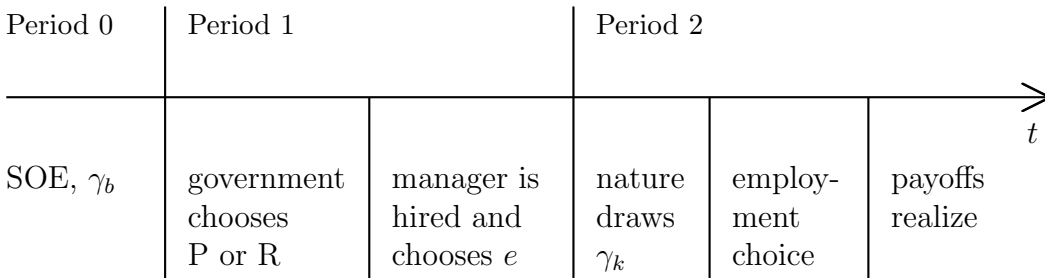
Technical Assumptions

We make some technical assumptions needed to ensure internal solutions and to make the model mathematically smooth.

Asssumption 3.1 $\lim_{L \to 0} Y_L = \infty$ *and* $\lim_{L \to 1} Y_L = 0$

Asssumption 3.2 $\lim_{e \to 0} p_e = \infty$ *and* $\lim_{e \to \infty} p_e = 0$

Asssumption 3.3 $\gamma_g > \lambda w$, $w > (1 + \lambda)\underline{w}$

Asssumption 3.4 $Y(1) \geq w + \gamma_g$

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[12]Under which circumstances reforms are undertaken at all is another interesting question. As our focus lies on the privatization decision, we do not include such an option here.

Asssumption 3.5 *For $\hat{L} > L, p(\hat{L})\hat{L} > p(L)L$.*

Assumptions 3.1 and 3.2 are Inada-type conditions that ensure internal solutions for the effort choice of the manager and, together with assumption 3.3, for the employment choices of all government types. Assumption 3.4 ensures that profits in the low cost state are positive for all possible employment levels. A successful reform means positive profits.

Assumption 3.5 concerns the relation between employment levels and the success probability of reform. It says that a higher employment level also means a higher expected employment level. We need this to capture the positive aspects of a higher employment level in the state-owned enterprise. A higher employment level means lower profits of the firm. This leads to a lower effort of the manager and thus decreasing probabilities for the low-costs state of the world. If assumption 3.5 was not fulfilled, there would be no advantage to restructuring and privatization would always be the more efficient option: The higher employment level *after* a successful reform would be more than neutralized by the lower success probability of the reform. Then, restructuring would always lead to lower expected employment than privatization. It seems plausible that restructuring should have some positive effects also in expected terms. First, in the literature, higher employment levels are usually taken to be one characteristic of state-owned firms (e.g., Boycko, Shleifer, and Vishny, 1996). Second, in our model, the effort choice of the manager and the success probabilities of reform should not be so strongly affected by the employment levels that we have to neglect all employment effects.[13]

3.2.2   Privatization

Some features of the privatization subgame are equal for all government types: If the government chooses to privatize in the beginning of period 1, it makes a take it or leave it offer to the citizens. The citizens then become investors. By assumption, the investors face no credit constraint.[14] The price for the firm, aX, is a fraction $a \in [0;1]$ of the expected present value of the firm's

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[13]In technical terms, we can achieve this by assuming not too strong curvatures in the relevant region for private benefits from profits $u(\pi)$ of the manager, or for the probability function $p(e)$ that translates the manager's efforts into success probabilities.

[14]If the investors were credit constrained, the government could not charge a positive price for the firm as the investors would not be able to pay in the bad state of the world.

profits, denoted by $X = p(e)\pi(L_P) - w_P^m$. We have no discounting. In the privatization price, the manager's wage is taken into account. This means that when the government decides to privatize, the investors always buy the firm. Furthermore, it is then always optimal for the investors to hire a manager and offer him the wage w_P^m as they will make expected positive profits.

The government chooses the privatization price a according to its objective function. With $a = 1$, the government appropriates the total expected profits of the firm. If the government chooses $a = 0$, it gives away the firm for free.[15] For all intermediate cases, i.e., $0 < a < 1$, the government uses underpricing but retains some of the firm's profits. The choice of the privatization price captures a basic feature of different privatization strategies. Yet, the model does not endogenize the number of buyers. The firm is always sold to all citizens.

After they have obtained the ownership of the firm, the risk-neutral private investors hire a manager and offer him a wage. The wage cannot condition directly on the costs of production but only on the firm's profits. The manager anticipates the employment choice by the owners and the firm's profits for the two possible states of the world in period 2. In his effort choice, the manager maximizes his utility $v^m = w^m - e + p(e)u(\pi(L_P))$. The manager's optimal effort choice under privatization is given by:

$$\frac{\partial p(e)}{\partial e} = \frac{1}{u(\pi(L_P))} \tag{3.3}$$

With monotonicity and concavity of $p(e)$ and $u(\pi)$, this uniquely defines the success probability of the reorganization of the firm after privatization, $Prob(\gamma_g) = p_P$. The owners of the firm anticipate this effort choice and offer the manager the fixed wage $w_P^m = e_P - p_P u(\pi(L_P))$, holding his utility down to his reservation utility. As the manager derives some private benefits from the firm's profits, the owners do not have to compensate his full effort costs.

When the reform has been a success, the investors choose the employment level L in order to maximize the firm's profits: $L_P = argmax[\pi(L, \gamma_g)]$ $= argmax[Y(L) - (w + \gamma_g)L]$.[16]

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[15]This is comparable to the method of voucher privatization, that has been applied, for example, in the Czech Republic or Russia. The vouchers served as a currency to buy shares and were distributed to the population for free.

[16]We assume that the owners of the firm can choose the employment level. An alternative

The employment level under privatization L_P is implicitly given by:

$$\frac{\partial Y(L)}{\partial L} = w + \gamma_g \tag{3.4}$$

The investors choose the profit-maximizing employment without taking into account the externality of higher unemployment costs. By our assumption, the government bears these costs without interfering in the production process.

3.2.3   Restructuring

When the government decides to restructure, it remains the owner of the firm and chooses the employment level. In sections 3.3, 3.4, and 3.5, we discuss the restructuring subgame separately for the three government types.

3.3   The Welfare-Oriented Government

We use the social planner as our benchmark to evaluate the decisions of the other two government types. The welfare-oriented government chooses the policy that maximizes social welfare. Social welfare is defined as the sum of all benefits and costs in the economy. After this choice, it undertakes all measures to maximize welfare. We solve the model by backward induction. First, we describe how the government maximizes its objective function *given* privatization or restructuring. We then compare the two maximal values of the objective function in order to derive the decision on privatization or restructuring. Later, we use the same approach for the other government types.

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setup would be that the owners delegate this decision to the manager. This would yield the same result in the case of privatization as the interests of private owners and manager are aligned. For the case of the state-owned firm, however, the government would have to induce the manager to choose its preferred employment level. This might either distort the incentives of the manager to exert effort or it would create additional costs to the government. Both alternatives thus entail a disadvantage for restructuring. We use the setup where the owners of the firm are able to choose the employment level and thus avoid such additional disadvantages for restructuring.

Privatization

If the social planner privatizes the firm, the investors hire a manager and decide on employment as described in section 3.2.2. Welfare is given by:

$$W_P = p_P \pi(L_P) - w_P^m + p_P w L_P - \lambda \underline{w}(1 - p_P L_P) + E \qquad (3.5)$$

The privatization price aX is not relevant for the social planner: Who appropriates the profits of the firm has no consequences for welfare.[17] The manager's utility is his outside option $\underline{v}^m = 0$ and does not matter for the results. Yet, the wage he receives has to be deducted from the firm's expected profits. The unemployment costs are purely redistributive. Yet, the inefficiencies of redistribution are important. The government does not redistribute any revenue above the amount needed to pay the unemployment benefits.

Restructuring

If the welfare-oriented government decides to restructure the firm, it hires a manager. At the beginning of period 2, the government observes the state of the world γ_k. When the reorganization of the firm has been successful, i.e., the low cost state of the world γ_g has realized, the social planner chooses the employment level in order to maximize its objective function $W(L)$:
$L_R = argmax[W(L, \gamma_g)] = argmax[Y(L) - \gamma_g L - \lambda \underline{w}(1 - L)]$.

The employment level under restructuring L_R is given implicitly by:

$$\frac{\partial Y(L)}{\partial L} = \gamma_g - \lambda \underline{w} \qquad (3.6)$$

Note that with $Y(L)$ concave and $w + \gamma_g > \gamma_g - \lambda \underline{w}$, we get that $L_R > L_P$. When the government owns the firm, it internalizes the unemployment costs. Furthermore, as the social planner takes into account that being employed gives the citizens the utility of the wage, it employs more people than the private owner. On the other hand, as L_R is higher than the profit-maximizing employment level, the revenues from the profits of the firm are lower.

In period 1, the government hires a manager who invests in reorganizing the production process. The manager maximizes $v^m = w^m - e + p(e)\pi(L_R)$.

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[17]The model assumes domestic privatization. If the firm were to be sold to foreign investors, the social planner would set the maximal privatization price $a = 1$.

His optimal effort in this case is uniquely defined by:

$$\frac{\partial p(e)}{\partial e} = \frac{1}{u(\pi(L_R))} \tag{3.7}$$

This uniquely defines the success probability of the reorganization after restructuring $Prob(\gamma_g) = p_R$. The fixed wage offered by the government then is $w_R^m = e_R - p_R u(\pi(L_R))$.

Lemma 3.1 *For the welfare-maximizing government, the effort the manager exerts and the probability for the low-cost state of the world γ_g is higher under privatization than under restructuring: $e_P > e_R$ and $p_P > p_R$.*

Proof. Employment L_R is higher than the profit-maximizing employment level L_P. Therefore, the profits of the firm are lower under restructuring. $u(\pi)$ is increasing in π, and $p(e)$ is strictly concave in e. Thus, the first order condition for the manager's effort choice is fulfilled by a larger e in the case of privatization. $p_P > p_R$ then follows from $p_e(e) > 0$.   ∎

It is of particular importance in the restructuring subgame that the wage cannot be conditioned directly on the costs of production but only on the firm's profits. This leads to a hold-up problem: The reward for the manager's effort is reduced. The government cannot credibly commit to a higher profit level. Ex post, after the effort choice of the manager, it always has the incentive to choose the higher socially optimal employment. The manager anticipates this and invests accordingly less effort. In the bad state of the world, the firm is closed down. Thus, it faces a hard budget constraint. In this case, the government has no commitment problems.

Welfare in the case of restructuring is:

$$W_R = p_R \pi(L_R) - w_R^m + p_R w L_R - \lambda \underline{w}(1 - p_R L_R) + E \tag{3.8}$$

Welfare consists of the expected profits of the firm, the expected wage for the citizens, the redistribution losses from the expected unemployment payments, and the government's initial endowment.

Note that the manager's wage w_R^m in this case is different from the manager's wage under privatization w_P^m. Without additional assumptions, it is not clear which wage is higher. The same is true for the manager's wages under the

other government types. Yet, realistically, the policy choice between privatization and restructuring should not depend on the wage of a single manager.[18] Thus, it would be necessary to calibrate the manager's wage so that it does not distort the outcomes. The easiest way to solve that problem is set the manager's wage equal for all possible profit realizations of the firm.[19]

Policy Choice of the Welfare-Oriented Government

By comparing the welfare levels for the two policy options, we can now determine when privatization is socially optimal.

Proposition 3.1 *The welfare-oriented government privatizes if and only if* $W_P > W_R$*, i.e.,*

$$p_P \pi(L_P) - p_R \pi(L_R) > (w + \lambda \underline{w})(p_R L_R - p_P L_P). \tag{3.9}$$

Proof. Condition 3.9 is derived from equations 3.5 and 3.8 where, according to our assumption, $w_P^m = w_R^m$. For given parameter values, the curvature of the probability function, $p_{ee}(e)$, can be adjusted for results in either way. For privatization to be optimal, $p_{ee}(e)$ cannot be too small, i.e., the curvature of $p(e)$ should not be too strong. ∎

Condition 3.9 shows the trade-off for the social planner: On the one hand, privatization enhances productive efficiency. The profits of the firm are higher as the private owners choose the profit-maximizing employment level. In addition, this leads to a higher effort of the manager and a higher success probability of reform. This further increases the difference between the expected profits under privatization and restructuring.

On the other hand, restructuring allows for the choice of the socially optimal employment level. The right hand side of condition 3.9 shows the gains from restructuring: A higher expected employment level means that more citizens receive the wage w. In addition, lower unemployment also reduces the redistribution losses $\lambda \underline{w}$. We use proposition 3.1 as the benchmark to evaluate the policy choices of the voter-oriented and the revenue-oriented governments.

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[18]Even for transition countries, where privatization programs concern many firms at once, the number of managers is always small compared to the number of employees in these firms.

[19]Formally, in order to neutralize the effect of the manager's wage, we need an additional assumption that ensures that the manager's wage is the same for all possible employment levels: $\forall \pi(L) and L > \tilde{L}$, where $\tilde{L} = argmax\,\pi(L)$, it must hold that $\frac{u(\pi(\tilde{L}))}{u(\pi(L))} = \frac{\tilde{e}-e}{\tilde{p}\,u(\pi(L))} + \frac{p}{\tilde{p}}$.

3.4   The Voter-Oriented Government

The voter-oriented government maximizes its chance of winning the elections. We assume that there are two candidates running for office. We use a model of pre-election politics where the candidates are able to commit fully to their announced policy platforms and the citizens vote on the basis of these announcements. Ex ante, all voters are identical as they all face the same probabilities of being employed or unemployed. The median voter is thus equal to the representative voter. There are no veto players or special interest groups. Thus, the voters elect the candidate who promises them the highest expected income. We assume that elections happen just before period 1.

Both candidates will choose the political program, that is, privatization or restructuring with the respective choices of the privatization price or the employment level in the state-owned firm, that gives the identical voters the highest expected income. Each candidate then has a 50% chance of winning. As the preferences of the voters are strictly increasing in their expected income, both candidates in equilibrium run on the same policy platform. Thus, we do not have to consider the electoral process further. We merely assume that the voter-oriented government maximizes the expected income of the voters.[20]

Privatization

If the voter-oriented government privatizes the firm, the investors decide on employment as described in section 3.2.2. The government's objective function is then given by:

$$V_P = p_P \pi_P(L_P) - w_P^m - aX + p_P w L_P + \frac{1}{1+\lambda}[E + aX] \qquad (3.10)$$

Voters receive the firm's profits after privatization net of the privatization price. They also get their expected wage. In addition, the government redis-

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[20]There are many ways to model electoral competition. Our assumption that voters vote on the basis of their expected income excludes the possibility that voters have heterogeneous policy preferences because some groups suffer from a policy ex post. An inclusion of opponents of a policy would imply changed incentives both for restructuring and privatization: For example, if voters were to vote by retrospection, the unemployed could suffer from privatization policies. They might then punish the government by not reelecting it. On the other hand, when they become shareholders, workers might support governments that privatize. Biais and Perotti (2002) and Schmidt (2000) use setups of this kind. However, also our simpler setup does not preclude the choice of either policy.

tributes its entire revenue. This is captured in the last term: The government gives its endowment and its privatization revenue to the voters in order to maximize their payoff. Note that the unemployment benefits are a part of that amount. The redistribution process leaves the fraction $\frac{1}{1+\lambda}$ of this amount to the voters, the rest is lost. When it has decided to privatize, the voter-oriented government chooses the privatization prize aX in order to maximize V_P.

Lemma 3.2 *The voter-oriented government uses underpricing. It chooses the lowest possible privatization price $a = 0$.*

Proof. After simplification, a enters V_P with $-\frac{\lambda}{(1+\lambda)}aX$. That is, any reduction of a increases V_P. Thus, a is chosen as low as possible. ∎

Any redistribution of government revenue entails the loss of a fraction λ of the amount that reaches the citizens. These efficiency losses give the government the incentive to use underpricing to increase the revenue of its voters.[21] The value of the government's objective function under privatization thus is:

$$V_P = p_P\pi(L_P) - w_P^m + p_P w L_P + \frac{1}{1+\lambda}E \qquad (3.11)$$

Restructuring

The voter-oriented government's objective function under restructuring is:

$$V_R = p(e)wL - w^m + \frac{1}{(1+\lambda)}[E + p(e)\pi(L)] \qquad (3.12)$$

Voters receive the expected wage. Moreover, under restructuring, the government distributes its endowment and all profits from the firm to the voters. Unemployment payments are part of this amount. Again, the fraction $\left(1 - \frac{1}{1+\lambda}\right)$ of the redistributed amount is lost. When restructuring is successful, the voter-oriented government chooses employment to maximize its objective function V_R: $L_V = argmax[V_R(L, \gamma_g)] = argmax[wL + \frac{1}{(1+\lambda)}\pi(L)]$.

The employment level under restructuring, L_V, is then given implicitly by:

$$\frac{\partial Y(L)}{\partial L} = \gamma_g - \lambda w \qquad (3.13)$$

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[21]It is not crucial for this result that privatization does not entail efficiency losses at all. The only requirement is that the losses are smaller than λ.

Compare this condition to condition 3.6: With $w > \underline{w}$, we have that $\gamma_g - \lambda\underline{w} > \gamma_g - \lambda w$. Thus, with $Y(L)$ concave, we get $L_V > L_R$. The employment level chosen by the voter-oriented government is higher than the socially optimal employment level. The reason is that the voter-oriented government uses employment as a way to distribute revenue to the voters. For the social planner, wage payments are welfare-neutral. As the wage is paid out directly by the firm, there are no redistribution losses.[22] The voter-oriented government overvalues the positive aspect of wage payments: For the utility of the wage recipients, the full wage is taken into account. On the other hand, the redistribution of profits of the firm entails losses of λ. The wage costs as part of the production costs are thus discounted by λ.

In period 1, the government hires a manager who invests in reorganizing the production process. The manager's optimal effort choice is defined by:

$$\frac{\partial p(e)}{\partial e} = \frac{1}{u(\pi(L_V))} \tag{3.14}$$

This also uniquely gives us the success probability of a reorganization after restructuring for the voter-oriented government $Prob(\gamma_g) = p_V$. The fixed wage paid by the government to the manager then is $w_V^m = e_V - p_V u(\pi(L_V))$.

Lemma 3.3 *The effort the manager exerts and the probability for the low-cost state of the world γ_g is lower when he is employed by the voter-oriented government than when he is employed by the social planner: $e_P > e_R > e_V$ and $p_P > p_R > p_V$.*

Proof. The voter-oriented government chooses an employment level that is higher than the socially optimal employment level under restructuring, $L_V > L_R$. Therefore, the voter-oriented government receives less profits of the firm: $\pi(L_V) < \pi(L_R)$. This leads to $u(\pi(L_V)) < u(\pi(L_R))$. Thus, the first order condition for the manager's effort choice is fulfilled by a smaller e in the case of restructuring by the voter-oriented government. As $p(e)$ is increasing in e, we also get a lower probability of the low-cost state of the world.   ∎

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[22]We assume that the redistribution losses occur only when government income is redistributed. The firm's revenue that is paid out as wages stays inside the firm and is not administrated by the state bureaucracy. If we assumed efficiency losses in wage payments also, this would lower the net wages under restructuring. We would create additional advantages for privatization. The assumption that wage payments are without such losses thus strengthens our point that governments can have inefficiently high incentives to privatize.

Given the choice of L_V, the payoff for the voter-oriented government is:

$$V_R = p_V w L_V - w_V^m + \frac{1}{1+\lambda}[E + p_V \pi_V(L_V)] \qquad (3.15)$$

Policy Choice of the Voter-Oriented Government

We can now look at the policy choice of the voter-oriented government.

Proposition 3.2 *The voter-oriented government privatizes if and only if $V_P > V_R$, i.e.,*

$$p_P \pi(L_P) - \frac{1}{1+\lambda} p_V \pi(L_V) > w(p_V L_V - p_P L_P). \qquad (3.16)$$

Proof. Condition 3.16 is derived directly from equations 3.11 and 3.15 where, according to our assumption, $w_P^m = w_V^m$. ∎

Privatization is attractive because it leads to higher profits. Privatization at the price of zero gives the firm's profits directly to the citizens. Because of the higher employment level, expected profits under restructuring are lower than under privatization. Moreover, as the government has the incentive to distribute the firm's profits to the voters, it incurs the redistribution losses. This means that in the calculus of the voter-oriented government, the expected profit from restructuring $p_V \pi(L_V)$ is further reduced by $\frac{1}{1+\lambda}$. For the voter-oriented government, the advantage of restructuring is the higher employment level with respect to privatization, given by the right hand side of condition 3.16. As the voter-oriented government strives to maximize the voters' expected income, it is interested in increasing expected wage payments.

These results imply that voters value their own income more than the money the government spends, e.g., on public goods or to repay foreign debt. The social planner does not make this distinction. We can motivate this assumption by considering short-term versus long-term expenditures. The time-horizon of the social planner is not restricted. In contrast, the voter-oriented government maximizes the voters' income in the short term, in spite of the redistribution losses. Legislative periods are not modelled. Yet, the voter-oriented government only cares about being reelected. It has no incentive to engage in long-term considerations or to keep revenue for later investments as this means that it might loose the next elections.[23]

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[23]E.g., an option would be to restructure a firm and then sell it as a "cash cow" for a higher price. From empirical observations, we see that governments often fail to do that.

3.5   The Revenue-Oriented Government

The political leadership in the revenue-oriented government maximizes its expected private rents. We assume here that the politicians are able to appropriate the whole state budget, net of the unemployment costs. Thus, the objective of the revenue-oriented government is to maximize the budget surplus. The government revenues comprise the privatization price or the profits of the firm after restructuring. Note that the revenue-oriented government has to pay the unemployment costs even if it does not care about its citizens. This is plausible as all political leaders have to ensure some minimum living conditions to secure their political power and to discourage citizens to stage a revolution.

In contrast to the voter-oriented government, the revenue-maximizing government is not interested in distributing the surplus to the citizens. At least for autocratic regimes or dictatorships, it seems plausible that the state budget is at the personal discretion of the leadership.[24]

Privatization

If the government privatizes the firm, the investors decide on employment as described in section 3.2.2. The objective function of the revenue-oriented government under privatization is given by:

$$U_P = aX - (1 + \lambda)\underline{w}(1 - p_P L_P) + E \qquad (3.17)$$

The government receives the privatization proceeds aX and has to come up for the unemployment costs and the corresponding redistribution losses. When it has decided to privatize, the revenue-oriented government chooses the privatization prize aX in order to maximize U_P.

Lemma 3.4 *The revenue-oriented government chooses the highest possible privatization price $a = 1$.*

Proof. a enters U_P strictly positively. To maximize U_P, a is chosen as large as possible.   ■

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[24]In democratic regimes, on the other hand, maximizing the budget surplus can be very different from maximizing private rents as there might be political institutions that limit the appropriation of government income by the political leadership. Yet, also here, politicians can place more or less weight on the well-being of the citizens.

As the government's revenue stems from privatization and it is not interested in the utility of the citizens, it demands the full expected profits of the firm as privatization price. Using this result, the government payoff from privatization is:

$$U_P = p_P \pi(L_P) - w_P^m - (1+\lambda)\underline{w}(1 - p_P L_P) + E \tag{3.18}$$

Restructuring

The objective function of the revenue-oriented government under restructuring is given by:

$$U_R = p(e)\pi(L) - w^m - (1+\lambda)\underline{w}(1 - p(e)L) + E \tag{3.19}$$

The government receives the expected profits of the firm and has to cover the unemployment costs. When, after restructuring, the reorganization of the production process is successful, the revenue-oriented government chooses the employment level in order to maximize its objective function U_R:
$L_U = argmax[U_R(L, \gamma_g)] = argmax[p(e)\pi(L) - (1+\lambda)\underline{w}(1 - p(e)L) + E]$.

The employment level under restructuring, L_U, is then given implicitly by:

$$\frac{\partial Y(L)}{\partial L} = w + \gamma_g - (1+\lambda)\underline{w} \tag{3.20}$$

Compare this condition to condition 3.6: As $w > \underline{w}$, we have that $\gamma_g - \lambda\underline{w} < w + \gamma_g - (1+\lambda)\underline{w}$. Thus, with $Y(L)$ concave, we get $L_U < L_R$. Furthermore, as $w + \gamma_g > w + \gamma_g - (1+\lambda)\underline{w}$, we get that $L_U > L_P$. The revenue-oriented government chooses a lower employment level than the social planner. As it does not care about the well-being of the voters, it counts the total unemployment payments as costs while the social planner only considers the efficiency losses of redistribution. In contrast to the private investors, the revenue-oriented government internalizes the costs of unemployment. Therefore, it chooses an employment level larger than L_P, even though it is revenue-oriented.

In period 1, the government hires a manager who invests in reorganizing the production process. His optimal effort choice is given by:

$$\frac{\partial p(e)}{\partial e} = \frac{1}{u(\pi(L_U))} \tag{3.21}$$

This uniquely defines the success probability of the reform $Prob(\gamma_g) = p_U$. The wage paid by the government to the manager is $w_U^m = e_U - p_U u(\pi(L_U))$.

Lemma 3.5 *The effort of the manager and the probability for the low-cost state of the world γ_g is higher when he is employed by the revenue-oriented government than when he is employed by the social planner, but still lower than in case of privatization: $e_P > e_U > e_R$ and $p_P > p_U > p_R$.*

Proof. The lower employment level, $L_U < L_R$, that is chosen by the revenue-oriented government leads to higher profits of the firm than for the social planner: $\pi(L_U) > \pi(L_R)$. Thus, the manager has higher private benefits: $u(\pi(L_U)) > u(\pi(L_R))$. Therefore, the first order condition for the manager's effort choice is fulfilled by a lager e. Compared to privatization, the private benefits of he manager are still lower: $\pi(L_U) < \pi(L_P)$. Thus, the first order condition for the manager's effort choice is fulfilled by a smaller e than under privatization. As $p(e)$ is increasing in e, this leads to the above ranking of probabilities for the low-cost state of the world. ∎

The payoff from restructuring for the revenue-oriented government is:

$$U_R = p_U \pi(L_U) - w_U^m - (1 + \lambda)\underline{w}(1 - p_U L_U) + E \qquad (3.22)$$

Policy Choice of the Revenue-Oriented Government

We can now look at the policy choice of the revenue-oriented government.

Proposition 3.3 *The revenue-oriented government privatizes if and only if $U_P > U_R$, i.e.,*

$$p_P \pi(L_P) - p_U \pi(L_U) > (1 + \lambda)\underline{w}(p_U L_U - p_P L_P). \qquad (3.23)$$

Proof. Condition 3.23 is derived directly from equations 3.18 and 3.22 where $w_P^m = w_U^m$ according to our assumption. ∎

Privatization again leads to higher expected profits than restructuring. The revenue-oriented government trades that off against the right to choose the employment level under restructuring. There, it can internalize the unemployment costs. This, however, means lower profits and a lower effort of the manager and reduces the expected profits from restructuring. The difference to the social planner is that the revenue-oriented government considers the full costs of unemployment instead of only the efficiency losses of redistribution. Wages are only taken into account as production costs.

3.6 Incentives for Privatization and Restructuring

Do governments have efficient incentives to privatize? We can now answer this question by comparing the incentives to privatize of the different government types to those of the social planner. Each government faces the basic trade-off between increasing the productivity of the economy by privatization and its other objectives, such as pleasing the voters or creating private revenue.

3.6.1 Incentives of the Voter-Oriented Government

Proposition 3.4 *The voter-oriented government has inefficiently high incentives to privatize when the employment effect is relatively weak. This is the case if and only if $V_P - V_R > W_P - W_R$, i.e.,*

$$p_R\pi(L_R) - \frac{1}{1+\lambda}p_V\pi(L_V) + \lambda\underline{w}(p_R L_R - p_P L_P) > w(p_V L_V - p_R L_R). \quad (3.24)$$

Proof. Condition 3.24 is derived from equations 3.5, 3.8, 3.11, and 3.15. ∎

The incentives of the voter-oriented government are shaped by three effects: The voter-income effect, the redistribution effect, and the employment effect. First, the voter-income effect, captured by the difference $p_R\pi(L_R) - \frac{1}{1+\lambda}p_V\pi(L_V)$, distorts incentives towards too much privatization. By choosing the higher employment level L_V, the voter-oriented government decreases the expected profits of the firm under restructuring. In addition, to maximize its chance of re-election, it has the incentive to distribute all available surplus to the voters. This entails efficiency losses. These costs render the option of restructuring, where the government receives the firm's profits, less attractive. Privatization saves on these redistribution losses and yields higher expected profits of the firm. The government has incentives to choose privatization as the cheaper way of increasing the expected income of the voters.

Second, the voter-oriented government does not consider an advantage of restructuring, namely that higher employment reduces the efficiency losses from unemployment payments. This is the redistribution effect, captured by $\lambda\underline{w}(p_R L_R - p_P L_P)$. The voter-oriented government distributes all its revenues and its initial endowment to the voters. Unemployment payments are just a part of that. If there is less unemployment, the government is left with more

of the firm's profits. Yet, it gives them all to the voters. The neglect of this advantage of restructuring makes privatization relatively more attractive for the voter-oriented government. Incentives to privatize are distorted upwards.

The third effect, the employment effect, captured by the right hand side of condition 3.24, works in the other direction. The voter-oriented government chooses a higher than socially optimal employment level. The reason is that this increases the expected wage of the voters. Employment is chosen as a means of redistribution. Thus, for the voter-oriented government, the right to choose the employment level constitutes a bigger advantage of restructuring than for the social planner. This makes privatization relatively less attractive for the voter-oriented government.

Depending on which effect is strongest, the privatization incentives of the voter-oriented government can be either too low or too high. This depends on the shape of the production function $Y(L)$ and the probability function $p(e)$.

To better understand the intuition for this result, consider the case where the government is not able to choose the employment level according to its objectives. For instance, assume that it has to take the socially optimal employment level L_R as given. Then, employment levels, profits, manager effort, and the probabilities for the states of the world remain unchanged for all government types. Inefficiently high incentives to privatize can stem only from the different objectives of the governments. A rationale for such a fixed employment level could be that not the politicians themselves decide about the labor used in the firm but that they delegate the decision to the bureaucracy. The bureaucrats might have interests other than the short-term objectives of the politicians. One of them could be to act in the social interest.

Corollary 3.1 *When the voter-oriented government takes the socially optimal employment level L_R as given, it always has inefficiently high incentives to privatize.*

Proof. If it is not able to distort the employment level, the voter-oriented government has inefficiently high incentives to privatize if and only if
$\frac{\lambda}{1+\lambda} p_R \pi(L_R) + \lambda \underline{w}(p_R L_R - p_P L_P) > 0$. As expected profits are positive and expected employment is higher under restructuring due to assumption 3.5, this condition is always fulfilled. ∎

When the voter-oriented government cannot influence the employment level, the employment effect that constitutes the advantage of restructuring disap-

pears. The voter-income effect is reduced: As expected profits are the same for all government types, only the efficiency losses from the redistribution of the firm's profits increase the attractiveness of privatization. The redistribution effect, the neglect of savings on the efficiency losses of unemployment payments, remains unchanged.

Only the employment effect can distort the incentives of the voter-oriented government towards too little privatization. Whenever the employment effect is not very strong, it has inefficiently high incentives to privatize, even if it then foregoes the right to choose the employment level. In order to maximize the income of the voters for the next elections, the government chooses to privatize even in cases where it would have been optimal to restructure. This result can only be reversed by a strong employment effect.

3.6.2 Incentives of the Revenue-Oriented Government

Proposition 3.5 *The revenue-oriented government has inefficiently high incentives to privatize when the profit effect is relatively weak. This is the case if and only if $U_P - U_R > W_P - W_R$, i.e.,*

$$w(p_R L_R - p_P L_P) - \underline{w}(p_U L_U - p_P L_P) + \lambda \underline{w}(p_R L_R - p_U L_U) > p_U \pi(L_U) - p_R \pi(L_R). \tag{3.25}$$

Proof. Condition 3.5 is derived from equations 3.5, 3.8, 3.18 and 3.22. ∎

For the revenue-oriented government also, three effects shape the incentives to privatize: The labor cost effect, the unemployment effect, and the profit effect. First, the labor cost effect, captured by the difference $w(p_R L_R - p_P L_P) - \underline{w}(p_U L_U - p_P L_P)$, distorts the incentives of the revenue-oriented government towards too much privatization. The intuition is the following: The revenue-oriented government sees wages only as a part of the production costs of the firm. In contrast to the social planner, it does not consider their positive effect on the utility of the citizens. Thus, the revenue-oriented government neglects that restructuring could increase welfare by $w(p_R L_R - p_P L_P)$. It does, however, internalize the unemployment payments. This increases the attractiveness of restructuring. In total, as $w > \underline{w}$ and $p_R L_R > p_U L_U$, this positive aspect of restructuring cannot compensate for the losses of higher wage payments in the calculus of the revenue-oriented government.

Second, also the unemployment effect, captured by $\lambda\underline{w}(p_R L_R - p_U L_U)$, makes restructuring relatively less attractive: Like the social planner, the revenue-oriented government considers that by restructuring, it saves on the redistribution losses from unemployment payments. The disadvantage of restructuring stems from the employment choice: By choosing a lower expected employment level $p_U L_U < p_R L_R$, the revenue-oriented government realizes less of the savings of redistribution losses with respect to the social optimum.

Third, via the profit effect, captured by the right hand side of condition 3.25, restructuring has a positive aspect for the revenue-oriented government: By choosing a lower employment level than the social planner, the revenue-oriented government increases the profits of the firm under restructuring with respect to the social planner. Restructuring is relatively more attractive because it allows the revenue-oriented government to adjust the employment choice to realize higher profits and at the same time internalize the costs of unemployment.

Also here, it helps to consider the case where the government cannot choose the employment level according to its objectives but takes the socially optimal employment level L_R as given.

Corollary 3.2 *When the revenue-oriented government takes the socially optimal employment level L_R as given, it always has inefficiently high incentives to privatize.*

Proof. If it is unable to distort the employment level, the revenue-oriented government has inefficiently high incentives to privatize if and only if $w(p_R L_R - p_P L_P) - \underline{w}(p_R L_R - p_P L_P) > 0$. As $w > \underline{w}$, the result follows directly. ∎

When the revenue-oriented government cannot influence the employment level, the profit effect that constitutes the advantage of restructuring disappears. Also the unemployment effect does not play a role. For the revenue-oriented government, wages only count as costs. This labor cost effect makes privatization attractive.

Only the profit effect can distort the incentives of the revenue-oriented government towards too little privatization. That means that whenever the profit effect is not very strong, this government type has inefficiently high incentives to privatize. Without a free employment choice, incentives to privatize are always too high.

We can summarize the main result of the model as follows: Governments with other objectives than improving productive efficiency do have incentives to choose privatization policies. Moreover, these incentives can be inefficiently high. Privatization programs may be implemented in cases where a restructuring of the state-owned firm would have been the better option. This is surprising as the existing literature shows that non-benevolent governments do not have incentives to implement privatization programs. At a closer look, however, it becomes clear that there are additional effects. These have so far been neglected in the literature.

What determines our result? In our model, the political leadership has several decision variables: In case of privatization, it can choose the privatization price. In case of restructuring, it can choose the employment level according to its objectives, only constrained by the required unemployment payments. Furthermore, the government always has the possibility to redistribute revenue to its citizens. We show that a consideration of these additional channels of political action is important: Their neglect leads to the result that governments with objectives other than productive efficiency have no incentives to privatize at all.[25]

In the present model, we consider different government types. The voter-oriented government is best comparable to the government in Boycko, Shleifer, and Vishny (1996), as it is interested in high employment: Also in our model, the employment effect decreases the incentives to privatize. If we had only this employment effect, the results of our model would be the same as in the existing literature. Yet, we have two additional determinants of the political incentives of the voter-oriented government: The voter-income effect and the redistribution effect are consequences of the additional possibilities of action of the voter-oriented government. The incentives of the voter-oriented government to redistribute revenue to the voters leads to inefficiently high incentives to privatize.

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[25]This is implied by Boycko, Shleifer, and Vishny (1996), who focus exclusively on the employment choice. It is more costly for the politician to influence the employment level when the firm is privatized. Then, the employment decision lies with the manager and the owners of the firm.

3.7   The Impact of Institutions

Political incentives for privatization may differ not only depending on the government type. They may also be shaped by the economic environment. In a better economic and bureaucratic environment, business transactions are easier, markets are more liquid and provide more opportunities, there are more business partners, and bureaucratic hurdles for investments are reduced. Better institutions should improve the prospects of the reorganization of a firm both under privatization and restructuring. [26]

For the model, we translate better economic institutions into improved success probabilities of the reorganization of the firm both under privatization and restructuring. A reform is successful when the manager is able to reduce the production costs to the low cost level γ_g. The more effective the investment e of the manager, the more likely is the successful reorganization of the firm. With better institutions, a higher effort of the manager should have a higher impact. Formally, with better institutions (BI), the marginal impact of the manager's effort decreases more slowly for higher effort levels than with weaker institutions: $p_{ee}^{BI}(e) > p_{ee}(e)$. The new probability function $p^{BI}(e)$ has a weaker curvature to make every marginal increase of effort more rewarding.[27]

For the sake of mathematical simplicity, we make an additional assumption: $p^{BI}(e) = p(e) \, \forall e \leq e_U$. This means that with better institutions, a higher effort is only more effective under privatization. Under restructuring, the situation remains unchanged for all government types. While this assumption makes the calculations tractable, it does not change the qualitative results: In the general case, with a weaker curvature of $p^{BI}(e)$ than of $p(e)$, the largest probability difference would be that under privatization, $p^{BI}(e_P) - p(e_P)$, i.e., for the highest effort level. Normalizing all smaller differences to zero does not destroy the qualitative results for the trade-off between privatization and restructuring.

For all government types, these assumptions create an advantage for privatization: The expected profits under privatization increase. Furthermore,

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[26]Nellis (1999) argues that better economic and legal institutions improve the prospects both for privatization and for a reorganization of state-owned enterprises. Shleifer (1998, p. 136) sees increased benefits of privatization with better institutions. He mentions, in particular, more effective regulation and competition.

[27]We could also do comparative statics with the cost parameter γ_g. Yet, all results would then depend on the precise form of the production function as this determines the employment choices. Therefore, a discussion of these results is omitted.

with a higher success probability of reform after privatization, also the expected employment is higher. It is thus very intuitive that the incentives to privatize increase for all three types of government. Formally, conditions 3.9, 3.16, and 3.23 can now all be fulfilled for larger parameter ranges.

How is the efficiency of privatization incentives affected by better institutions? When the incentives to privatize increase more for the social planner than for the other governments, better institutions reduce the inefficiencies.

Proposition 3.6 *For all government types, better institutions increase the incentives to privatize the firm. For both the voter-oriented and the revenue-oriented government, better institutions reduce the inefficiency of incentives to privatize.*

Proof. See the appendix. ∎

Intuitively, this result is driven by the decrease in expected unemployment under privatization with better institutions: The higher profits from privatization concern all government types in the same way. The difference lies in their consideration of wages and unemployment payments.

For the voter-oriented government, the inefficiency of privatization incentives is reduced as a higher success probability of privatization diminishes the expected redistribution losses from unemployment under privatization. Expected unemployment under privatization is now lower. The redistribution effect that distorts privatization incentives upwards is reduced. The voter-income effect remains unchanged. Also the employment effect remains unaffected, as it compares the employment choices under restructuring for the two types of government. A similar story applies to the revenue-oriented government: Only the labor cost effect is influenced by a better institutional environment. The unemployment effect and the profit effect remain unchanged. The distortions created by the labor cost effect are smaller with better institutions. The neglect of the positive aspects of expected wage payments has a lower impact as expected employment under privatization is higher.

3.8 Which Government is Better?

In order to see which type of government makes the more efficient choices, we now compare the incentives to privatize of the voter-oriented and the revenue-

oriented government. For this, we assume that both government types have inefficiently high incentives to privatize and look how these incentives relate to each other.

Proposition 3.7 *Given inefficiently high incentives to privatize for both types of government, the voter-oriented government has higher incentives to privatize than the revenue-oriented government if and only if $V_P - V_R > U_P - U_R$, i.e.,*

$$p_U \pi(L_U) - \frac{1}{1+\lambda} p_V \pi(L_V) > w(p_V L_V - p_P L_P) - (1+\lambda)\underline{w}(p_U L_U - p_P L_P). \quad (3.26)$$

With better institutions, the incentives of the revenue-oriented government are more efficient than those of the voter-oriented government.

Proof. See the appendix.   ■

Look first at the left hand side of condition 3.26: By its high employment choice, the voter-oriented government diminishes the profits of the firm under restructuring. In addition, it has the incentive to give all revenues to the voters and thus incurs the efficiency losses from redistribution. Thus, restructuring is relatively more attractive for the revenue-oriented government than for the voter-oriented government. On the right hand side of condition 3.26, we see that the voter-oriented government evaluates the difference in the expected employment level between privatization and restructuring positively with the wage. In contrast to that, the revenue-oriented government only considers the saved unemployment payments. This makes restructuring relatively more attractive for the voter-oriented government. Which effect is stronger depends on the shape of the production and probability functions. It is therefore not possible to state general results.

Yet, we can show that the incentives of the revenue-oriented government become less distorted than those of the voter-oriented government when the institutional environment improves. To see this, look at condition 3.26 and substitute p_P with $p_P^{BI} > p_P$. The left hand side is unaffected by a changing institutional environment. On the right hand side, we see that the advantage of restructuring, namely higher expected employment, is valued higher by the voter-oriented government. With better institutions, expected employment under privatization is increased and this advantage of restructuring is reduced. This reduction has a greater influence on the incentives of the voter-oriented government than on those of the revenue-oriented government.

Thus, with better institutions, revenue-oriented governments are better in the sense that they choose inefficient privatization programs in less cases than voter-oriented governments. This seems counter-intuitive: Revenue-oriented governments are not concerned about the citizens who bear the main burden of privatization when becoming unemployed. Yet, it is the voter-oriented government's concern for the employment level that leads to its more distorted privatization incentives: As better institutions improve the employment prospects under privatization, the voter-oriented government sees less advantages in keeping up a high employment level by restructuring. Then, the effects that distort incentives towards too much privatization gain in influence.

3.9 Empirical Observations

To illustrate our results with some empirical observations, we use data for transition countries. The data are collected in figure 3.3.[28]

It is difficult to asses from empirical observations whether there is too much or too little privatization. Yet, we can measure the privatization progress: The EBRD index of privatization progress for large-scale enterprises ranges from +1 to +4, where +1 denotes little and +4 denotes full privatization of large enterprises, i.e., more than 75% privately-owned capital with effective management control. With the EBRD index, we can identify the countries that have achieved almost complete privatization. These countries, ranked top in figure 3.3, cannot have privatized too little and are thus the obvious candidates for an investigation of inefficiently high incentives to privatize.

Which of these countries belong to the group of voter-oriented governments and which to the revenue-oriented ones? We can distinguish the government types by their choice of the privatization price: Voter-oriented governments in our model give away the firm for free. In reality, voucher privatization is way of distributing the ownership rights of firms among the population. In our model, revenue-oriented governments sell the firm at the highest possible price. Form the data, we can identify those countries that privatized by sale of their firms.

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[28]Schnitzer (2003), puts the privatization progress for large enterprises in relation to the change in GDP from 1990 to 2001 in each country. Our data have the following sources: EBRD index from Transition Report (various years), GDP data from Madison (2001), cited from Schnitzer (2003). Unemployment data and privatization method from EBRD Transition Report (2003).

Figure 3.3: Large-Scale Privatization, GDP Ratio, and Unemployment in 2001

	Priv. Progress	Priv. Method	GDP 2001/ GDP 1990 (%)	Unemp. 2001 (% of labor force)
Czech Republic	4	voucher	102.9	8.9
Estonia	4	sale	96.7	12.6
Hungary	4	sale	112.3	5.7
Slovak Republic	4	sale	110.1	19.8
Bulgaria	3.7	sale	85.9	19.7
Georgia	3.3	voucher	39.6	11.1
Lithuania	3.3	voucher	72.3	17.4
Poland	3.3	sale	145.0	17.3
Romania	3.3	insider	83.6	8.8
Russia	3.3	voucher	69.2	8.9
Armenia	3	voucher	74.3	9.6
Croatia	3	insider	90.4	15.8
FYR Macedonia	3	insider	82.6	28.9
Kazakstan	3	sale	78.0	10.4
Kyrgyz Republic	3	voucher	69.8	17.4
Latvia	3	sale	66.8	13.1
Moldova	3	sale	34.6	7.3
Slovenia	3	insider	123.8	5.9
Ukraine	3	insider	47.1	3.7
Uzbekistan	2.7	insider	102.5	0.4
Albania	2.3	insider	122.2	14.6
Bosnia-Herzegov.	2.3	voucher	68.9	39.7
Tajikistan	2.3	sale	39.5	2.3
Azerbaijan	2	voucher	64.3	1.3
Belarus	1	insider	90.3	2.3
Turkmenistan	1	insider	95.7	n.a.

The second column of table 3.3 shows the predominant privatization method in a country: privatization to insiders, by sale, or by vouchers.[29]

The development of GDP does not directly measure the efficiency of privatization. Yet, it can capture the success of privatization programs: Efficient

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[29]We did not model the method of privatizing a firm to insiders, i.e., managers or workers of the firm. However, in our classification, except for Romania, all countries with a high privatization progress have used one of the two other privatization methods.

privatization should enhance growth more than if privatization programs are undertaken when this is not efficient. Thus, countries that experienced a drop in GDP are unlikely to have implemented efficiency-enhancing privatization programs. Note that the data does not show when in the period from 1990 to 2001 the privatization programs were implemented. Thus, we cannot consider eventual difficulties in the adjustment process.

For the countries with high privatization scores (≥ 3.3), Estonia, Bulgaria, Georgia, Lithuania, Romania, and Russia show a decrease of their GDP. The Czech Republic has experienced almost no growth over that period, whereas the GDP in Hungary, the Slovak Republic, and Poland has increased substantially. Has the first group of countries privatized too much? To relate the empirical observations to our model, we have to look at the unemployment levels in these countries.[30]

In the model, voter-oriented governments have too high incentives to privatize when the employment effect is weak. Then, the employment differences between privatization and restructuring are small. From the data, it is impossible to see how employment would have developed if restructuring had been chosen instead of privatization. Still, a low level of unemployment might be a sign for a weak employment effect: Then, there is no scope for a significant employment increase. Of the countries with large privatization progress, the Czech Republic, Georgia, Lithuania, and Russia have applied the method of voucher privatization and thus classify as voter-oriented government types in our model. All these countries have experienced a decrease, or, in the case of the Czech Republic, only a very weak increase of their GDP.

Our model suggests an explanation for the failure of privatization programs in these countries: They have implemented too much privatization. For the governments of these countries, the incentives to privatize could have been inefficiently high as privatization did not imply a large number of unemployed. In such a case, the incentives to keep the firms in state ownership in order to protect employment and satisfy voters would be weak. This could be true for the Czech Republic and Russia as these countries report unemployment levels below 10% and, with caution, for Georgia, whose reported unemployment

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[30]There are several problems with using official unemployment statistics. One is that they might not capture the real level of unemployment. As the data here is only used as an illustration of the theoretical results and not for a full-fledged empirical analysis, we omit a critical discussion of these issues.

with 11.1% is relatively low. For the case of Russia, insiders of firms had advantages in the voucher privatization programs and received most of the shares (Schnitzer, 2003, p. 373). Thus, firms are predominantly owned by insiders who might have vested interests in employment. This might be a reason why privatization may not have led to substantial lay-offs.

Estonia, Hungary, the Slovak Republic, Bulgaria, and Poland have privatized by sales of their state-owned firms. In our classification, they thus belong to the group of revenue-oriented governments.[31] In the model, revenue-oriented governments may privatize too much as they underestimate the positive employment effects of restructuring. All countries in this group except for Hungary have unemployment ratios of over 10%. This may point to a situation where profits are valued more than employment.

Except for Bulgaria, these countries show a positive GDP development. Thus, in this group of countries, privatization has had less negative, or even positive consequences compared to the group of countries that used voucher privatization. We can explain this pattern by better institutions: In our model, with a better institutional environment, the incentives of the revenue-oriented government are less distorted than those of the voter-oriented government. Thus, governments that privatized by sale would have more efficient incentives than those that used voucher privatization. For the new EU members Hungary, the Slovak Republic, and Poland, this explanation seems to hold: These countries face a high pressure to adjust their institutions to EU standards.

Another explanation could be that privatization by sales led to ownership structures that supported the reorganization of the firms after privatization: Firms are often sold to large and/or foreign investors with an interest in profit maximization. Under voucher privatization, either insiders or badly regulated investment funds that pursued other objectives than reorganizing the firms gained control.[32]

It is very hard to track down the results of the model in the data. A detailed empirical study would be needed to assess the influence of the employment effects of privatization. For Megginson and Netter (2001), the analysis of the

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[31]Note that revenue-oriented governments do not necessarily have to be non-democratic. In our model, we argued that a pure form of revenue-maximizing governments would be autocratic. Yet, the model uses extreme types of governments. More generally, revenue-oriented governments just have to value revenue more than the utility of the voters.

[32]Schnitzer (2003) discusses the importance of privatization strategies for the success of privatization programs in transition countries.

employment consequences of privatization is one of the three most important future empirical research projects. So far, empirical studies on the employment consequences of privatization programs are scarce. One exception is La Porta and Lopez-de-Silanes (1999). They find that for Mexico, layoffs and lower wages account for over 30% of the efficiency gains of privatized firms while about 60% accrue from productivity increases. This supports the case that we make in our model, namely, that employment plays an important role for political privatization decisions.

Recent empirical studies resort to political interests for explaining privatization decisions. See Arocena (2004) for the case of Spain and Berne and Pogorel (2004) for the case of France. Both emphasize the trade-off between liberalization and maintaining national industrial champions. For the United States, Lopez-de-Silanes, Shleifer, and Vishny (1997) show that political incentives lead to low privatization levels, unless the possibilities of reaping political benefits from state-owned firms are restricted by the political institutions.

There are a few empirical studies that ask for the reasons why governments choose privatization. In our model, both government types have inefficiently high incentives to privatize. At first sight, this result does not seem to be in line with the empirical findings of Bortolotti, Fantini, and Sinisalco (2003): In their cross-section study that contains both developed and developing countries, they find that the probability of privatization is significantly higher for democracies.

Yet, the mechanism driving their results is different from our model: In their study, democracy is an indicator for political stability. This attracts foreign investors that are needed for a profitable privatization. In our model, employment effects are the driving force behind the inefficiently high incentives to privatize. Furthermore, we analyze the *incentives* for privatization. It could well be that a revenue-oriented government has very high incentives to privatize but, being unable to find investors, is prevented from implementing the privatization programs.

A finding of the empirical cross-country study by Bortolotti and Pinotti (2003) is that a higher number of veto players in a political system decreases the probability of privatization. Intuitively, all kinds of political reforms are easier to implement without an opposition. Our model does not include veto players. The most obvious candidates would be the unemployed: They would have an impact if elections would be decided retrospectively, that is, not on the

basis of the expected but of the realized income of voters. It is possible that in such a scenario, the inefficiency of incentives to privatize will be reduced. However, other interest groups, e.g. the investors, might also distort incentives towards too much privatization.[33]

3.10   Conclusion

Why do governments want privatization? When the political leaders are voter-oriented, they may privatize too much if a higher employment level under restructuring does not substantially increase the expected income of the voters. As in Biais and Perotti (2002) and Schmidt (1996), voter-oriented governments use underpricing for privatizing the firm. Privatization is a way to "buy" voters. Revenue-oriented governments have inefficiently high incentives to privatize due to their profit orientation. It makes them neglect the positive aspect of employment that is higher under restructuring.

The arguments made by Boycko, Shleifer, and Vishny (1996) imply that self-interested governments have no incentive to privatize as they incur higher costs of influencing the employment level in a privatized firm. Their model has a different focus, namely, to explain why privatization can improve efficiency. In our model, the political leadership has additional possibilities of action, namely, the choice of the privatization price and the redistribution of profits of the state-owned firm to the voters. These elements are important factors of the privatization decision. By taking them into account, we get contrary results: Self-interested governments can have inefficiently high privatization incentives. Furthermore, we consider different types of governments. Thus, we can distinguish the influence of different political objectives on the privatization decision. Both the orientation towards political power and towards private revenue can lead to inefficiently high incentives to privatize.

We explain failed privatization programs by inefficiently high incentives for privatization. Another prominent explanation is that there are flaws in the privatization process. In our model, private investors always reorganize the firm. In reality, this might be otherwise. When a firm is privatized to insiders, they may have interests that are contrary to efficient production. In addition, a large group of investors may encounter monitoring problems.

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[33]Bös (2000) and Bennedsen (2000) both have models of privatization and employment choice with interest groups. Yet, their focus does not lie on the incentives for privatization.

Managers and employees, but also large investors play a powerful role in any privatization decision. The influence of pressure groups may determine the choice of the privatization strategy. Moreover, a wrong privatization strategy could create or strengthen pressure groups that might oppose future necessary reforms (Schnitzer, 2003, p. 375). An example is the privatization to insiders who oppose a reorganization of the firm for fear of losing their jobs (Blanchard and Aghion, 1996). This is an interesting topic for future research.

We show that for all government types, the inefficiency of privatization incentives is reduced with a better institutional environment. This leads to the conclusion that privatization is more efficient in countries with a developed economic environment.[34] It also means that privatization projects that are enforced from the outside should be less detrimental in well-developed economies. On the other hand, it follows that privatization programs in less developed economies have to be considered with caution. The state of development of the legal and economic institutions in a country has to be taken into account.[35] Our model shows that it is not clear at all whether privatization in such countries enhances welfare.

The program of the World Bank to make privatization a prerequisite for successful economic reforms is not supported by this model. The results show that privatization cannot be the panacea for efficiency problems in the state-owned sector. Wrong incentives can distort the privatization choice in a way that makes this measure undesirable. For each country, a close examination of the economic situation is needed in order to assess whether privatization programs are able to improve its economic performance.

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[34]Competition is a further crucial factor for the efficiency of privatized enterprises. The difficult questions how competition can be created with stated-owned enterprises and whether privatization is effective without competition, would, however, lead too far from the main point of this paper. These problems are treated, e.g., in Vining and Boardman (1992) or Yarrow (1986).

[35]Celarier (1997) points to the problems with privatization that can arise if corruption is rampant and the institutions to fight corruption are not in place.

3.11   Appendix

In the appendix, we show the omitted proofs in the order of their appearance in the chapter.

Proof of Proposition 3.6

With better institutions, it is optimal for the welfare-oriented government to choose privatization whenever:

$$p_P^{BI}\pi(L_P) - p_R\pi(L_R) > (w + \lambda\underline{w})(p_R L_R - p_P^{BI} L_P) \tag{3.27}$$

With $p_P^{BI} > p_P$, the left hand side of the condition is higher whereas the right hand side is lower than in condition 3.9. Thus, with better institutions, the social planner chooses privatization for a larger range of parameters. The larger success probability of the reorganization of production under privatization both increases profits from privatization and reduces expected unemployment.

For the same reasons, also the voter-oriented government privatizes in more cases. It privatizes when:

$$p_P^{BI}\pi(L_P) - \frac{1}{1+\lambda}p_V\pi(L_V) > w(p_V L_V - p_P^{BI} L_P)$$

Also here, with $p_P^{BI} > p_P$, the left hand side of the condition is higher whereas the right hand side is lower than in condition 3.16. Thus, the voter-oriented government chooses privatization for a larger range of parameters.

The voter-oriented government has inefficiently high incentives to privatize if and only if $V_P - V_R > W_P - W_R$. This is the case when:

$$p_R\pi(L_R) - \frac{1}{1+\lambda}p_V\pi(L_V) + \lambda\underline{w}(p_R L_R - p_P^{BI} L_P) > w(p_V L_V - p_R L_R)$$

The only term that changes with respect to proposition 3.4 is $\lambda\underline{w}(p_R L_R - p_P^{BI} L_P)$. This term is lower than in proposition 3.4, as we have substituted p_P with $p_P^{BI} > p_P$. Overall, the condition thus becomes tighter. This means that with better institutions, the voter-oriented government has inefficiently high incentives to privatize for a smaller range of parameters.

Also the revenue-oriented government has higher incentives to privatize. It privatizes when:

$$p_P^{BI}\pi(L_P) - p_U\pi(L_U) > (1+\lambda)\underline{w}(p_U L_U - p_P^{BI} L_P)$$

With $p_P^{BI} > p_P$, the left hand side of the condition is higher whereas the right hand side is lower than in condition 3.23. Thus, the revenue-oriented government chooses privatization for a larger range of parameters.

The revenue-oriented government has inefficiently high incentives to privatize if and only if $U_P - U_R > W_P - W_R$. This is the case when:

$$w(p_R L_R - p_P^{BI} L_P) + \lambda \underline{w}(p_R L_R - p_U L_U) > p_U \pi(L_U) - p_R \pi(L_R) + \underline{w}(p_U L_U - p_P^{BI} L_P)$$

Here, the terms that change with respect to proposition 3.5 are the ones concerning the expected employment level. We have that:

$$w(p_R L_R - p_P^{BI} L_P) - \underline{w}(p_U L_U - p_P^{BI} L_P) = w p_R L_R - \underline{w} p_U L_U - p_P^{BI} L_P(w - \underline{w})$$

The last term increases with p_P^{BI}. Thus, with $p_P < p_P^{BI}$, the above condition is tighter. With better institutions, the revenue-oriented government has inefficiently high incentives to privatize for a smaller range of parameters. ∎

Proof of Proposition 3.7

Condition 3.26 is derived from conditions 3.11, 3.15, 3.18, and 3.22. To see that with better institutions, the incentives for the revenue-oriented government improve faster than those of the voter-oriented government, we take condition 3.26 and replace p_P with $p_P^{BI} > p_P$. We get that:

$$p_U \pi(L_U) - \frac{1}{1+\lambda} p_V \pi(L_V) > w(p_V L_V - p_P^{BI} L_P) - (1+\lambda)\underline{w}(p_U L_U - p_P^{BI} L_P)$$

The left-hand side of this condition is not affected by a change in the institutional environment. The right hand side can be re-written as:

$$w p_V L_V - (1+\lambda)\underline{w} p_U L_U - [w - (1+\lambda)\underline{w}] p_P^{BI} L_P$$

Only the last term, $[w - (1+\lambda)\underline{w}] p_P^{BI} L_P$, is larger as $p_P^{BI} > p_P$. This means that the right hand side of condition 3.26 is reduced with better institutions. The condition is fulfilled for a larger parameter range. Thus, improving institutions lead to the result that the privatization incentives of the revenue-oriented government are more efficient. ∎

Chapter 4

Political Economy Reasons for Government Inertia:
The Role of Interest Groups

4.1   Introduction

In many policy areas, governments are less active and hesitate more to enact reforms than would be desired by the general public. Often, the problem is not primarily the choice of the right policy. Rather, the question is why a government does not exert greater effort for *any* policy option, that is, why a government does too little to change the status quo.

One prominent example for such a mechanism is the issue of access to medicines in developing countries: During the last decade, there has been extended media coverage of the issue and a pronounced public interest in political action. In spite of this, western governments have been reluctant to take measures to alleviate the crisis. Only quite recently, we can observe political efforts such as the Barcelona 2002 and Bangkok 2004 conferences on HIV/AIDS, or the January 2003 announcement of the Bush administration to increase spending for AIDS relief to 15 billion US$.

It is striking that in many of the policy areas where we observe such a government inertia, interest groups are particularly influential. For example, in the health care sector in the United States, lobbying expenditures in 2000 amounted to 209 million US$, that is, about 14% of the total lobbying expenditures of 1.552 billion US$ in that year. Another issue area with high

lobbying expenditures is energy and natural resources, where contributions in the year 2000 amounted to 159 million US$. Note that these figures do not include campaign contributions.[1] Total expenditures by interest groups will therefore be much higher.

Where are the "bottlenecks" in the political process? We argue that the lack of political action is a consequence both of the structure of the political process and of the involvement of interest groups in political decision-making: The political process is composed of two stages: First, in the legislation or policy choice stage, policy measures are designed that constitute a new political strategy for a certain issue. Then, in the funding or policy implementation stage, the government decides on the expenditures or effort that it allocates to the new policy. An example for such a two-stage process are the US House and Senate: A policy is defined in the committees concerned with the issue. Then, the Committees on Appropriations decide on the expenditures for the new policy program.[2]

We show that if lobbies have political influence in both stages of the political process, this can lead to a smaller transfer of government resources to a new policy than would be desired by the general public. The explanation for that outcome is not simply that interest groups generally prefer the status quo. Rather, there is a structural reason: When the lobbies fail to agree on a policy in the legislation stage, they have little incentives to support the subsequent policy implementation. Then, they can induce the government to reduce the efforts of implementing that policy.

With this two-stage model with interest groups, we want to suggest a new way of studying the political process. We see two main advantages in this approach: First, a two-stage setup helps to draw a more realistic picture of politics. In many countries, lobbies are involved in decisions on policy measures from a very early stage on. A reason is that lobbies are potential sources of information for the political decision-makers. Also, they are taken to represent groups of citizens whose interests should be reflected in a policy.[3] Furthermore, interest groups may be invited to take part in the policy design stage in order to avoid their later opposition to a policy. The second advantage of our approach

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[1]All data are taken from www.opensecrets.org/lobbyists. The data are collected by the "Center for Responsive Politics", a non-partisan, non-profit research group.

[2]Kiewiet and Mc Cubbins (1991) study the appropriations process in the U.S. Congress.

[3]In the German political system, this role of interest groups is explicitly acknowledged. The formal inclusion of interest groups is one of the main features of German corporatism.

is even more important: A two-stage model can highlight *structural* reasons for the failure of governments to implement new policies. The interaction of lobbies in the first stage of the political process and the consequences for their lobbying behavior in the second stage endogenously lead to this result. In other words, the blame does not lie on the preferences of the interest groups. Rather, the political institutions that regulate the involvement of interest groups in the political process create lobbying incentives that promote government inertia.

There are other explanations for a low level of government effort with respect to policy implementation.[4] Alesina and Drazen (1991) explain delays in budget stabilization measures with a war of attrition among heterogeneous groups in society. In Fernandez and Rodrik (1991), uncertainty over gains and losses from a new policy creates a status-quo bias. Romer (2003) argues that undesired policy outcomes can be the result of citizens' errors in assessing the value of a policy. Olson (1982) explains the persistence of inefficient policies by the adaptation of lobbies to the existing institutions. Also Coate and Morris (1999) consider interest groups: In a dynamic setting, they show that policy persistence results from the status-quo bias of lobbies as they adjust to an initial policy and then strive to retain the benefits from that policy.

The structure of political institutions has rarely been related to lobbying. Persson (1998) points to the strong link between lobbying outcomes and the political institutions that set the rules for lobbying. Few papers explicitly analyze the process of policy choice with interest groups. An exception are Epstein and Nitzan (2002a, 2002b, and 2004). In these models, the policy choice is a contest between lobbies. Epstein and Nitzan (2002b) model the policy choice as a proposal by a bureaucrat that has to be approved by an elected decision-maker. Interest groups can influence the approval decision. Epstein and Nitzan (2004) show that lobbies have the incentive to restrain themselves in the policy choice contest by suggesting moderate policies in order to increase the chance that their suggestion is approved. In our model, interest groups are *not* able to compromise when they are involved in the decision on a policy. We show that exactly this failure to agree on a policy has negative consequences for the policy implementation level.

Other models endogenize the policy choice by combining a citizen-candidate model with a model of lobbying: Besley and Coate (2001) find that lobbying does not restrict the equilibrium policy space as citizens strategically choose

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[4]For a survey over the main ideas, see Alesina (1994) or Drazen (1996).

candidates whose policy preferences offset the lobbies' influence. In contrast, Felli and Merlo (2003) find that when the politician can define the set of lobbies he bargains with, the equilibrium policy space is drawn towards the median.

For modelling the second stage of the political process, namely, the decision on the policy implementation level, we use the standard common agency approach of lobbying (Bernheim and Whinston, 1986a, 1986b, Grossman and Helpman, 1994, 2001, and Dixit, Grossman and Helpman, 1997). Applications of the common agency framework are by now numerous.[5] As is common in this literature, we do not model elections but take the desire to be reelected as implicit in the government's objective function. Grossman and Helpman (1996) and Prat (2002a) include elections: Lobbies make campaign contributions that the politician uses to influence the partly uninformed voters.

Fredriksson and Svensson (2003) endogenize the *effectiveness* of lobbying by adding another stage *after* the standard common agency lobbying game: If there is political instability, the government may not stay in power long enough to implement the desired policy. When deciding on their lobbying expenditures, lobbies take the success probability of their political pressure into account. In unstable environments, lobbies may thus exert less pressure.

In standard lobbying models, the lobbies' objectives are exogenously given. There is no policy choice. Lobbying takes place for the level of implementation of an exogenously defined policy. In these models, government inertia can result only if the most influential lobbies prefer the status quo. In contrast, we endogenize the lobbies' *interest* in lobbying in the second stage implementation decision by adding a stage *before* the standard lobbying game. There, interest groups participate in the design of the new policy. The success of a new policy depends not only on the influence of its proponents and opponents but also on the lobbies' valuations of the policy compromise: If an issue is highly contested, lobbies do not benefit much from a policy compromise. This makes them disinterested in supporting the implementation of that policy, even if their status-quo bias is relatively low.

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[5]See, for example, Persson and Tabellini (1994) for the provision of local public goods, and Rama and Tabellini (1998) for labor market politics. Aidt (1998) analyzes environmental politics, Dixit (1996) and Marceau and Smart (2003) look at taxation issues. Kirchsteiger and Prat (2001) theoretically and experimentally analyze inefficiencies that can arise in such lobbying games. Drazen and Limão (2003) show that it is optimal for the government to commit itself to a cap on transfers to special interests when both the lobbies and the government have some bargaining power.

Most lobbying models exogenously assume that lobbies are symmetric. An exception are Le Breton and Salanie (2003), who show that smaller and heterogeneous interest groups are more influential. Agents with a low stake in a policy change might decide to free ride on the lobbying effort of others. In reality, lobbies differ in their access to resources and in their organizational forms. To allow for some variation, we introduce advertising as an additional lobbying channel. In particular, we want to capture interest groups that, by budget constraints or for ideological reasons, have no access to other lobbying channels. With this, we suggest a way to formally model civil rights movements and non-governmental organizations (NGOs): NGOs can use advertising to directly shape public opinion. The government reacts to the changed voter interests. The effectiveness of advertising depends on the degree of public awareness for an issue. There is a mostly non-formal literature on this topic: Sikkink (1993) and Berry (1999) show that civil rights movements can exert substantial pressure on governments by influencing public opinion.[6] Baron (2003) models interest groups that advertise to the public through the media.

In most of the existing models of political advertising, the *government* uses the contributions of interest groups to influence voting decisions. Among those are Austen-Smith (1987), Potters, Sloof, and Van Winden (1997), Coate (2001), Gersbach and Liessem (2002), and Prat (2002b). Bennedsen and Feldman (2002) analyze informative lobbying to a multi-member legislature. Recently, efforts are made to combine the two lobbying channels. Yu (2003) allows for political contributions and lobbying by advertising to the public. In Bennedsen and Feldman (2001), lobbies can provide both information and contributions to the government. The authors show that an information externality arises as information that is contrary to the lobby's interests makes lobbying by contributions more expensive.

In the next section, we present the case of access to medicines that we want to use as an illustrative example for our argument. In section 4.3, we set up our model of a two-stage political process. The discussion of the results in section 4.4 highlights the mechanisms of political decision-making with interest groups. We compare the outcomes for the cases with different degrees of the involvement of lobbies in section 4.5. In section 4.6, we introduce the lobbying channel of advertising and discuss the results for that extension. Finally, in section 4.7, we conclude and formulate some policy implications of our model.

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[6]For the influence of public opinion on foreign policy see Risse-Kappen (1991).

4.2   The Case of Access to Medicines

Why have western governments not reacted more actively to the health crisis in developing countries? Opinion polls show that in most industrialized countries there is a significant public interest in foreign aid (Olsen, 2000). Furthermore, in most countries, there exist both political institutions concerned with development assistance and several non-governmental organizations (NGOs) that are concerned with the case of access for medicines. International organizations, interest groups, and scientists have proposed solutions. An example is the DEFEND proposal (Ganslandt, Maskus, and Wong, 2001). The authors propose a fund to compensate the pharmaceutical industry for R&D and low-price sales of medicines.[7]

All this shows that there is the expertise to draft effective strategies and to implement such policies. The problem can therefore not only be the lack of feasible policy alternatives. A reason for government inertia concerning access to medicines must lie in the political decision-making process in donor countries of foreign aid.

The existing literature on foreign aid focusses mainly on the recipient countries. It analyzes the impacts of foreign aid on growth or democratization. For example, Svensson (2000a) theoretically examines the impact of foreign aid on incentives for rent-seeking in recipient countries.[8] Few authors analyze the political decision on foreign aid in donor countries. Empirical studies are Alesina and Dollar (2000) who examine why governments grant foreign aid, and Noel and Therien (2000) who explore the relation between political parties and foreign aid. In a theoretical lobbying model, Lahiri and Raimondos-Moeller (2000) trace the allocation of foreign aid to recipient countries back to lobbying by ethnic groups in the donor country. Svensson (2000b) considers commitment problems in donor countries. Mayer and Raimondos-Moeller (2003) show how political support for foreign aid depends on the effects of aid on the terms of trade between a donor and a recipient country.

We want to add to this literature by applying our two-stage lobbying approach to the case of foreign aid for access to medicines. We do not consider

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[7]Suggestions can also be found in the working paper series of the WHO Commission on Macroeconomics and Health. Kremer (2001) gives an overview of possible policies.

[8]Concerning the impact of foreign aid on growth in Sub-Saharan Africa see Mosley (1996), for an empirical survey see Burnside and Dollar (2000).

problems with policy implementation in the recipient countries. In particular, we want to draw attention to the process of the design of policies for the issue of access to medicines. Here, interest groups play an important role.[9]

In the political debates for the right policies concerning the problems of access to medicines, one can identify several characteristics. An example are the "Civil Society" meetings of the EU Commission:[10] These meetings were attended by associations of the research-based as well as the generic pharmaceutical industry and some of the NGOs that are active in this field, e.g., Médecins Sans Frontières, OXFAM, Health Action International, or AIM. Generally, the pharmaceutical industry as well as the NGOs agreed with the representatives of the EU Commission on the need for immediate action.

However, conflict in these meetings arose on the specific policy measures that would compose the EU's future political strategy: During the meetings, it became clear that the policy measures discussed had very different potentials for compromise. For example, short-term donations of limited amounts of drugs, and trade measures such as lower tariffs or agreements for a transfer of technology, were rather low-conflict points. There was fundamental disagreement concerning the protection of intellectual property rights, where the NGOs frequently accused the industry of profiting from excessively strong patent rights. Also differential pricing and parallel importing of drugs, i.e., importing copy-drugs into a country with patent protection, were among the controversial issues.

Conflict over access to medicines quickly spread over several levels.[11] On the one hand, there is the level of fundamental preferences of the interest groups. For example, the NGOs refused to support measures that involved large compensations for the pharmaceutical industry. The insistence of lobbies

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[9]Interest groups in this area are the pharmaceutical industry and non-governmental organizations. An overview of non-governmental groups that are active in the field of access to medicines is given by the non-profit organization "'World Revolution" under http://www.worldrevolution.org/guidepage/accesstomedicines.

[10]Agendas and reports for these meetings are published on the website of the EU Commission under http://europa.eu.int/comm/trade/csc/issuegr.htm. An overview of documents from the EU Commission concerning the issue of access to medicines can be found at http://europa.eu.int/comm/trade/csc/med.htm. More generally, Greenwood (1997) analyzes the characteristics of special interest politics in the European Union.

[11]An illustration for the tense atmosphere in those meetings can be found in a quote from one of the discussion reports: "Dialogue between the industry and certain NGOs was not always easy.", see http://europa.eu.int/comm/trade/csc/rephealth_05a.htm, point IV.

on their positions led to conflicts over ex ante less controversial issues. For example, the interest groups were not able to agree on the use of the WHO-list of the most essential drugs for developing countries. Thus, the final policy decisions that materialized in the strategy papers coming out of these meetings, could only contain the least controversial issues.

We can derive some stylized facts for our model of the policy choice stage from this small case study: First, it is obvious that the interest groups engaged in a fierce contest in order to promote their own preferred policy options. In this contest, most of the time the pharmaceutical industry formed one party and the NGOs constituted the opposition. For some issues, however, mainly concerning patent protection, the generic industry was closer to the NGOs. Second, it became clear during the meetings that although all parties had a pronounced interest in swift action, the interest groups were not able to concede some of their demands in order to achieve a compromise. This resulted in political strategies that comprised only the least controversial issues, that is, those that were of the least interest for the lobbies. Third, we can conclude from that that the resulting policy compromises were not very valuable for any of the lobby groups.

To sum up, in the policy choice stage, lobbies aggressively try to promote their own preferred policies. They engage in this contest even though the resulting weak compromise is not of great value to them. These stylized facts will be features of the first stage of our model. We then add a second stage where the level of government expenditures for this policy is determined in a standard lobbying game. We refrain from studying the case of access to medicines for the policy implementation choice.

4.3   The Two-Stage Political Process

The model describes the two-stage structure of the political decision-making process. In the first stage, a policy is chosen. From now on, we call this stage the "policy choice stage", as the term "legislative stage" would imply a focus on legislative bodies that we do not include in our model. In the second stage, the policy implementation stage, the government decides on how much expenditures or effort it allocates to the implementation of that policy. The model can be applied to all policy areas where interest groups play an influential role. We choose the case of access to medicines as an illustrative

example: In the model, there are two interest groups, the "Industry (I)" and the "NGOs (N)". We assume that the members of these two groups have managed to overcome the problem of collective action (Olson, 1965), and were able to organize themselves in lobbies.[12] The rest of the population is not organized. In the second stage of the model, this assumption is crucial as we want to show how lobbying creates distortions of the policy implementation level. If all groups of the population were represented in interest groups, the lobbying outcome could be socially efficient.[13]

The time structure is as follows: In the *first stage* of the model, the lobbies propose their preferred policies and decide on their effort for the first-stage policy choice contest. The government builds a compromise from the winning proposal of the lobbies and its own preferred policy.

The resulting policy choice is taken as given in the *second stage*. There, the government decides on the level of expenditures for the new policy, i.e., the level of policy implementation. The interest groups can influence the level of implementation for the new policy by offering contributions to the government. The time structure is summarized in figure 4.1.

Figure 4.1: Time Structure

First Stage: policy choice	**Second Stage:** policy implementation
Lobbies propose policies and decide on effort for policy contest	Lobbies choose contributions t (or advertising)
Government builds policy compromise	Government chooses policy implementation level

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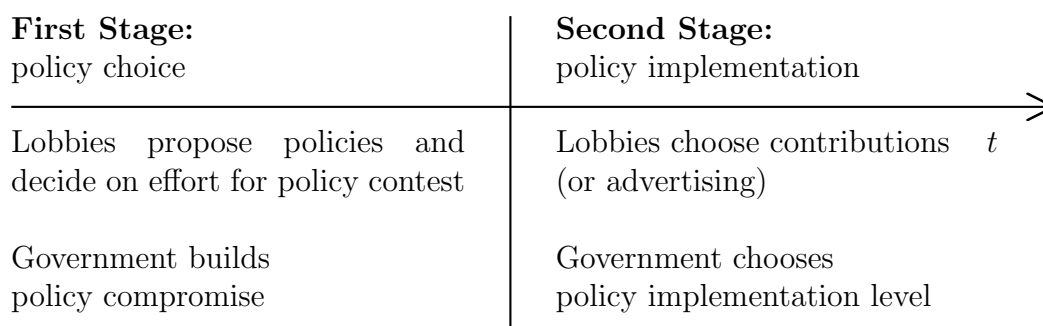
[12]In the context of trade politics, Mitra (1999) and Magee (2002) endogenously model the formation of interest groups.

[13]Dixit, Grossman, and Helpman (1997) show that the equilibrium would be socially efficient if lobbies are constrained to truthful contribution schedules.

4.3.1   The Policy Choice

In the first stage, the government decides on a policy that it will implement in
the second stage. Lobbies can propose policies. We assume that each interest
group has a preferred policy θ_k in the one-dimensional policy space, where
$\theta_k \neq \theta_j$, $k \neq j$; $j, k \in \{I, N\}$. We do not restrict the policy space. The policy
preferences are exogenously given and fixed, that is, the proposed policies are
not a strategic variable. Also the government has a preferred policy, θ_G, that
lies exactly in the middle between the lobbies' preferences: $\theta_G = \frac{\theta_I + \theta_N}{2}$. It
is plausible to assume that the government's preferences lie in between the
lobbies' proposals as the government considers all interests, also those of the
more moderate citizens that are not organized.[14]

From these policy proposals, each lobby derives the utility l_k:

$$
\begin{aligned}
l_k(\theta_k) &= 1 \\
l_k(\theta_j) &= 0; k \neq j \\
l_k(\theta_G) &= \lambda; \lambda \in [0;1]
\end{aligned}
$$

Each lobby gets the highest utility from its own preferred policy and the
lowest utility from the preferred policy of its opponent. We assume that both
lobbies derive the same utility $l_k(\theta_G) = \lambda$ from the government's policy. This
follows from our assumption that the government proposes $\theta_G = \frac{\theta_I + \theta_N}{2}$. Yet,
we only require that the lobbies' preferences are symmetric. We do not restrict
the shape of the preferences: They can be very extreme, putting a utility of 1
only on the own preferred policy and 0 on the policies of the government and
of the other lobby, they can be very moderate, putting a utility of 0 only on
the opponent's proposal and 1 on all other policies, or anything in between,
depending on the size of λ. A different setup, taking the distance between the
policy proposals as the measure for the utility from that policy, would have
imposed restrictions on the intensity of these preferences.

The value of $\lambda \in [0;1]$, that is, the utility that the interest groups derive
from the government's proposal, captures some characteristics of the policy
issue: A low λ means that for this issue, preferences are very extreme and a
compromise therefore yields a low value for the lobbying parties. A high λ

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[14]Also, it is the outcome of the median voter theorem that politicians strive to cater to
the median of the population in order to maximize their chances of staying in office.

implies that the issue is less controversial so that lobbies can benefit to some extent from the government's compromising policy proposal.[15]

In the policy choice stage, lobbies engage in a contest over their policy proposals. The decision variables $R_k \in [0, \frac{1}{2}]$, $k \in \{I, N\}$, measure the "radicalness" of the lobbies, i.e., the effort they exert during the negotiations. An interest group's probability of winning the policy choice with its own policy proposal is increasing in its effort. However, there is a downside to being too radical, as this decreases the weight that the government attaches to the winning lobby proposal when deciding on the policy compromise.

The utility that each lobby gets from the negotiation stage is, in expected terms, for $k \neq j$; $k, j \in \{I, N\}$:

$$
\begin{aligned}
u_k(R_I, R_N) &= [1 - (R_I + R_N)] \left[\frac{R_k}{R_I + R_N} l_k(\theta_k) + \left(1 - \frac{R_k}{R_I + R_N} \right) l_k(\theta_j) \right] \\
&\quad + (R_I + R_N) l_k(\theta_G) - R_k \\
&= [1 - (R_I + R_N)] \left[\frac{R_k}{R_I + R_N} \right] + (R_I + R_N)\lambda - R_k \quad (4.1)
\end{aligned}
$$

The last line of equation 4.1 shows the lobby's first-stage utility after plugging in the utility values for the policy choices. In the first line, we see the lobbying contest over the policy. When building the final policy compromise, the government attaches the weight $[1 - (R_I + R_N)]$ to the policy that is suggested by the winning lobby. The lobbies engage in a contest over their policy proposals. For each lobby, its radicalness R_k determines the probability of winning with its own policy proposal over the other interest group. For this success probability, we use the standard Tullock (1980) contest success function, where the own lobbying effort in relation to the total lobbying effort determines the probability of winning. Each lobby's expected utility from this contest is given by the second term in the first line of equation 4.1 or, after simplification, by $\frac{R_k}{R_I + R_N}$.

Furthermore, the government weights its own preferred policy with $(R_I + R_N)$. Each lobby derives a utility of λ from this policy. Moreover, each lobby has to incur the effort costs R_k in this contest. In the model, we do not have a

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[15]As we will discuss below, our setup bears some similarities to the arbitration literature. There, we find the concept that the arbitrator bases the decision on his own preferred settlement on the underlying characteristics of the case, independent of the parties' proposals. See, e.g., Bazerman and Faber (1986). In our model, the lobbying parties' valuations λ can be seen to vary with the underlying characteristics of the policy issue.

binding budget constraint for the lobbies and assume that they are always able to cover the equilibrium first stage and second stage lobbying expenditures. Therefore, these effort costs will be sunk in the second stage.

For the lobbies, the choice of their radicalness R_k involves a trade-off: The more radically a lobby acts, the higher is the probability that it wins the contest and that its policy proposal is chosen instead of that of the other lobby. However, at the same time, the more radical the lobbies are, the less weight does the government attach to the winning lobby's policy proposal.

This is a new idea with respect to the standard rent-seeking literature: The winning lobby does not automatically get its preferred policy. In contrast to the standard lobbying games, here, lobbying expenditures do not make the government more responsive to the lobby's wishes. Instead, the government dislikes to cater to radical lobbies.[16] If the government gets the impression that the lobbies are not willing to concede, i.e., if they are very radical in the contest, it will consider their policy proposals less and put more weight on its own preferred policy when deciding on the final policy compromise. This assumption captures the trade-off for being aggressive for the lobbies without modelling the strategic decision on policy preferences.[17]

Note that this setup and the trade-off it describes have similarities to arbitration games: The government can be seen as the arbitrator between the two lobbies. In the simplest arbitration model of final-offer arbitration, the arbitrator chooses one of the proposals of the two parties and cannot choose own settlements (e.g. Farber, 1980, see also Gibbons, 1992, pp. 23). There, the trade-off for the parties is determined by their uncertainty over the preferences of the arbitrator: A more extreme proposal increases the payoff if the party's suggestion is chosen. However, this becomes more unlikely, the farther away the suggestion lies from the preferences of the arbitrator. With higher uncertainty over the preferred choice of the arbitrator, the parties therefore have incentives to be more aggressive.

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[16]For example, in Epstein and Nitzan 2002b, rent-seeking expenditures make approval more likely. The difference is that we do not take the lobbying expenditures R_k as transfers to the government but as real effort costs of the lobbies for being aggressive in the policy choice contest.

[17]We would get the same result if we took the lobbies' policy preferences as the reference point. The government would have a less extreme policy preference. It would be deterred from accepting the lobbies' proposals if these contained policies that are too radical. Epstein and Nitzan (2004) have a lobbying model where the lobbies endogenously choose the extremeness of their policy position, taking into account the probability of winning approval.

In our model, the contest between the lobbies evolves not directly over the policy proposal but over the effort R_k that each lobby exerts in order to promote its policy proposal. In addition, the government, the arbitrator in our model, can also consider its own preferred policy in addition to the proposals by the lobbies. In the arbitration literature, it is common to assume that the compromise of the arbitrator will lie somewhere in between the suggestions of the two parties.[18] The trade-off in our model is not determined by uncertainty over the arbitrator's preferences, but by the lobbies' utilities λ from the arbitrators preferred policy. When the lobbies' utilities from the government's preferred policy are higher, they can afford to be more radical in the contest. The reason is that then, their expected losses from being radical decrease. We present the results of the policy choice stage in section 4.4.2.

It is worth to draw attention to our assumption that the government approves of one of the lobbies' policy proposals with a positive probability although it has own policy preferences. The government does not always choose to take its own preferred policy. It gives the lobbies some right to actually choose the policy. Such a behavior could be endogenously derived from much richer setups: For example, the government could be interested in following the proposals by the lobbies as they might have additional information on the feasibility or the appropriateness of a policy. We do not model asymmetric information between the government and the lobbies. Yet, for a setup where lobbies are better informed than the government, the approval probability in our model could be interpreted as the probability with which the government believes the suggestions of the lobbies to be truthful.[19] Another justification can be that the government has a democratic obligation not only to hear interest groups but to grant them the right to participate in the policy choice as they represent parts of the democratic society.

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[18]In the arbitration literature, such a setup is called conventional compulsory arbitration as opposed to final-offer arbitration where one of the parties' proposals has to be chosen. Crawford (1979) discusses some common results and differences of the various arbitration models. Gibbons (1988) emphasizes the mechanisms by which arbitrators learn from the parties' proposals under asymmetric information.

[19]This would be an alternative way to model the policy choice (see Grossman and Helpman, 2001, Chpt. 5): Interest groups supply information to the government. However, they have an incentive to overstate their messages as they have more extreme preferences than the government. This leads to a credibility problem. The more radical an interest group, the more does the government discount its message. In such a setting, opposite biases of the lobbies are beneficial for the government as it can then extract more information.

Finally, we later also look at the case where lobbies are not allowed in the policy choice stage. Then, the government chooses its own preferred policy θ_G and the lobbies get the first-stage utility $u_k^\lambda = \lambda$.

4.3.2   The Implementation Choice

In the second stage, the new policy is taken as given. The interest groups pressure the government to implement the new policy at their preferred level of implementation. The implementation level describes the expenditures or the effort the government allocates to the new policy.

The second stage is a two-period game of common agency, as in Dixit, Grossman, and Helpman (1997) and Grossman and Helpman (1994, 2001): In the first period, the lobbies $k \in \{I, N\}$ simultaneously and non-cooperatively choose a contribution schedule $C_k(X)$ from a set $\mathcal{C}$ of feasible schedules. $\mathcal{C}$ is assumed such as to guarantee interior solutions in equilibrium. The contribution schedules are assumed to be continuous and differentiable. They constitute a binding promise of the lobby to pay a certain amount of contributions in exchange for each feasible implementation level.[20]

In the second period, the government chooses an implementation level X from a set $\mathcal{X}$ of feasible implementation levels, taking into account its own objectives and the contributions of the two lobbies. The expenditures X for the new policy are a part of the total tax revenue T of the government. The rest of the tax revenues, $T - X$, is spent on other policies. In this section, we first describe the strategies of the interest groups. Then, we set up the objective function of the government and explain the government's strategy.

The Lobbies

The lobbies influence the government by direct political contributions. These can range from explicit bribery over donations to the government party to providing lucrative positions for politicians. The contributions are of a private nature for the government. They cannot be used to finance policy implementation, to lower taxes, or to be distributed to the citizens. The utility function

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[20]That lobbies are able to commit to their payment schedule is a common feature of all models of lobbying with common agency. In a dynamic setting, this commitment could be created by reputation effects (Aidt, 1998).

of lobby k is given by:

$$U_k = -C_k(X) + u_k(R_I^*, R_N^*)X + \bar{s}_k(T - X) \tag{4.2}$$

The trade-off for the lobbies in the policy implementation game is the following: Both lobbies have to incur the costs of lobbying $C_k(X)$. The first-stage utility $u_k(R_I^*, R_N^*)$ from the policy compromise lets them desire government effort X for the implementation of that policy. There is also another policy that is financed out of the remaining tax revenue $T - X$. This can be taken to be a sort of numéraire for all other policies that the government undertakes. The lobbies gain the utility $\bar{s}_k(T - X)$ from that policy. The parameter $\bar{s}_k > 0$ captures the lobbies' status-quo bias or their opportunity costs from the new policy. When implementing the new policy, the government diverts resources from other policies that are also beneficial for the lobbies. This reduces the value of the new policy for the lobbies.

The size of $\bar{s}_k$ measures how well the status-quo policy reflects the interest of a lobby: If $\bar{s}_k$ is high, the lobby receives high gains from the status-quo policy and suffers if resources are diverted towards the new policy. Generally, the $\bar{s}_k$ do not have to be symmetric for both interest groups. For example, a government could have been protecting the industry, so that I's status-quo utility is very high, whereas N's is very low.

The marginal utility of contributions for a lobby is given by:

$$\frac{\partial U_k}{\partial C_k} = -1 + \pi_k \frac{\partial X(C_I, C_N)}{\partial C_k} = 0 \tag{4.3}$$

The marginal costs of contributing are 1. $\pi_k = u_k(R_I^*, R_N^*) - \bar{s}_k$ denotes the marginal lobbying interest in the implementation of the policy compromise. The second term of equation 4.3 shows the marginal utility for lobby k of the change in X induced by a marginal increase in lobbying contributions. When $\pi_k < 0$, the lobby wants less government effort for that policy as then, its status-quo bias $\bar{s}_k$ outweighs its utility u_k from the new policy. When $\pi_k > 0$, the lobby strives to increase the policy implementation level.

The Government

In the policy implementation stage, the government chooses the expenditures X for the implementation of the new policy. The government's objectives are

driven by the desire to be reelected and to appropriate lobbying contributions. We do not explicitly model elections. Instead, we assume that the government maximizes its chance of winning the next elections by maximizing the utility of the representative citizen. This could also be the median voter or the aggregate of all the identical citizens.

The citizens' utility function is given by:[21]

$$W(X) = a_0 \gamma X + V(T - X) + Y - T \tag{4.4}$$

with $V(0) = 0$, $V_X < 0$ and $V_{XX} < 0$, continuous and twice differentiable. To ensure internal and unique solutions for X, the following Inada conditions are imposed: $lim_{X \to 0} V_X = 0$ and $lim_{X \to T} V_X = -\infty$. The utility that citizens get from an allocation of tax revenues to the new policy is given by $a_0 \gamma X$ with $a_0 \in [0; 1]$ and $\gamma \in [0; 1]$. The parameter a_0 describes the degree of information on the need for the new policy, i.e., the fraction of people who are aware of the need for the new policy. For now, it is given exogenously and remains unchanged. In section 4.6, a_0 is endogenized by giving the lobbies the possibility to advertise.

The parameter γ describes the citizens' preferences for the implementation of the new policy. It determines the amount of expenditures that the citizens want the government to allocate to the new policy.[22] Note that this is independent both of the utility λ that the lobbies gain from the government's preferred policy and of the outcome of the policy compromise in stage one. Citizens have a fixed interest in government action. This is of course a simplifying assumption. Yet, as our focus lies on the influence of interest groups on policy implementation levels, this assumption is not overly restrictive and helps to keep the analysis tractable. As the more extreme citizens should organize into interest groups, the unorganized citizens will better like the more moderate policy of the government. Thus, γ might well be larger than λ. However, we do not impose any restrictions on that relation.

---

[21]The results of our model hold for a general function $W(X)$ as long as it has a unique global maximum. However, for section 4.6, where we introduce lobbying by advertising, we need such a more specific function. Moreover, this more specific function helps to illustrate some of the results.

[22]In the context of foreign aid, γ can reflect the degree of altruism in a society. Citizens value expenditures for foreign aid less than their private consumption. Welfare in the recipient country is not part of this model. Typically, the altruism parameter will take a value well below 1. Surveys suggest that citizens in industrialized countries would be willing to give at most 5% of their income to foreign aid (Olsen, 2000).

All taxes that are not spent for the new policy are used for other policies. The citizens' utility from the expenditures for these policies is denoted by $V(T - X)$. The new policy is financed by a shift of tax revenue from the other policies towards the new policy. Situations where the government lowers or increases taxes are left out of the model. T denotes the total tax revenues of the government and marks the upper bound for the expenditures for the new policy. The last part of the citizens' utility is their private consumption $Y - T$, where Y denotes total aggregate income.

When there is no lobbying in stage two, the government decides on a level of implementation called the no-lobby implementation level. It is useful to state the following preliminary result:

Lemma 4.1 *When there is no lobbying, the government's maximization problem has a unique global maximum X_{nl}^*, given by:*

$$X_{nl}^* = argmaxW(X) = argmax[a_0\gamma X + V(T - X) + Y - T] \qquad (4.5)$$

Proof. See the appendix. ∎

When there is lobbying in stage two, the government cares about the political contributions from the lobbies and about the utility of the citizens. With lobbying, the government maximizes:

$$G(\{C_k\}_k, X) = \sum_{k \in \{I,N\}} C_k(X) + W(X) \qquad (4.6)$$

Note that our setup differs slightly from Dixit, Grossman, and Helpman (1997) and most of the applications of the common agency model because the utilities of the lobbies are not included in the objective function of the government. In our model, the government maximizes a reduced form of citizens' welfare. We choose this setup as we want to assess how the influence of lobbies distorts the policy implementation level away from the one desired by the general public. The inclusion of the lobbies' utility in the aggregate welfare function would distract the attention from this point.

4.4 Lobbying by Contributions: Equilibrium

In this section, we derive the equilibrium outcomes for the policy choice and the policy implementation stages. The model is solved by backward induction.

4.4.1   Stage Two

The equilibrium implementation level of stage two is part of the equilibrium of the common agency game. As is common in the literature, we restrict ourselves to "truthful " or "globally compensating" payment functions. In our case, a payment function $C_k(X)$ is truthful, if for the fixed utility level $\overline{U}_k$, we have that $C_k(X) = max\{\pi_k X + \overline{s}_k T - \overline{U}_k, 0\}$. With truthful payment functions, a lobby's willingness to pay for a level of policy implementation is its utility from the equilibrium implementation level net of this target utility. Generally, the truthful payment function of principal k rewards the agent for every change in the variable X exactly by the utility change of the principal, whenever payments are strictly positive.[23]

A truthful equilibrium of our policy implementation game is a pair of feasible optimal and truthful lobbying contribution schedules $\{C_k^*(X, \overline{U}_k)\}_{k \in \{I,N\}}$, and the optimal implementation level X^* such that X^* is the government's best response to $\{C_k^*(X, \overline{U}_k)\}_k$, and, for each lobby k, the equilibrium lobbying contribution $C_k^*(X^*, \overline{U}_k)$ and the resulting implementation choice by the government X^* are a best response to the contribution schedule of the other lobby.

Proposition 4.1 *For each a_0 and γ and each combination of the lobbies' marginal interests in policy implementation $\{\pi_k\}_{k \in \{I,N\}}$, there exists an equilibrium $\{X^*; \{C_k^*\}_k\}$ with a unique implementation level X^* and a set of truthful contribution schedules $\{C_k^*\}_k$ if and only if*

$$X^* = argmax G(\{C_k^*(X, \overline{U}_k)\}_k; X) = argmax \left[\sum_{k \in \{I,N\}} C_k^* + W(X) \right], \quad (4.7)$$

$$C_k^* = max\{\pi_k X^* + \overline{s}_k T - \overline{U}_k; 0\}, \quad\quad\quad (4.8)$$

---

[23]As shown by Bernheim and Whinston (1986), the restriction to truthful equilibria is especially attractive because they are coalition-proof and efficient in the sense that the outcome of such an equilibrium maximizes the sum of payoffs of the players. Furthermore, Bernheim and Whinston have shown that each lobby's best-response correspondence to any strategy of the opponents contains a truthful strategy. This can justify the restriction to truthful equilibria. Most models of special interest politics use this concept of truthful equilibria. Grossman and Helpman (2001) use the term of "compensating contribution schedules". They distinguish between locally compensating contribution schedules that define only equilibrium behavior and globally compensating contribution schedules that prescribe the same rule also for all out-of-equilibrium contributions.

and $\overline{U}_k$ such that

$$G(\{C_k^*(X^*, \overline{U}_k)\}_k; X^*) \geq \max_{X \in \mathcal{X}} G(\{C_j^*(X, \overline{U}_k)\}_{j \neq k}; X). \qquad (4.9)$$

Proof. See the appendix. ∎

A truthful contribution schedule reflects the lobby's willingness to pay for a policy change for all positive lobbying contributions. Formally:

$$\frac{\partial C_k}{\partial X} = -\frac{\frac{\partial U_k}{\partial X}}{\frac{\partial U_k}{\partial C_k}} \qquad (4.10)$$

$\forall X$ where $C_k(X) > 0$ given that the lobby reaches the utility level $\overline{U}_k$, and $C_k(X) = 0$ otherwise. To induce the lobby to participate in the lobbying game, $\overline{U}_k$ has to be weakly higher than the utility that the lobby could achieve without participating.[24] When the lobbies have similar interests, the policy implementation level has some characteristics of a public good: There is no rivalry in consumption as the policy does not entail redistribution among the lobbies. The implementation level enters the utility function of both lobbies with the same sign. These mutual gains from policy implementation could induce the lobbies to free-ride on each other's lobbying contributions. It seems plausible that free-riding might arise when an interest group sees that others are lobbying for the same cause. In the models of common agency, this is excluded by the use of truthful equilibria where each lobby contributes exactly its utility increase of a policy change.[25]

4.4.2 Stage One

The equilibrium of the first stage policy choice is given by the Nash equilibrium of the non-cooperative game where both lobbies simultaneously choose their radicalness R_k. It is a pair of feasible mutually optimal choices $\{R_k^*\}_{k \in \{I,N\}}$.

---

[24]For example, take lobby I with $\pi_I > 0$: When it does not lobby, $U_I = \pi_I X_N^* + \overline{s}_I T$ where X_N^* denotes the equilibrium policy choice when only N is contributing. If I is to participate in the lobbying game, we need that at least $\overline{U}_I = \pi_I X_N^* + \overline{s}_I T$. As otherwise, all second-stage equilibrium outcomes X^* collapse into the no-lobby outcome X_{nl}^*, we assume that both lobbies participate in the second-stage lobbying game. This is a standard assumption for common-agency models.

[25]In contrast to that standard result, Le Breton and Salanie (2003) show that free-riding can occur under asymmetric information over the politician's sensitivity to political contributions. Some readers may wonder whether a situation where lobbies have the same interests is of any relevance. Empirically, Gawande (1997) shows that the interactions between similar lobbies are the most important source of lobbying expenditures.

Proposition 4.2 *For given lobbies' utilities $l_k(\theta_G) = \lambda$ from the government's preferred policy, we have a unique symmetric equilibrium of lobbying aggressiveness $\{R_k^*\}_{k \in \{I,N\}}$, where*

$$R_k^* = \frac{1}{4(2 - \lambda)}. \tag{4.11}$$

Proof. The lobbies choose R_k in order to maximize:

$$U_k = -C_k^*(X^*) + \left[[1 - (R_I + R_N)] \frac{R_k}{R_I + R_N} + (R_I + R_N)\lambda - R_k \right] X^* + \bar{s}_k(T - X^*)$$

The first order conditions of this problem are:

$$\frac{R_k}{(R_I + R_N)^2} - 1 + \lambda - 1 = 0$$

The second order condition is fulfilled. As the problem is symmetric for both lobbies, we get that $R_I^* = R_N^* = \frac{1}{4(2-\lambda)}$.   ■

The radicalness of the lobbies in the policy choice stage depends on their utility λ from the government's preferred policy. The higher λ, the better the government's policy fits the lobbies' interests. For high λ, the lobbies thus also get a higher utility in the case where the government decides not to approve of the winning lobby's proposal. Thus, the lobbies have less to loose from engaging in a fierce contest over their policy proposals. Then, they place a higher importance on winning the contest over the other lobby. A higher λ thus leads the lobbies to act more radically and exert more effort in the contest.

The lobbies' expected equilibrium utilities from the policy choice u_k^* are:

$$u_k^* = \frac{1}{2(2 - \lambda)} \tag{4.12}$$

The equilibrium is symmetric as the value of the government's preferred policy λ is the same for both lobbies. If they do not lobby in stage one, their utility from the policy choice stage is λ. For $\lambda \in [1 - \frac{\sqrt{2}}{2}; 1]$, λ is weakly larger than $u_k^* = \frac{1}{2(2-\lambda)}$. The lobbies thus run into a dilemma: They could increase their expected utility from the policy choice stage to λ by committing not to take part in the policy choice contest in the first stage. This would be optimal for $\lambda \in [1 - \frac{\sqrt{2}}{2}; 1]$. However, in a one-shot interaction, they are not able to coordinate on that.[26] Given that one lobby stays out of the lobbying game, it

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[26]An alternative would be for the lobbies to try to coordinate on low effort levels, while still participating in the contest. In the extreme, i.e., for $R_k = 0$, this would give them an expected utility of $\frac{1}{2}$. Linster (1994) shows how such a coordination in a Tullock rent-seeking game can be sustained by repeated interaction.

is optimal for the other lobby to step in and win the policy choice contest. The lobby would then choose an effort of 0 and get its preferred policy implemented with weight 1. Then, the other lobby would be left with a utility of 0. It can avoid that by also stepping in at the policy choice stage. Thus, each lobby has the incentive to participate in the contest. The chance to represent its own interests in the policy choice makes each lobby act radically in the negotiations. This reduces the value of the resulting policy choice for the lobbies.

Yet, as mentioned in section 4.3.1, when the policy compromise is taken to implementation in stage two, the lobbying efforts in stage one are sunk. Thus, when deciding on their lobbying effort in stage two, the lobbies only consider their utility from the government's compromise, without taking into account their lobbying costs. Also, they know whether they have won or lost the policy choice contest against the other lobby. We denote their equilibrium utility from the first stage policy compromise with u_k^e, where e stands for the equilibrium in which both lobbies are active in stage one. For the rest of the analysis, without loss of generality, we consider the case where lobby w has won the policy choice contest against lobby l, $w \neq l$. We then have the following lobby utilities from the first-stage policy compromise:

$$u_w^e = [1 - (R_I^* + R_N^*)] + (R_I^* + R_N^*)\lambda = \frac{3 - \lambda}{2(2 - \lambda)} \qquad (4.13)$$

$$u_l^e = (R_I^* + R_N^*)\lambda = \frac{\lambda}{2(2 - \lambda)} \qquad (4.14)$$

The lobbies' overall marginal interest in the transfer of government resources to the new policy is determined not only by the first-stage utilities but also by their status-quo biases. In total, for a given status-quo bias, the marginal gains for a lobby $\pi_k^e = u_k^e - \overline{s}_k$ from the new policy increase with λ. Whenever $\pi_k^e < 0$, lobby k suffers from the implementation of the new policy.

Lemma 4.2 *The lower a lobby's utility from the government's proposal λ, the more often does the status-quo bias outweigh the first-stage utility from a policy compromise and the more often is $\pi_k^e < 0$.*

Proof. The equilibrium utilities from the policy choice u_k^e are increasing with λ as $\frac{\partial u_w}{\partial \lambda} = \frac{1}{2(2-\lambda)^2} > 0$ and $\frac{\partial u_l}{\partial \lambda} = \frac{1}{(2-\lambda)^2} > 0$. With $\pi_k^e = u_k^e - \overline{s}_k$, we have that for decreasing λ, the range of $\overline{s}_k \geq 0$ for which the π_k^e are positive decreases. $\blacksquare$

The gains from a policy compromise are not symmetric: For lobby (w), the ex-post first stage utility is larger than the one for lobby (l), i.e. $u_w^e > u_l^e$ for $\lambda \in [0, 1]$. The lobby that wins the policy choice contest profits from having its policy preferences accounted for in the final policy choice compromise when the lobbies' utility from the government's preferred policy are rather low. Also, depending on the respective values of $\bar{s}_I$ and $\bar{s}_N$, one lobby might benefit from a new policy whereas the other suffers. Note that the lobbies will in equilibrium not unilaterally stay away from the policy choice contest in the first stage, even if $\pi_k^e < 0$. Staying away $(R_k = 0)$ leaves them with $u_k = 0$ as then, the preferred policy of the other lobby is chosen with weight 1. As $u_k^e > 0$ also for the loosing lobby, participating in the first stage policy contest can only increase the lobbies' utilities.

4.4.3   No Lobbying in the First Stage

When the lobbies are excluded from the first-stage policy decision, the government always chooses its preferred policy. Then, lobby groups get the utility $u_k^\lambda = \lambda$ from the policy choice stage. In this case, lobby k's marginal interest in policy implementation is denoted by π_k^λ, where $\pi_k^\lambda = \lambda - \bar{s}_k$. It is straightforward that lemma 4.2 also holds in this case.

4.5   Results of the Two-Stage Game

We can now combine the two stages to solve the political decision-making game.

Proposition 4.3 *For each parameter constellation, there exists an equilibrium of the political decision-making game with a unique pair of contest effort choices $\{R_k^*\}_{k \in \{I,N\}}$, a unique policy implementation level X^*, and a set of truthful lobbying contribution schedules $\{C_k^*(X^*, \overline{U}_k)\}_{k \in \{I,N\}}$, fulfilling the conditions of propositions 4.2 and 4.1.*

Proof. The proof follows from propositions 4.1 and 4.2.   ■

The main aim of this model is to point to the link between the two stages of a political decision-making process. Both stages have their own determinants of strategic action by the agents. The process of choosing a political strategy on

the one hand and the decision on a level of policy implementation on the other hand have so far been treated separately. Nonetheless, there is an important connection between the two: The outcome shows that the quality of a policy compromise and the utilities that lobbies derive from this compromise directly affect the level of implementation of a policy.

When the interest groups decide on their contributions in the second stage, they are guided by their utilities from the policy compromise reached in stage one. In addition, the status-quo bias of the lobbies plays an important role. In particular for policy compromises that have a low value for the lobbies, the preference for the status-quo policies may outweigh the positive interests in the new policy.

In this section, we compare the implementation outcomes for different situations: We distinguish the cases with lobbying in both stages, the case where lobbies are only involved in the policy implementation decision but not in the policy choice stage, and the case without lobbying. We can show that for a wide range of policy characteristics, the inclusion of lobbies in the political process leads to a reduced level of policy implementation. We first compare the policy implementation outcomes for the case where lobbies are involved in both stages and the case where lobbies are excluded from the political process in the first stage, the policy choice. For notation, let X_e^* be the implementation level following from the equilibrium policy proposals R_k^* and marginal gains from policy implementation $\pi_k^e = u_k^e - \overline{s}_k$ when lobbies are involved in the first-stage lobbying process. Let X_λ^* be the implementation level following from the case where lobbies are only involved in the second stage of the political process and have a marginal utility from policy implementation of π_k^λ.

Proposition 4.4 *The inclusion of lobbies in the first stage of the political process leads to reduced levels of policy implementation with respect to the case where lobbies are involved only in the second stage of the political process, i.e., $X_e^* \leq X_\lambda^*$, if and only if $\sum_{k \in \{I,N\}} \pi_k^e \leq \sum_{k \in \{I,N\}} \pi_k^\lambda$. This depends on the category of the policy issue:*

- *Case 1: when $\lambda \geq \frac{1}{2}$, $X_e^* \leq X_\lambda^*$*

- *Case 2: when $\lambda < \frac{1}{2}$, $X_e^* > X_\lambda^*$.*

Proof. See the appendix. ∎

Only when the lobbies get a low utility from the government's preferred policy, including them in the policy choice stage yields a higher implementation outcome. They then gain a lot from having the chance to have their own preferred policy chosen for implementation. (As we now consider the sum of first-stage utilities of the lobbies, we no longer have to distinguish between the winning and the loosing lobby.) For higher values of λ, the implementation outcomes are higher if lobbies are not involved in the policy choice stage. As explained above, the lobbies engage in a fiercer policy choice contest when their utility from the government's policy is not too low. These incentives to act radically in the policy choice contest lead them to undervalue the resulting policy compromise and reduce their interest in lobbying in the policy implementation stage. In turn, this induces the government to devote less effort to the implementation of such a policy than under a more encompassing compromise.

Note that for this comparison, the status-quo biases of the lobbies do not play a role as in both cases, the interest groups are active in the second stage of the political process. The result that we get here thus points very clearly to the problem of involving lobbies too early in the political process. If interest groups are excluded from lobbying in the first stage and are forced in the second stage to accept the policy chosen by the government, this can for a large range of parameters lead to improved policy implementation levels. The exclusion from the first stage of the political process serves as a kind of commitment device for the lobbies that allows them to refrain from competing against each other. They then are more interested in lobbying for policy implementation later on. We discuss some policy implications of this result in section 4.7.

How does the result look when the lobbies are totally excluded from the political decision-making process? For notation, let X_{nl}^* denote the policy implementation level for the case without lobbies.

Proposition 4.5 *The inclusion of lobbies in both stages of the political process leads to reduced levels of policy implementation with respect to the case without lobbies, i.e., $X_e^* \leq X_{nl}^*$, if and only if $\sum_{k \in \{I,N\}} \pi_k^e \leq 0$. The status-quo bias of the lobbies determines their marginal interest in government expenditures for the new policy:*

- *Case 1: when $\sum_k \bar{s}_k \geq \frac{3}{2}$, $X_e^* \leq X_{nl}^* \ \forall \lambda \in [0;1]$*

- *Case 2: when $\frac{3}{4} < \sum_k \bar{s}_k < \frac{3}{2}$, the result depends on λ:*

– *For $\lambda \leq 2 - \frac{3}{2\sum_k \bar{s}_k}$, $X_e^* \leq X_{nl}^*$*

– *For $\lambda > 2 - \frac{3}{2\sum_k \bar{s}_k}$, $X_e^* > X_{nl}^*$*

- *Case 3: when $0 \leq \sum_k \bar{s}_k \leq \frac{3}{4}$, $X_e^* \geq X_{nl}^*$ $\forall \lambda \in [0;1]$.*

Proof. See the appendix. ∎

Whether the implementation level X_e^* is larger or smaller than the no-lobby level X_{nl}^*, depends on the relation of the status-quo biases $\bar{s}_k$ and the lobbies' utility from the government's preferred policy λ. The higher $\bar{s}_k$, the lower is a lobby's marginal interest π_k^e in the implementation of the new policy. When $\sum_k \pi_k^e < 0$, lobbying leads to a reduced level of implementation of the new policy. This is in line with the observation that policies that reduce existing advantages for certain groups encounter more difficulties in implementation. Depending on the policy issue, the inclusion of lobbies in the first stage of the political process can increase or decrease government expenditures for the new policy compromise. We discuss these results below.

We can make a similar comparison of the case where lobbies are only involved in the second stage with the case without lobbies. Also here, the results depend on the status quo bias. When there is lobbying in the second stage, the lobbies' marginal utility from policy implementation is $\pi_k^\lambda = \lambda - \bar{s}_k$.

Proposition 4.6 *The inclusion of lobbies in the second stage of the political process leads to reduced levels of policy implementation with respect to the case without lobbies, i.e., $X_\lambda^* \leq X_{nl}^*$, if and only if $\sum_{k \in \{I,N\}} \pi_k^\lambda \leq 0$. The status-quo bias of the lobbies determines their marginal interest in government expenditures for the new policy:*

- *Case 1: when $\sum_k \bar{s}_k \geq 2$, $X_\lambda^* \leq X_{nl}^*$ $\forall \lambda \in [0;1]$*

- *Case 2: when $0 < \sum_k \bar{s}_k < 2$, the result depends on λ:*

  – *For $\lambda \leq \frac{\sum_k \bar{s}_k}{2}$, $X_\lambda^* \leq X_{nl}^*$*

  – *For $\lambda > \frac{\sum_k \bar{s}_k}{2}$, $X_\lambda^* > X_{nl}^*$.*

Proof. See the appendix. ∎

We can see here that the range of status-quo biases for which the policy implementation level is distorted downwards irrespective of the policy value λ,

is smaller than for the case where the lobbies are active in both stages. $\sum_k \bar{s}_k$ has to be higher than in proposition 4.5 to get this result. This is in line with the result from proposition 4.4 that the exclusion of lobbies from the first stage of the political process can lead to an increase in policy implementation levels.

The results of propositions 4.5 and 4.6 show the relation of the status-quo bias to the possibility of reaching substantial agreements on a political strategy. In particular when the policy compromise is weak, a large weight is given to the status-quo biases of the lobbies. Then, it is more likely that they will lobby for a lower implementation of the new policy. Lemma 4.2 shows that a lower λ leads to lower π_k and therefore translates directly into lower equilibrium implementation levels than in the case without lobbying.

When λ is low, the first part of case 2 is more likely both in the scenario of proposition 4.5 and in the one of proposition 4.6. Then, lobbies oppose the implementation of the new policy, even when they have relatively low opportunity costs of the new policy. For the result of proposition 4.5, if λ goes to 0, $\sum_k \bar{s}_k$ can be as low as $\frac{3}{4}$ for the lobbies to still induce lower policy implementation levels. For proposition 4.6, $\sum_k \bar{s}_k$ can be even lower, as $X_\lambda^* \leq X_{nl}^*$ requires $\sum_k \bar{s}_k \geq 2\lambda$. In the other extreme, for high values of λ, even high status-quo utility levels, showing a low interest in policy change, do not deter lobbies from promoting the implementation of the new policy. Yet, if the status quo bias $\bar{s}_k$ is very high, i.e., $\sum_k \bar{s}_k \geq \frac{3}{2}$ for proposition 4.5 and $\sum_k \bar{s}_k \geq 2$ for proposition 4.6, lobbies will always try to distort the outcome towards a low implementation level of the new policy.

The main result from the comparison of our three scenarios with different degrees of lobby involvement is that lobbying can be an explanation for government inertia. There are parameter ranges for which the involvement of lobbies in the political process reduces equilibrium policy implementation levels. The results depend on the relations of our parameters λ and $\bar{s}_k$.

For given parameter values, we can rank the three different scenarios: As an example, take $\sum_k \bar{s}_k = \frac{4}{3}$. For different values of the lobbies' utility λ from the government policy, we get the following ranking of implementation levels: For $0 \leq \lambda < \frac{1}{2}$, we get $X_\lambda^* < X_e^* < X_{nl}^*$. That is, for low values of the lobbies' utility from the government's compromise, an inclusion of lobbies always reduces the policy implementation level. In this case, however, excluding the lobbies from the first stage of the decision-making process further decreases policy implementation. The reason is the following: If lobbies value the gov-

ernment's policy very little, they gain from the possibility of promoting their own preferred policy in the first stage policy choice contest.

For $\frac{1}{2} \leq \lambda \leq \frac{2}{3}$, the involvement of lobbies still reduces the implementation level: $X_e^* \leq X_\lambda^* \leq X_{nl}^*$. In contrast to the previous case, it is now more detrimental to have lobbying in both stages of the political process than to allow it only in the policy implementation stage. Lobbies now have less to loose in the policy choice stage if the government's proposal is chosen for implementation. Thus, they engage in a fiercer contest over their own policy suggestions. This reduces their expected first-stage utility.

When the lobbies' utility from the government's policy increases further, for $\sum_k \overline{s}_k = \frac{4}{3}$, lobbying does not always have negative effects on policy implementation: An interesting case is the one where $\frac{2}{3} < \lambda \leq \frac{7}{8}$. Here, we get that $X_e^* \leq X_{nl}^* < X_\lambda^*$. Lobbying in both stages still distorts the implementation level downwards. Yet, if lobbies are only involved in the second stage, we get higher implementation results than without lobbying. This shows how the incentives of lobbies to compete in the policy choice contest have negative effects on the policy implementation level. The lobbies are trapped in a prisoners' dilemma-like situation. They would gain from being able to commit to the government's compromise. Then, they would support higher implementation levels. However, each lobby individually has the incentive to enter the policy choice contest.

For $\frac{7}{8} < \lambda \leq 1$, finally, we get $X_{nl}^* < X_e^* < X_\lambda^*$. The involvement of lobbies leads to higher policy implementation levels for our assumption of $\sum_k \overline{s}_k = \frac{4}{3}$. Lemma 4.2 shows that for a given $\overline{s}_k$, the lobbies' equilibrium utility levels from the policy choice stage, u_k^e, increase with λ. Therefore, if λ is higher, that is, if the lobbies value the government's preferred policy more, they have a positive impact on the implementation outcome with respect to the case without lobbies. Then, the first-stage utility from the policy choice, be it from the policy contest or the autonomous decision of the government, can more easily outweigh the status-quo bias.

At first sight, the result of proposition 4.4 seems contrary to this explanation. There, we show that lobbying in the first stage of the political process *reduces* the implementation levels for *higher* λ because the lobbies then engage in a fiercer contest over the policy choice. Yet, there is no contradiction: The first stage utility levels u_k^e and u_k^λ both increase with λ. However, the incentives to compete in the policy choice stage lead to a u_k^e that is lower than u_k^λ

for higher values of λ. As shown in the propositions above, for high values of λ, we still get the result that lobbying reduces policy implementation if the lobbies have higher status-quo biases. For $\sum_k \bar{s}_k > 2$, lobbying always reduces the policy implementation level, independent of λ.

4.6 Lobbying by Advertising

So far, both lobbies were equally effective in influencing the policy outcome. We now relax this assumption and introduce an additional lobbying channel, namely, lobbying by advertising. This can capture the difference between "classical" lobbies and NGOs. The latter might not have the financial resources to exert direct lobbying pressure. Also, their civil rights' origin might create some ideological barriers to lobbying by contributions (see section 4.7). NGOs thus lobby by directly influencing public opinion.[27]

In the model, citizens have some interest in the implementation of the policy compromise. However, they may be unaware of the need for this policy. Only a fraction a_0 of the population is informed ex ante and is aware of the need for government expenditures for the new policy. The lobby can advertise to increase the proportion of informed citizens. The lobbies do not have the possibility to convince ex ante informed citizens that they do not derive utility from the new policy. It is impossible to reduce information among the citizens.[28] While in reality, there might be some scope for persuasion, it is plausible that advertising contrary to the truth at least is more costly for a lobby. When they are not backed by facts, a lot more effort is required to make advertising messages convincing.

To keep the model simple, we assume that citizens believe the messages from the lobbies as long as they state that there is a need of the transfer of

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[27]Grossman and Helpman (1999) give a rationale for advertising directly to the public: Citizens may lack important information and the costs of gathering information by themselves may be prohibitively high.

[28]In most of the political advertising models, lobbies can only partially manipulate information. They act as advocates of their cause, that is, they reveal only information favorable to then and withhold unfavorable information (see Dewatripont and Tirole, 1999). Baron (2003) and Bennedsen and Feldman (2001) use a similar restriction. In contrast, some models of persuasive advertising, e.g., Bloch and Manceau (1999), allow firms to change the consumers' preference rankings over several products. In the political advertising literature, Yu (2003) is the only one to use influence functions that allow for persuasion without constraints. There, however, influence functions are assumed exogenously.

government resources to the new policy. In contrast, when a lobby tries to persuade the citizens that there is no, or less, need for the new policy, the messages are ignored. Such a behavior would result from Bayesian updating by the citizens in the presence of uncertainty over the true state of the world. Voters would never discard information that they have already learnt to be true, only because of countervailing messages.[29]

We substitute this process by a simple influence function: Citizens can be either fully informed or fully uninformed. Informed citizens are aware of the need of government expenditures X for the new policy. For the uninformed part of the population, an expenditure of X just means that their utility from the other policies, $V(T - X)$, is reduced. The lobby can change the proportion of informed citizens by using its lobbying contributions $C_k(X)$ to advertise. The fraction of informed citizens is:

$$a(C_k(X)) = a_0 + a_1 C_k(X); \qquad a(C_k(X)) \in [0; 1] \qquad (4.15)$$

where $a_0 \in (0, 1]$ is the fraction of citizens who are informed ex ante and $a_1 \in (0, 1]$ is the effectiveness of advertising effort. The co-domain of $a(C_k(X))$ is: $a(0) = a_0$ and $a(\overline{C}_k(X)) = 1$.

When $\pi_k > 0$, lobby k has a positive interest in policy implementation and uses advertising in order to increase the proportion of informed citizens. When $\pi_k < 0$, the lobby would like to see less government effort for the new policy. Then, it cannot use advertising as it is impossible to decrease the number of citizens that are aware of the need for the new policy. Two other scenarios are then possible: Either the lobby resorts to direct contributions. Then, we are back to the analysis of section 4.4. If the lobby, e.g., the NGOs, due to external constraints, are not able to use direct contributions, they stay out of the lobbying game whenever $\pi_N < 0$. Then, the policy outcome X_I^* is determined by the lobbying game between the government and the industry.

In the following, we assume that the NGOs advertise whenever $\pi_N > 0$ and refrain from lobbying otherwise. They are not able to use direct contributions. The lobbying expenditures of the NGOs directly determine the number of informed citizens. The industry lobbies by direct contributions. In this setup,

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[29]For such a setup, see Grossman and Helpman (2001, Chpt. 6): Lobbies use messages to "educate voters". The voters are able to assess the credibility of the messages and update their beliefs accordingly.

the government's objective function is:

$$G(\{C_k\}_k, X) = C_I(X) + W_N(X, C_N(X)) \tag{4.16}$$

where $W_N(X) = a(C_N(X))\gamma X + V(T - X) + Y - T$ describes the utility of the citizens after the NGOs have advertised. To see how exactly advertising changes the utility of citizens, consider the slope of $W_N(X)$ for $\pi_N > 0$:

$$\frac{\partial W_N(X, C_N(X))}{\partial X} = a_0\gamma + a_1\gamma C_N^*(X) + a_1\gamma\frac{\partial C_N^*(X)}{\partial X}X + \frac{\partial V(T - X)}{\partial X} \tag{4.17}$$

As before, we have the marginal utility from the status-quo policy, $\frac{\partial V(T-X)}{\partial X}$, and the marginal utility increase of the ex ante informed citizens, $a_0\gamma$. In addition, lobbying by advertising has two effects: First, the fraction of informed citizens is increased from a_0 to $a_0 + a_1C_N^*(X)$. These citizens receive the marginal utility γ from an increase in X. The second effect, $a_1\gamma\frac{\partial C_N^*(X)}{\partial X}X$, shows the absolute change of the citizens' utility due to a marginal increase in the number of informed citizens. For the newly informed citizens, $a_1\frac{\partial C_N^*(X)}{\partial X}$, the utility component γX newly appears after advertising.

The slope of the new utility function of the citizens $W_N(X, C_N(X))$ depends on the NGOs' equilibrium contributions $C_N^*(X)$. Thus, the NGOs cannot design a contribution schedule that gives no extra utility to the government. Yet, we can use the requirement of truthful contribution schedules that for all positive contributions, the marginal change in contributions has to reflect the NGOs' willingness to pay for the policy change: $\frac{\partial C_N(X)}{\partial X} = \pi_N$ for all X where $C_N(X) > 0$, given a target utility $\overline{U}_N$. The minimal utility level that N has to get to be exactly indifferent between advertising and not advertising is $\pi_N X_I^* + \overline{s}_N T$. This is what N would get if only I was lobbying. The target utility level of N has to be at least as high as that, i.e., $\overline{U}_N \geq \pi_N X_I^* + \overline{s}_N T$. When the N is the only lobby, X_I^* is substituted by X_{nl}^*.

It is useful to state the following result for the case where the NGOs are the only active lobby:

Lemma 4.3 *The citizens' utility function $W_N(X)$ when the NGOs lobby by advertising and are restricted to truthful contribution schedules has a unique global maximum.*

Proof. See the appendix.   ■

With advertising by the NGOs, the implementation equilibrium becomes:

Corollary 4.1 *For given $a_0, a_1,$ and γ, each π_I and each $\pi_N > 0$, there exists a unique equilibrium $\{X^*; \{C_k^*\}_k\}$ if and only if*

$$X^* = argmax\left[C_I^* + W_N(X)\right] \tag{4.18}$$

and

$$C_k^* = max\{\pi_k X^* + \overline{s}_k T - \overline{U}_k; 0\}, \tag{4.19}$$

$\overline{U}_I$ *such that*

$$G(\{C_k^*(X^*, \overline{U}_k)\}; X^*) \geq \max_{X \in \mathcal{X}} W_N(X; C_N^*(X, \overline{U}_N)), \tag{4.20}$$

and $\overline{U}_N = \pi_N X_I^* + \overline{s}_N T$.

Proof. See the appendix.   ■

The main results of the basic model, namely, that a failure of the lobbies to compromise in the policy choice stage yields low implementation results also holds for asymmetric lobbying. Yet, here it is no longer true that $\sum_k \pi_k$ determines the equilibrium outcome of the implementation level. Therefore, it is useful to state the results for the case with similar lobbying interests:

Corollary 4.2 *When one lobby uses advertising and the other uses direct contributions, we get results similar to proposition 4.5. For all π_k^e that satisfy $sgn[\pi_I^e] = sgn[\pi_N^e]$, the policy implementation outcome X_e^* compared to the no-lobby implementation level X_{nl}^* depends on the category of the policy issue:*

- *Case 1: when $\overline{s}_k \geq 1$, $X_e^* \leq X_{nl}^*$ $\forall \lambda \in [0; 1]$. Only I lobbies as $\pi_k^e \leq 0$.*

- *Case 2: when $\frac{3}{4} < \overline{s}_k < 1$, the result depends on λ:*

    - *For $\lambda \leq \frac{4\overline{s}_k - 3}{2\overline{s}_k - 1}$, $X_e^* \leq X_{nl}^*$. Only I lobbies as $\pi_k^e \leq 0$.*
    - *For $\lambda > \frac{4\overline{s}_k - 3}{2\overline{s}_k - 1}$, $X_e^* > X_{nl}^*$. Both lobbies are active as $\pi_k^e > 0$.*

- *Case 3: when $0 \leq \overline{s}_k \leq \frac{3}{4}$ and $\lambda \geq \frac{4\overline{s}_k}{2\overline{s}_k + 1}$, $X_e^* \leq X_{nl}^*$. Both lobbies are active as $\pi_k^e > 0$*

Proof. See the appendix.   ■

Also when the NGOs lobby by advertising, low policy implementation levels result from a failure to compromise in the policy choice stage. However, now

the low implementation outcomes do not lie in the responsibility of the NGOs: As they are restricted to use informative advertising, they become advocates of public opinion. The implementation level is only lowered by the lobbying effort of the industry. Below, we discuss this result from a normative point of view.

With an asymmetry in lobbying channels, it is interesting to ask when one lobbying channel is more effective than the other. This is especially relevant for a situation where interest groups can strategically choose which lobbying channel they want to use. The possibility that both channels can be used simultaneously is excluded in this model. For a clear view on the relative effectiveness of the two lobbying methods, consider the following special case where lobbies have opposite directions of their lobbying interests:

Proposition 4.7 *Let* $|\pi_I| = |\pi_N|$, $\pi_I < 0$ *and* $\pi_N > 0$. *Let lobby N use advertising. Advertising is more effective than direct contributions if and only if*

$$\frac{1}{a_1\gamma} + \frac{\overline{s}_N}{u_N - \overline{s}_N} < 2X - X_I^*. \tag{4.21}$$

Proof. See the appendix. ∎

When more citizens can be reached by an advertising campaign, i.e., a_1 is higher, as well as when citizens have a higher preference for the implementation of the new policy, i.e., γ is higher, lobbying by advertising is more effective. The awareness in the population of the need for political action is then higher.[30] This effect is direct as well as indirect: For a given π_I, higher a_1 and γ increase the equilibrium implementation level as the citizens have a higher interest in the implementation of the new policy. This further increases the effectiveness of advertising.

The second term of condition 4.21 shows factors that relate directly to the lobbying effort of the NGOs: When the NGOs' utility from the first-stage policy choice, u_N, increases, this increases the NGOs' interest in achieving a high policy implementation level and makes advertising more effective. The status-quo bias of lobby N, $\overline{s}_N$, in turn, reduces the effectivity of advertising: The term $\frac{\overline{s}_N}{u_N - \overline{s}_N}$ of condition 4.21 increases with $\overline{s}_N$. Thus, when the NGOs are less interested in an implementation of the new policy because they benefit more from the status-quo policies, their advertising efforts decrease.

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[30]This result is similar to the one in Yu (2003).

Note that the effectiveness of advertising also depends on the implementation level X: The higher the implementation level, the more effective is advertising. The reason for that is a double effect of advertising. It not only marginally changes the welfare function, but adds a new utility component for all newly informed citizens. The higher the level of X, the more weight is given to these additions to the welfare function. The NGOs only advertise for $\overline{U}_N \geq \pi_N X_I^* + \overline{s}_N T$. Condition 4.21 thus is valid only for $X \geq X_I^*$.

In the model, the industry could choose to use advertising if this channel proved to be more effective. On the other hand, the NGOs are excluded from lobbying by direct contributions. This means that an asymmetry of lobbying can result even if $\pi_N > 0$. When advertising is the less effective lobbying channel or whenever $\pi_N < 0$, the NGOs have a disadvantage from not using direct political contributions.

So far, we have not made any normative assessments. In particular with asymmetric lobbying, however, it would be interesting to see the implications of different lobbying channels for the utility of the general public. From this, we can derive some policy implications as to which lobbying channels should be supported or controlled more than others. To evaluate the outcome of the political process, we have to compare it to some benchmark. For the purpose of describing democratic political processes, the adequate benchmark seems to be the utility of the citizens. Note that the model does not yield explicit welfare results: Instead of overall welfare, it considers only the utility of the representative citizen. Nevertheless, this can capture how lobbying distorts the policy implementation level with respect to the level desired by the public. We define the benchmark X_{opt}^* by assuming that all citizens derive a strictly positive utility from the new policy, i.e., $a_0 = 1$:

$$X_{opt}^* = argmax[\gamma X + V(T - X) + Y - T] \tag{4.22}$$

That is, all citizens are informed. Equivalently, imagine that the social planner takes into account the citizens' utility from the new policy, although the individuals may not be aware of that part of their preferences. Then, the equilibrium implementation outcome compares to the optimum as follows:

Proposition 4.8 *Whenever $\pi_k < 0$ for at least one k, $X_e^* < X_{opt}^*$.*
When $\pi_k > 0 \, \forall k$, direct political contributions can lead to too little or too much implementation. In the limit, advertising yields the welfare-maximal outcome.

Proof. See the appendix.   ∎

As advertising influences the citizens' preferences, welfare considerations are problematic. In our model, the NGOs advertise by providing information. Advertising messages cannot be contrary to the truth. Still, in most cases, a fraction of the population remains uninformed and thus unaware of their utility from the implementation of the new policy. Is it then possible to judge whether the utility of citizens after advertising reflects their "true" utility? In modern democracies, where the population is the sovereign, the decision of which policies are desirable for society is left to the citizens. In the context of our model, the question then is whether we hold the citizens to be informed enough to know their true preferences.

Considering this, instead of the benchmark that counts the citizens' utility from the new policy even when they themselves are unaware of it, a weaker point of reference could be the citizens' utility *after* the advertising campaign, $W_N(X)$, as a kind of ex-post welfare function. This would give lobbying by advertising a welfare-neutral role: All implementation outcomes without direct lobbying contributions would then be ex-post welfare-maximizing. We discuss the policy implications in the next section.

4.7   Conclusion and Policy Implications

Our model describes the process of the definition and implementation of a political strategy. When interest groups are involved in both stages of the political process, they have significant influence on the policy implementation outcome. We have shown that their involvement leads to a lower transfer of government resources to a new policy than is desired by the citizens. Therefore, there is room for improvements of the political process. In the following, we discuss some of the policy implications of our model.

4.7.1   Design of the Political Process

When interest groups are involved both in the policy choice and the policy implementation stage of the political process, they have a very high influence on the implementation outcome. Often, their failure to agree on political strategies can lead to government inertia. Even when all groups of society would

be represented by lobbies, this result would not change. The implementation level would then be socially efficient *given* the lobbying incentives defined in the policy choice stage.[31] Because of the failure of the lobbies to compromise in the first stage, these lobbying incentives would be inefficiently low.

It could therefore be beneficial to exclude interest groups from the first stage of the decision-making process. This partial ban on corporatism would mean that the government designs the political strategy without facing pressure by lobby groups. In many cases, the lobbies' interest in policy implementation is higher if they have to take the government's compromise policy as given. By not allowing them to participate in the first stage of the political process, the government frees the lobbies from their prisoners' dilemma-like situation: If lobbies are involved in the first stage, they engage in a fierce policy choice contest. This lets them undervalue the final compromise policy. The lobbies are unable to coordinate to stay out of that contest although doing so would give them a higher utility.

We have derived a result with strong policy implications: Interest groups should not be involved in the early stages of the political process where policies are defined. We have also shown that higher implementation outcomes can be achieved when lobbies are totally excluded from the political process.

Yet, there is a caveat to this result. To demand the exclusion of special interest groups from the political process seems too radical for at least two reasons: First, politics today are to a large extent determined by special interest groups. In almost all countries, we find large numbers of organized lobbies. Their official exclusion from the political process could lead them to use inofficial channels of influence, such as bribes. This entails the danger that policy implementation levels are moved away even further from the outcome that is desired by the general public. An institutionalized corporatism should be based on public pressure. This can only be achieved by officially acknowledging interest groups as important political agents. Moreover, lobbies are democratic representatives of citizens who group together in order to gain more political impact. Thus, their exclusion could endanger the democratic system.

Second, lobbies play other roles in the political process that we have not acknowledged in this model. An important function of interest groups is that they provide information to political decision-makers. Even though lobbies

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[31]This is formally proven by Bernheim and Whinston (1986).

have incentives to communicate biased information, lobbying can improve the allocation of information in the political decision-making process. There is a literature that focusses on this aspect: Using the example of the United States, Epstein and O'Halloran (1995) show that lobbies that communicate their assessment of policy outcomes can reduce informational asymmetries between the bureaucracy and Congress.

For a decision on the redesign of the political process, positive and negative effects of the involvement of interest groups in political decision-making have to be balanced. Yet, we can also derive some less radical policy implications for improving policy implementation outcomes while keeping special interest groups involved in the political process. We discuss them in the following.

4.7.2   Changing the Lobbies' Attitude

From our model, we see that one way to achieve a higher transfer of government resources to the new policy is to increase the lobbies' utility from the government's compromise policy. This amounts to creating greater scope for compromise in the relevant policy area. Public discussion of an issue as well as the dissemination of objective information about it, for example, by publications by independent experts, could achieve such a change in perception. Here, the independent media could play an important role.

A big problem are the lobbies' status-quo biases: Especially when the former policy has been very advantageous for them, they will not be in favor of the transfer of government resources to a new policy. When the government is dependent on the lobbies' support for the implementation of a new policy, it could try to reduce their stakes in the old policy, for example, by creating disadvantages for groups that are opposed to change. A way to achieve this is public pressure. A good example for the case of access to medicines are the recent campaigns that put moral pressure on pharmaceutical companies, arguing that they would fight for strong patent protection by sacrificing human lives in developing countries. This induced several pharmaceutical companies to donate large amounts of AIDS medicines.[32]

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[32] An overview of industry initiatives from 2000 until 2003 is given by the European Federation of Pharmaceutical Industries and Associations under http://www.efpia.org/2_indust/recentaidsinitiatives.pdf.

4.7.3 Advertising

In many policy areas, interest groups are not symmetric. One side, usually the industry, has access to capital and can offer other advantages, such as attractive positions, to the politicians. Other interest groups have a civil society origin. They are citizen initiatives, created in order to bring policy outcomes closer to the needs of the citizens. We have subsumed such interest groups under the term "NGOs".

In the extension to our model in section 4.6, we have assumed that the NGOs have only the possibility to lobby by advertising to the public. This restriction creates a disadvantage for NGOs for the cases where advertising is the less effective lobbying channel. Yet, casual evidence seems to suggest that especially civil rights groups prefer advertising or even do not even consider contributions as a viable alternative. These groups usually do not have the resources or the structure to use the classical lobbying channel of direct contributions. Another reason for them not to use direct political contributions is ideological: Often, these movements are created out of a general discontent with the current political process. Their ideology prescribes certain lobbying channels that can be used without destroying democratic values. As direct political contributions, even when they do not involve illegal bribes, are characterized by a lack of transparency, these groups refrain from using them even if they have the resources to do so.

We have shown that a political process that relies only on lobbying by advertising can lead to an outcome closer to the social optimum than in the case where direct lobbying contributions are allowed. Nevertheless, in most cases, government expenditures for the new policy will be too low. If the weaker benchmark of the citizens' utility after advertising is taken, all implementation outcomes where only advertising is used are optimal. Then, only direct contributions are distortive.

Not surprisingly, we find that lobbying by influencing public opinion is less distortive when we use a benchmark that takes into account the utility of the general public. Yet, such a benchmark seems to be appropriate for modern western democracies where no political party or single decision maker can claim to know the "true" best policy. Lobbies that use advertising act as advocates of the citizens and thus constitute an essential feature of democratic systems: They influence political decisions by shaping public opinion. Thus,

they give more decision-making power to the constituents. The policy choice then is closer to the preferences of the general public. This is a role most NGOs are claiming. In many cases, their civil rights' origin gives this claim some legitimacy.

These results imply that lobbying by influencing public opinion should be made a more effective lobbying channel than direct political contributions. One possibility is to involve the media: The increased publicity of a topic could give rise to more information-oriented lobbying. Another possibility is to create more transparency in the political process. In countries with a transparent government where direct political contributions are difficult and less effective, the utility of the population is more readily taken into account, also and even when lobbies are active members of the political process. Our model thus provides an argument for democratization and for increased transparency in current democratic governments.

4.8 Appendix

In the appendix, we show the omitted proofs in the order of their appearance in the chapter.

Proof of Lemma 4.1

The utility function of the citizens is defined by:

$$W(X) = a_0 \gamma X + V(T - X) + Y - T$$

The first-order condition for a maximum is:

$$\frac{\partial W}{\partial X} = a_0 \gamma + \frac{\partial V(T - X)}{\partial (T - X)} \frac{\partial (T - X)}{\partial X} = 0$$

With $\frac{\partial (T-X)}{\partial X} = -1$ and $\frac{\partial V(T-X)}{\partial (T-X)} = -\frac{\partial V(T-X)}{\partial X}$, we get that:

$$-\frac{\partial V(T - X)}{\partial X} = a_0 \gamma$$

With $V(0) = 0$, $V_X < 0$ and $V_{XX} < 0$, continuous and twice differentiable, and $lim_{X \to 0} V_X = 0$ and $lim_{X \to T} V_X = -\infty$, this condition is fulfilled by a unique X^* for each parameter constellation. For a global maximum, the second order condition is:

$$\frac{\partial^2 W}{(\partial X)^2} = \frac{\partial^2 V(T - X)}{(\partial X)^2} < 0$$

This is fulfilled by the assumption $V_{XX} < 0 \ \forall X$. ∎

Proof of Proposition 4.1

The proof for the existence and uniqueness of the second-stage equilibrium $(\{C_k^*\}_k; X^*)$ follows the standard proof in the literature (e.g., Grossman and Helpman, 2001, Chpt. 8). The proof evolves in several steps. Consider first the lobbies' problem. When the lobbies are constrained to use truthful contribution schedules, the marginal change of their contribution $C_k(X)$ with respect to a change in X has to reflect their marginal change in utility:

$$\frac{\partial C_k}{\partial X} = -\frac{\frac{\partial U_k}{\partial X}}{\frac{\partial U_k}{\partial C_k}} = -\frac{\pi_k}{-1} = \pi_k$$

For $\pi_k > 0$, contributions grow with a higher level of policy implementation. When $\pi_k < 0$, the lobby would like to see less policy implementation. Contributions increase with a lower X.

Using these truthful contribution schedules, it can be shown that the government's objective function $G(\{C_k(X)\}_k, X)$ has a global maximum for each parameter constellation and marginal lobbying interests π_k. The first-order condition for the government is given by:

$$\frac{\partial G}{\partial X} = \frac{\partial C_I}{\partial X} + \frac{\partial C_N}{\partial X} + \frac{\partial W(X)}{\partial X} = 0.$$

We can substitute the marginal lobbying contributions:

$$\pi_I + \pi_N + \frac{\partial W(X)}{\partial X} = 0 \Leftrightarrow \frac{\partial W(X)}{\partial X} = -(\pi_I + \pi_N)$$

With Lemma 4.1, $W(X)$ has a unique global maximum when there is no lobbying. Call that equilibrium X_{nl}^* (no lobby). $W(X)$ is increasing for all $X < X_{nl}^*$ and decreasing for all $X > X_{nl}^*$.

With lobbying contributions, the first-order condition for the government is changed: For $(\pi_I + \pi_N) > 0$, $\frac{\partial W}{\partial X}$ has to be negative in equilibrium. $\frac{\partial W}{\partial X}$ is monotonously decreasing in X (see Lemma 4.1). Therefore, it must hold that the new equilibrium is unique and that $X_e^* > X_{nl}^*$. The same argument holds for the opposite case where $(\pi_I + \pi_N) < 0$.

For our aim of comparing the equilibrium implementation levels, it suffices to show that the equilibrium yields unique implementation levels. For this, we have used that with truthful contribution schedules, the marginal lobbying contributions are uniquely defined. This follows from stage one of our game. For the results of our model, we do not need the exact values of the government's utility and the lobbies' equilibrium contributions.

For the sake of completeness, we show how to pin down the equilibrium lobbying contributions, given that the lobbies participate in the second-stage lobbying game. Condition 4.9 states that each lobby has to contribute so much that the government is at least as well off when all lobbies contribute as when one of the lobbies does not contribute. From this, together with condition 4.8, we get the conditions for the lobbies' equilibrium utilities $\overline{U}_k$ and their equilibrium lobbying contributions C_k^*. Condition 4.9 of proposition 4.1 is:

$$G(\{C_k^*(X^*, \overline{U}_k)\}_k; X^*) \geq \max_{X \in \mathcal{X}} G(\{C_j^*(X, \overline{U}_k)\}_{j \neq k}; X)$$

The first-order condition for the government's problem with one lobby is:

$$\frac{\partial W(X)}{\partial X} = -\pi_j$$

Following the argument made above, we get a unique policy implementation level X_j^* for the case where only one lobby is active and contributes $C_j^*(X_j^*, \overline{U}_j)$. This also gives us the government payoff for this case, given the lobbying contribution by lobby j, i.e.:

$$G_j^* = G(X^*; \{C_j^*(X_j^*, \overline{U}_j)\}_{j \neq k}) = W(X_j^*) + C_j^*(X_j^*, \overline{U}_j)$$

Each lobby has to give the government at least that payoff G_j^*, for $j \in \{I, N\}, j \neq k$. In equilibrium, condition 4.9 has to be binding. From this, we get two equations with the equilibrium contribution schedules:

$$\sum_k C_k^* + W(X^*) = C_j^*(X_j^*) + W(X_j^*); k \in \{I, N\}; j = I, N$$

The set of equilibrium lobbying contributions is constrained by the requirement of truthful equilibria where each lobby has to get at least the fixed utility level $\overline{U}_k$. Condition 4.8 requires that the contribution schedules fulfill:

$$C_k^* = max\{\pi_k X^* + \overline{s}_k T - \overline{U}_k, 0\}$$

Using these two conditions together gives us $\overline{U}_k$ and C_k^*:

$$\overline{U}_k = W(X^*) - W(X_j^*) + \pi_k X^* + \overline{s}_k T + \pi_j(X^* - X_j^*)$$

and:

$$C_k^* = W(X_j^*) - W(X^*) - \pi_j(X^* - X_j^*)$$

With the help of condition 4.9, it can be shown that the lobbies contribute a positive amount in equilibrium, i.e., $C_k^* > 0$ (see also Grossman and Helpman, 1994, pp. 845). ∎

Proof of Proposition 4.4

We first have to prove that $X_e^* \leq X_\lambda^*$ if and only if $\sum_{k=I,N} \pi_k^e \leq \sum_{k=I,N} \pi_k^\lambda$. Take the first-order condition for the government of Proposition 4.1. By comparing the first derivatives of the government objective function, the implementation levels X_e^* and X_λ^* can be ranked.

From lemma 4.1, we have the implementation level for the case without lobbies, X_{nl}^*. The first-order condition for the status-quo level of policy implementation X_{nl}^* is given by:

$$\frac{\partial W(X)}{\partial X} = 0$$

With the use of propsition 4.1, we set up the first order condition for the government when lobbies are active in both stages of the political process:

$$\frac{\partial W(X)}{\partial X} = -(\pi_I^e + \pi_N^e)$$

Similarly, the first order condition for the government when lobbies are only active in the second stage is:

$$\frac{\partial W(X)}{\partial X} = -(\pi_I^\lambda + \pi_N^\lambda)$$

With Lemma 4.1 and Proposition 4.1, G is a continuous function with a unique maximum X^* for each parameter constellation. With $V_{XX} < 0 \ \forall X$, the slope of G is monotonously decreasing with X. The only difference between the condition for X_e^* and the one for X_λ^* is the sum of marginal lobbying contributions $(\pi_I^j + \pi_N^j)$, for $j \in \{e, \lambda\}$. Thus, we have that:

- $X_e^* \leq X_\lambda^*$ if and only if $(\pi_I^e + \pi_N^e) \leq (\pi_I^\lambda + \pi_N^\lambda)$ and

- $X_e^* > X_{nl}^*$ otherwise.

This holds for both positive and negative $(\pi_I^j + \pi_N^j)$. From the condition that $\sum_{k=I,N} \pi_k^e \leq \sum_{k=I,N} \pi_k^\lambda$, we get that:

$$\frac{3}{2(2-\lambda)} - \sum_k \overline{s}_k \leq 2\lambda - \sum_k \overline{s}_k$$

This reduces to:

$$4\lambda^2 - 8\lambda + 3 \leq 0.$$

With $\lambda \in [0;1]$, the only feasible solution to this inequality is $\lambda \geq \frac{1}{2}$.   ∎

Proof of Proposition 4.5

To prove that $X_e^* \leq X_{nl}^*$ if and only if $\sum_{k=I,N} \pi_k^e \leq 0$ is similar to the proof in proposition 4.4: The first-order condition for the status-quo level of policy implementation X_{nl}^* is:

$$\frac{\partial W(X)}{\partial X} = 0$$

The first order condition for the government when lobbies are involved in both stages is:

$$\frac{\partial W(X)}{\partial X} = -(\pi_I^e + \pi_N^e)$$

With $V_{XX} < 0 \ \forall X$, the slope of G is monotonously decreasing with X. With Lemma 4.1 and Proposition 4.1, G is a continuous function with a unique maximum X^* for each parameter constellation. Thus, we get that:

- $X_e^* \leq X_{nl}^*$ if and only if $(\pi_I^j + \pi_N^j) \leq 0$

- $X_e^* > X_{nl}^*$ otherwise.

From the condition that $\sum_{k=I,N} \pi_k^e \leq 0$ for $X_e^* \leq X_{nl}^*$, we get that:

$$\frac{3}{2(2-\lambda)} - \sum_k \bar{s}_k \leq 0$$

Solving for λ, this yields:

$$\lambda \leq 2 - \frac{3}{2 \sum_k \bar{s}_k}$$

As $\lambda \in [0;1]$, depending on the size of $\sum_k \bar{s}_k$, we can distinguish several cases:

- Case 1: when $\sum_k \bar{s}_k \geq \frac{3}{2}$, $\sum_k \pi_k^e \leq 0 \ \forall \lambda \in [0;1]$

- Case 2: when $\frac{3}{4} < \sum_k \bar{s}_k < \frac{3}{2}$, the result depends on λ:

  - For $\lambda \leq 2 - \frac{3}{2 \sum_k \bar{s}_k}, \sum_k \pi_k^e \leq 0$
  - For $\lambda > 2 - \frac{3}{2 \sum_k \bar{s}_k}$, $\sum_k \pi_k^e > 0$

- Case 3: when $0 < \sum_k \bar{s}_k \leq \frac{3}{4}$, $\sum_k \pi_k^e \geq 0 \ \forall \lambda \in [0;1]$. ■

Proof of Proposition 4.6

To show that $X_\lambda^* \leq X_{nl}^*$ if and only if $\sum_{k=I,N} \pi_k^\lambda \leq 0$ is similar to the proof of proposition 4.5. We get that:

- $X_\lambda^* \leq X_{nl}^*$ if and only if $(\pi_I^\lambda + \pi_N^\lambda) \leq 0$, and

- $X_\lambda^* > X_{nl}^*$ otherwise.

From the condition that $\sum_{k=I,N} \pi_k^\lambda \le 0$, we get that:

$$2\lambda - \sum_k \overline{s}_k \le 0 \Leftrightarrow \lambda \le \frac{\sum_k \overline{s}_k}{2}$$

As $\lambda \in [0;1]$, we can distinguish the following cases:

- Case 1: when $\sum_k \overline{s}_k \ge 2$, $\sum_k \pi_k^\lambda \le 0 \; \forall \lambda \in [0;1]$

- Case 2: when $0 < \sum_k \overline{s}_k < 2$, the result depends on λ:

  - For $\lambda \le \frac{\sum_k \overline{s}_k}{2}, \sum_k \pi_k \le 0$
  - For $\lambda > \frac{\sum_k \overline{s}_k}{2}, \sum_k \pi_k > 0$. ■

Proof of Lemma 4.3

Let X_{nl}^* be the unique equilibrium implmentation choice of the government without lobbying (see lemma 4.1). When the NGOs are the only lobby and are constrained to truthful contribution schedules, we get the following first-order condition for the government's maximization problem:

$$\frac{\partial W_N(X, C_N^*(X))}{\partial X} = a_0 \gamma + a_1 \gamma \left[C_N^*(X) + \frac{\partial C_N^*(X)}{\partial X} X \right] + \frac{\partial V(T-X)}{\partial X} = 0$$

We have that $C_N^*(X) = \pi_N X + \overline{s}_N T - \overline{U}_N$ as long as $X > X_{nl}^*$ and zero otherwise. Therefore, $W_N(X) = W(X)$ when $X \le X_{nl}^*$. With this, the first-order condition of the government becomes:

$$\frac{\partial W_N(X, C_N^*(X))}{\partial X} = a_0 \gamma + a_1 \gamma (2\pi_N X + \overline{s}_N T - \overline{U}_N) + \frac{\partial V(T-X)}{\partial X} = 0$$

Note that $V(0) = 0$, $V_X < 0$, and $V_{XX} < 0$, continuous and twice differentiable and $lim_{X \to 0} V_X = 0$ and $lim_{X \to T} V_X = -\infty$. With the other terms constant or linearly increasing in X and bounded by the requirement that $X \le T$, there must be a unique X_N^* that fulfills this first-order condition.

We still have to show that $W_N(X^*, C_N^*(X^*))$ is the maximum of $W_N(X, C_N(X))$. This is the case when $\frac{\partial W_N(X, C_N(X))}{\partial X} > 0$ for $X < X^*$ and $\frac{\partial W_N(X, C_N(X))}{\partial X} < 0$ for $X > X^*$. With the assumptions that $V_X < 0$, $V_{XX} < 0$, and the other terms constant or linearly increasing in X, this follows directly.

When we assume $\pi_N > 0$, we expect the NGOs to increase the policy choice of the government, otherwise, it would fare better if it were not lobbying. Thus, for advertising to be effective, we need that $X_N^* > X_{nl}^*$. By comparing the first-order condition of the government's maximization problem to the condition in lemma 4.1, we see that this is the case if $a_1 \gamma (2 \pi_N X + \overline{s}_N T - \overline{U}_N) > 0$. $\overline{U}_N$ is given by $\overline{U}_N = \pi_N X_{nl}^* + \overline{s}_N T$. Plugging that in, we get $a_1 \gamma [\pi_N X + \pi_N (X - X_{nl}^*)] > 0$. As this condition is valid only for $X \geq X_{nl}^*$, it is always fulfilled. Thus, we have $X_N^* > X_{nl}^*$. ∎

Proof of Corollary 4.1

The proof is similar to the proof of proposition 4.1. The only difference is the changed maximization problem of the government, as the lobbying contributions of the NGOs directly enter the utility function of the citizens.

For $\pi_N < 0$, we are back to proposition 4.1. When we assume that the NGOs stay out of the lobbying game, the implementation choice is shaped only by the lobbying activity of the industry. The result when only the industry is lobbying is given by $X_I^* = argmax[C_I(X) + W(X)]$. X_I^* is existing and unique (see proposition 4.1).

Assume that $\pi_N > 0$ and that the NGOs lobby by advertising. In lemma 4.3, we have shown that the optimization problem of the government has a unique maximum when only the NGOs are lobbying. It remains to be shown that we also get a unique implementation level when the industry is included in the lobbying game. The first-order condition for the government's choice of X when N lobbies by advertising and I by direct contributions is:

$$\frac{\partial W_N(X, C_N^*(X))}{\partial X} = -\pi_I$$

With lemma 4.3 and π_I constant, there must be a unique X^* that fulfills this condition. The equilibrium contribution for the NGOs then is $C_N^*(X^*) = \pi_N X^* + \overline{s}_N T - \overline{U}_N$, for $X \geq X_I^*$, where $\overline{U}_N = \pi_N X_I^* + \overline{s}_N T$, and 0 otherwise.

We can find the industry's equilibrium lobbying contributions by using condition 4.20. The industry's target utility level $\overline{U}_I$ is defined by the requirement that it leaves the government indifferent between maximizing $W_N(X)$ or accepting the contribution and choosing the implementation level preferred by the industry. The proof evolves similar to the one of proposition 4.1. The exact values of the $\overline{U}_I$ and C_I^* are not of interest for our research question. ∎

Proof of Corollary 4.2

In lemma 4.3, we have shown that the maximization problem of the government has a unique maximum for each parameter constellation. With the results of corollary 4.1, it is straightforward that a change in π_I^e has the same effects on X^* as in the case with symmetric lobbying: Whenever $\pi_N^e < 0$, the industry is the only lobby and the proof of proposition 4.5 applies.

For the case where $\pi_N^e > 0$, lemma 4.3 shows that $W_N(X)$ has a similar behavior to $W(X)$: X^* increases with higher π_k^e. Thus, it is not possible that lobbying by advertising reverts the results in proposition 4.5.

To see this, consider the government's first-order condition when $\pi_N^e > 0$:

$$\frac{\partial W_N(X, C_N^*(X))}{\partial X} = -\pi_I^e$$

When π_N^e increases, the left hand side of the first-order condition increases. As $V_{XX} < 0$, the equilibrium value X^* has to increase with π_N^e. When $\pi_I^e > 0$, this further increases X^*. For $\pi_I^e < 0$, X^* is decreased as discussed in the proof of proposition 4.5.

As lobbying by the NGOs can only increase the equilibrium implementation level, and N does not lobby when $\pi_N^e < 0$, we have that $X_e^* < X_{nl}^*$ if and only if $\pi_k^e \leq 0$, i.e., $u_k^e \leq \overline{s}_k$. Then, only the industry I lobbies. Plugging in u_k^e from equations 4.13 and 4.14, respectively and solving for λ, we get:

$$\pi_w^e \leq 0 \Leftrightarrow \lambda \leq \frac{4\overline{s}_w - 3}{2\overline{s}_w - 1}$$

and

$$\pi_l^e \leq 0 \Leftrightarrow \lambda \leq \frac{4\overline{s}_l}{2\overline{s}_l + 1}$$

Note that we have assumed that $sgn[\pi_I^e] = sgn[\pi_N^e]$.

As $u_w^e > u_l^e$ for $\lambda \in [0; 1]$ and as we need $sgn[\pi_I^e] = sgn[\pi_N^e]$, we use $\pi_w^e \leq 0$ and $\pi_l^e \geq 0$ as the binding conditions and get:

- Case 1: when $\overline{s}_k \geq 1$, $\pi_k^e \leq 0$ $\forall \lambda \in [0; 1]$

- Case 2: when $\frac{3}{4} < \overline{s}_k < 1$, the result depends on λ:

    - For $\lambda \leq \frac{4\overline{s}_k - 3}{2\overline{s}_k - 1}, \pi_k^e \leq 0$

- For $\lambda > \frac{4\overline{s}_k - 3}{2\overline{s}_k - 1}$, $\pi_k^e > 0$

- Case 3: when $0 \leq \overline{s}_k \leq \frac{3}{4}$ and $\lambda \geq \frac{4\overline{s}_k}{2\overline{s}_k + 1}$, $\pi_k^e \geq 0$. ∎

Proof of Proposition 4.7

Given $|\pi_I| = |\pi_N|$ and $sgn[\pi_k] \neq sgn[\pi_j]$, let $\pi_I < 0$ and $\pi_N > 0$. Consider the first-order condition for the problem of the government and substitute $|\pi_I|$ with π_N. We get:

$$a_0 \gamma + \frac{\partial V(T - X)}{\partial X} = -a_1 \gamma (2\pi_N X - \overline{U}_N) + \pi_N$$

When the right hand side is negative, advertising has a higher impact on the equilibrium policy implementation level than direct contributions as then $X^* > X_{nl}^*$. The condition for that is:

$$\pi_N < a_1 \gamma (2\pi_N X - \overline{U}_N) \Leftrightarrow \frac{1}{a_1 \gamma} + \frac{\overline{U}_N}{\pi_N} < 2X$$

Plugging in $\overline{U}_N = \pi_N X_I^* + \overline{s}_N T$, and $\pi_N = u_N - \overline{s}_N$, we get:

$$\frac{1}{a_1 \gamma} + \frac{\overline{s}_N}{u_N - \overline{s}_N} < 2X - X_I^*$$

∎

Proof of Proposition 4.8

The first order condition for X_{opt}^* is given by:

$$\gamma + \frac{\partial V(T - X)}{\partial X} = 0$$

as $a_0 \leq 1$, it must be that $X_{opt}^* \geq X_{nl}^*$ (see lemma 4.1). In corollary 4.2, we have shown that the equilibrium policy implementation level decreases with respect to X_{nl}^* whenever $\pi_k^e < 0$. This proves the first part of proposition 4.8.

Next, we have to show that for $\pi_k > 0$, advertising can in the limit yield the equilibrium outcome $X^* = X_{opt}^*$. In the limit, $a(\overline{C}_N(X)) = 1$. Then, we are back to the condition for X_{opt}^*. Lobbying by advertising can never lead to results where $X^* > X_{opt}^*$. As $a(C_N(X))$ is monotonously increasing with $C_N(X)$, the upper bound of $a(C_N(X))$ is the case where the government puts the highest weight on the citizens' utility from the implementation of the new policy: $a(C_N(X))\gamma X$. Lower $a(C_N(X))$ must thus always yield $X^* < X_{opt}^*$. ∎

Chapter 5

The Political Economy of Corruption and the Role of Financial Institutions*

5.1 Introduction

In transition countries and developing countries, we observe rather high levels of corruption even if these countries have democratic systems. This is particularly surprising from a political economy perspective as the majority of people generally suffers under a high level of corruption. In these countries, corruption spreads over all levels of the bureaucracy.

Not only the officials dealing with firms and households demand bribes for providing particular services. Also the upper level bureaucrats want to benefit from these revenues from corruption. Therefore, they demand an entry fee for the lucrative positions in the bureaucracy. The corrupt officials and their superiors are thus the groups of citizens that benefit from corruption. However, their share of the population is too small to explain the persistence of corruption in democratic regimes.

Investigating how corruption spreads through the different levels of the bureaucracy helps to explain its persistence: How does the mode of financing the entry fee influence the political support for anti-corruption campaigns? Does a functioning financial market change the way in which the entry fee is

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financed? So far, the literature does not provide answers to these questions. In a probabilistic voting model, we study how the existence of a financial market changes the political support for anti-corruption measures and thus alters the corruption level that is chosen in the political process.

In our model, the corrupt officials have to pay entry fees to their superiors. Since the entry fee cannot be financed by the officials' savings, they have to borrow at least a part of the amount.[1] If financial markets are absent, they may resort to their relatives or friends. As the relatives' return depends on the corruption level, these financial transactions give them a stake in corruption. Thereby, they do not have the incentives to support anti-corruption campaigns.

If financial markets are functioning, the influence of banks depends on their possibilities to screen: When banks possess a perfect screening technology that allows them to deny credit to those debtors who use the money for financing an entry fee, the corrupt officials will still borrow from their relatives. However, compared to the case without financial institutions, the interest of corrupt officials and relatives in corruption decreases: The relatives have the opportunity to save at the bank. This new outside option reduces the net surplus from corruption that is shared among corrupt officials and relatives. Thus, the corrupt officials' and the relatives' support for anti-corruption campaigns increases.

When banks are not able to screen, they grant credits also to corrupt officials. Then, the corrupt officials finance the entry fee by taking a bank credit. Although the corrupt officials would prefer to borrow from their relatives in order to give them an interest in corruption, they cannot coordinate to do so. Therefore, the relatives do not have a stake in corruption and become supporters of anti-corruption policies. In this case, lower corruption in the presence of a functioning financial system is the result of a coordination failure among the corrupt officials.

Our paper is related to two different strands of literature. The first is the literature about the effects of institutions on economic activity: La Porta, Lopez-de-Silanes, Shleifer, and Vishny (LLSV) show in a series of papers how legal institutions affect the evolution of features of the economic system, such as the financing decisions of firms or corporate governance (LLSV 1997, 1998, 2000). Pagano and Volpin (2002) stress the importance of political institutions for investor protection: Proportional electoral systems lead to weaker

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[1]For example, engineers of the water irrigation system in India pay up to 14 times their annual salary. See Wade (1982, p. 305), and the discussion in section 5.2.

investor protection than majoritarian systems. Myerson (1993) and Persson and Tabellini (1999 and 2000, Chpt. 9) formalize a direct relationship between political institutions and corruption.

Persson, Tabellini, and Trebbi (2003) empirically confirm the hypotheses from that literature: They find that proportional electoral systems are likely to have higher corruption levels than majoritarian systems. The reasons are that the fiercer political competition for office in majoritarian elections, and individual, rather than party, accountability reduce corruption among politicians. In our model, the causality is taken one step further. We argue that financial institutions shape the political preferences of the constituents by offering them a broader set of financing opportunities. By this channel, financial institutions have a positive impact on the political support for anti-corruption measures. This, in turn, makes political and legal institutions more effective in constraining corruption.

Second, there is a large body of literature on the causes and consequences of corruption, both empirical and theoretical.[2] Initially, the theoretical literature on corruption emphasized the positive effect of the officials' opportunistic behavior on allocative efficiency.[3] In contrast to that, the results of the empirical studies clearly demonstrate the negative impact of corruption on investment and, consequently, on growth (Mauro, 1995, Knack and Keefer, 1995).

Through distortions in the targeting of public spending and other channels, such as tax evasion that reduces the progressivity of the tax system, corruption increases inequality and poverty (Gupta et al., 2002). If rent-seeking activities are profitable, corrupt sectors attract human capital as well as other resources, thus leading to economic stagnation (Murphy, Shleifer, and Vishny, 1991, 1993). Furthermore, hiding corruption may be very costly and divert resources from welfare-improving government activities (Shleifer and Vishny, 1993). One reason for the negative impact of corruption on investment is given

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[2]For surveys on corruption see Bardhan (1997), Jain (2001a), and Aidt (2003). For edited volumes on corruption, see Jain (1998) and Jain (2001b).

[3]However, these arguments are based on a second-best reasoning: Given that the allocation mechanisms of the government do not function, corruption can in some cases improve efficiency. In Lui (1985), the government demands a uniform price for a public good because it cannot price-discriminate. In a so-called "queue model", the corrupt official minimizes the average time costs of waiting. He first serves those customers who are willing to pay higher bribes. Beck and Maher (1986) point to similarities in the outcomes of auctions and of allocation mechanisms based on bribes. For a discussion of such arguments and an analysis of the costs of corruption, see Rose-Ackerman (1999).

by Foellmi and Oechslin (2003): With imperfect financial markets, firms receive credit only if they can offer sufficient collateral. However, firms have to pay bribes to start a business. This reduces the available collateral and drives firms with an intermediate wealth out of the credit market.

The causes for corruption are another central question in the literature. Abed and Davoodi (2000) show that, at least for transition countries, structural reforms are more important than corruption for determining a country's macroeconomic performance. However, the lack of structural and institutional reforms may also give rise to more corruption. Treisman (2000) finds in his empirical study that the current level of democracy in a country does not significantly influence the level of corruption. His analysis of "perceived corruption" shows, however, that more developed economies and countries with a longer exposure to democracy are less corrupt.[4]

Our result that the support for anti-corruption campaigns in a democratic country depends on the effectiveness of financial institutions is in line with these results. The link is that countries with a longer democratic tradition will also have developed better institutions that limit the scope for opportunistic behavior of officials and governments and provide additional opportunities for business activities of the population. Thus, the changed interests of the voters increase their political support for anti-corruption policies.

In the theoretical literature, the predominant cause for corruption on the lower levels of the bureaucracy is seen in the principal-agent relationship between bureaucrats and their superiors. Generally, in this literature, the different levels of the bureaucracy on which corruption occurs are studied separately. One exception is Hillman and Katz (1987): They show that rent seeking provokes contests for the positions that entitle to appropriate the transfers made in the initial rent-seeking contest. This creates further social costs.

The so-called low-level corruption can be limited through better administrative and legal institutions. Administrative institutions comprise the wage structure and the monitoring of low level bureaucrats. Efficiency wages can be used as a complement to imperfect monitoring systems (Acemoglu and

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[4]Treisman's analysis is based on survey responses of businessmen and local residents. A justification for such subjective measures of corruption is that the perception of corruption influences the political and economic behavior of citizens, e.g., voting or investment decisions (Treisman, 2000, p. 400). Interestingly, a recent analysis of micro data shows that improving institutions lead to a lower perception of corruption (Mocan, 2004).

Verdier, 1998, 2000). Yet, eliminating corruption is only optimal if the state corrects for substantial market failures: For example, taking into account the expenses for efficiency wages of tax collectors, a government that maximizes its tax revenues net of the wage expenses may prefer to pay so-called capitulation wages. These wages are so low that only corrupt persons become tax collectors (Besley and McLaren, 1993).

Higher monitoring activity increases the corrupt officials' risk of being caught. However, the officials employed for monitoring may be corrupt themselves. Therefore, the total effect on corruption is ambiguous (Laffont and Guessan, 1999). With regard to legal institutions, increasing the penalties for corrupt behavior should reduce the incentive to take bribes.[5] Under asymmetric information in a delegation setting, however, a higher punishment can also give the low-level bureaucrats incentives to extract more bribes (Mookerjee and Png, 1995). The design of the penalty is crucial: It can only limit corruption if the expected punishment is a non-concave function of the bribe (Rose-Ackerman, 1975).

Implicitly, this literature assumes principal-agent relations with benevolent principals. A more pessimistic view is offered in models where the government officials as well as the politicians are corruptible. The degree to which officials and politicians are corrupt is determined by the economic and political environment: Shleifer and Vishny (1993) show how the organization of public good provision, i.e., competition, monopoly, or several independent monopolies, influences the level of corruption in the government. When corruption occurs also on the top level of government, the motivations of politicians, as well as the institutions that constrain them, are a crucial factor. Shleifer and Vishny (1998) coined the term "the grabbing hand": It describes that governments have a preference for rent-seeking and are constrained only by the political and economic institutions in their countries. Accordingly, democratic institutions can help to limit corruption. However, they cannot abolish state capture.[6]

In democratic regimes, politicians will only have incentives to implement anti-corruption policies if there is political support for such measures in the population. When we observe persistent high corruption levels in democratic

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[5]Empirical support for this result is found by Goel and Rich (1989).

[6]The political economy literature concerned with this issue points, among other explanations, to common pool problems that conceal the responsibilities of policy makers (Persson et al., 1997) or to distortions in redistributive policies due to the influence of special interest groups (Coate and Morris, 1995).

countries, we must thus explain the absence of this political support. In our model, we argue that the lack of financial institutions makes larger parts of the population dependent on corruption. In contrast to the majority of models in the literature, we choose an integrated approach: We argue that administrative corruption spreads if corrupt officials have to pay an entry fee. To the best of our knowledge, the role of financing the entry fee has so far not been analyzed. When corrupt officials have to resort to other citizens to finance the entry fee, additional groups of voters have a stake in corruption. This reduces the political support for anti-corruption campaigns.

The paper is organized as follows: In section 5.2, we study corruption and the market for lucrative jobs in transition and developing countries. In section 5.3, we set up the basic model and discuss the differences between the cases with and without a functioning financial sector. In section 5.4, we develop the probabilistic voting model on anti-corruption policies. In section 5.5, we discuss the effects of financial institutions on corruption. Extensions to the model, i.e., the endogenous choice of the entry fee by the superiors, and the additional exposure to corruption of the entrepreneurial sector, are discussed in section 5.6. Section 5.7 concludes.

5.2   Corruption and Entry Fees in Transition and Developing Countries

There is evidence from both developing and transition countries that bureaucrats who obtain a lucrative job pay entry fees. In turn, officials have to be bribed for a variety of services. Since the start of its policy initiative against corruption, the Worldbank has conducted several surveys addressing the issue. In the BEEPS (business environment and enterprise performance survey), firms in Eastern Europe and the former Soviet Union are asked for information about informal payments and the "time tax", i.e., the time spent dealing with regulatory issues (EBRD, 2002, Chpt. 2).

A survey conducted among 350 enterprises in Georgia indicates that most instances of corruption occur in the following areas: tax and financial inspections, border crossing at customs, water and electricity services, fire and sanitary inspections, and contacts with the road police. According to this survey, 71% of the enterprises would be willing to pay higher taxes if corruption

was eliminated. Those enterprises that indicate their willingness to pay higher taxes would pay additional taxes of up to 22% of their revenues in order to eliminate corruption. These figures indicate that the total amount of bribes that has to be paid by enterprises must be substantial (Worldbank, 1998). This is reflected in Georgia's position in the Transparency International ranking of the corruption perception index. In 2002, Georgia was on rank 85, together with the Ukraine and Vietnam, of 102 countries listed.

For the officials, the bribes translate into high rents from office. The existence of entry fees for positions in the bureaucracy is well known not only among the officials but also in the general public. The entry fee increases with the amount of bribes that can be appropriated in a particular position. In Georgia, the percentage of public officials believed to have purchased their position exceeds 50% for customs and tax inspectors. More than one third of the positions of natural resource licensers, judges, investigators, and prosecutors are believed to be purchased (Worldbank, 1998).[7]

The seminal article on the market for public office is Wade (1982). In several periods of fieldwork, he collected evidence for the "corruption system" found in the canal irrigation in India.[8] There are two sources of revenue for the officials: First, they may embezzle money from the budget that each canal division gets for financing the maintenance work. Embezzlement often happens by colluding with the subcontractors who are employed for performing the maintenance work. Second, irrigators pay the officials in order to assure the water supply either for the whole season or for emergencies (Wade, 1982, pp. 292). Those who benefit from the bribes are the Executive Engineers, who head a division at the irrigation department, and the Assistant Engineers, who are in charge of a sub-division. On average, an Assistant Engineer receives an additional annual income from bribes of about 3.5 times his official annual wage (Wade, 1982, p. 302). The official salary of an Executive Engineer is about 25% higher than that of an Assistant Engineer. Each year, an Executive Engineer earns about 9 times his official annual salary from bribes (Wade, 1982, p. 293).

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[7]The Worldbank surveys show that petty corruption is more of a problem in Georgia and Albania whereas grand corruption is more serious in Latvia, where about 20% of all ministerial positions are believed to be purchased.

[8]India is among the most corrupt countries of the world. In 2002, India was on rank 71, together with Cote d'Ivoire, Honduras, Russia, Tanzania and Zimbabwe, of the Transparency International ranking of the corruption perception index.

Senior officers and politicians appropriate part of the engineers' additional income by demanding an entry fee for assigning them a particular position. The entry fee that an engineer has to pay depends on the productivity of the area where his position is located. In the uplands, it costs an Executive Engineer about three times his official annual wage to get a position with a two-year tenure. In contrast, on the fertile deltas, the entry fee can be up to about 14 times his annual salary (Wade, 1982, p. 305).

We base our model on the observations made in India and Georgia, i.e., we take for granted that an entry fee for lucrative positions has to be paid. In our model, we show how the mode of financing the entry fee can influence the voting decisions of different groups of voters. This, in turn, may lead to different levels of political support for anti-corruption campaigns.

5.3   Financing the Entry Fee

For the basic setup of the model, we describe the economy and the financial institutions, as well as the interactions when these institutions are missing. We compare different cases: First, we look at an economic system without functioning financial institutions. Second, we introduce a functioning formal credit market. Whenever there is a formal credit market, the agents in the economy have the option to use the banking sector. We compare two scenarios: Banks may have access to a perfect screening technology or they may not be able to screen at all. We do not study the intermediate case.

5.3.1   The Model

The economy with total population size N consists of three groups of citizens: The depositors D, the corrupt officials K, and the relatives R of the corrupt officials. Each group has $\alpha_J N$ identical individuals, where α_J, $J = \{D, K, R\}$, denotes the share of a particular group. Each citizen has the same initial endowment A, $A > 0$. This endowment comprises wealth W and income w of each citizen, i.e., $A = W + w$. When the citizens do not embark on any economic activities, they stay with their initial endowment A. There is no depreciation.

Depositors. The depositors want to invest their endowment in order to earn returns on their assets. They can do this only on the formal credit market.[9]

Corrupt Officials. The citizens have to pay a bribe if they want to make use of any of the public services offered by the officials. Each corrupt official can collect a bribe c, $c \geq 0$ from a fraction $\sigma \in [0; 1]$ of all other citizens. The fraction of citizens who pay the bribe to an official depends on how many people want to make use of a certain public service. We assume the σ to be exogenously given. Then, the total amount of bribes a corrupt official can collect amounts to $\sigma(N - 1)c$.[10]

There is a given number of positions in the bureaucracy. Due to the corruption rent, these positions are so attractive that the superiors can demand an entry fee for each of them. The group of citizens who obtained these positions is called the group K of corrupt officials.[11] The size of the entry fee $T(c) > 0$ depends on the amount of rents that public servants can extract from the other citizens. We choose a simple linear specification, $T(c) = tc$, with $t > 0$. The entry fee is collected by the superiors of the public officials. These are higher ranked officials in the bureaucracy. We take the number of corrupt officials as given in order to focus on how the mode of financing the entry fee influences the political choice of the corruption level c.[12]

In the basic model, the superiors are not included as agents. Thus, we exogenously assume the t. For the moment, we assume that the entry fee is set in such a way that the corrupt officials get at least a marginal payoff from corruption. For the reasoning of the model, it is important that the corrupt officials have a positive rent from corruption and therefore a political

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[9]The reason for this is, for example, that there could be high transaction costs in the informal credit market. These can only be overcome by family ties. The depositors do not have relatives who want to borrow money.

[10]This is of course a simplification: In reality, some services and some positions might be more lucrative than others (see section 5.2).

[11]By demanding an entry fee, the superiors ensure that only persons with the adequate skills apply for positions as public officials: People who are unable to extract bribes from their clientele will find the job in the bureaucracy unprofitable. Also, non-corruptible persons will find it unattractive to become officials. With this selection mechanism, the bureaucracy is composed only of corrupt officials. This may seem a very unrealistic setup. Yet, for the purpose of the model, the presence of additional non-corrupt officials would not alter the results as this group of voters would not have a positive stake in corruption.

[12]The superiors cannot choose the number of positions in order to maximize their profits from corruption. Incentives for the superiors to restrict entry to public positions in order to collect higher rents would be another interesting topic of research.

interest in corruption. A situation where competition for positions drives the entry fees up and the rents of the corrupt officials down to zero is excluded by assumption. We endogenize the superiors' choice of the size of the entry fee $T(c)$ in section 5.6.1. When the superiors endogenously choose the entry fee, they have to take into account the participation constraints of the potential corrupt officials: $T(c)$ cannot be so high that it is unattractive to apply for the position. We show in section 5.6.1 that the superiors actually have the incentive to leave a positive rent from corruption to the corrupt officials. This way, they reduce the corrupt officials' support for anti-corruption policies.

We assume that the superiors are not able to directly influence the political decision-makers: The revenues from corruption cannot be used to finance, e.g., electoral campaigns. Thus, the income from corruption does not give the superiors any particular political weight. The superiors use the revenue from the entry fees for private expenditures. Again, this restriction is used to focus on the role of the financing of the entry fee for the persistence of corruption.[13]

Relatives. Relatives differ from the other depositors in that they have a corrupt official in their close family. This can be an advantage for them insofar as they have the opportunity to invest on the informal credit market.

All groups of citizens suffer equally from corruption. The disutility from corruption is given by $-u(c)$, where $u(c) > 0$. It does not only capture the costs of the bribe but also other negative aspects of corruption such as time lags in getting services, the non-enforceability of services for which bribes have been paid and the psychologic costs involved. It is assumed that these costs grow with the level of corruption c, such that $\frac{\partial u(c)}{\partial c} > 0$ and $\frac{\partial^2 u(c)}{(\partial c)^2} > 0$. Note that the corrupt officials suffer from corruption like all the others, as they need also other services except for the one where they are working. Most of the time, they are in the same situation as the rest of the population.

The time structure of the model is as follows: In *period 1*, the elections are held. In the elections, the level of corruption c is determined.[14] In *period 2*, the corrupt officials decide on the financing of the entry fee $T(c)$. In *period 3*,

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[13]To model the political influence of the higher-rank officials as a function of their revenues from collecting the entry fees would distract attention from the main point of this model. The lobbying literature links campaign expenditures to policy outcomes (see Grossman and Helpman 2001). In the corruption literature, this would be a question of state capture. The type of corruption studied in this model is more correctly described by the concept of administrative corruption.

[14]The time structure of the election subgame is described in section 5.4.

the corruption level realizes, the bribes are collected and individuals receive their payoffs. The time structure is summarized in figure 5.1. Since the game is solved by backward induction, we start with the decision of how to finance the entry fee.

Figure 5.1: Time Structure

Period 1	Period 2	Period 3
Election	Decision on financing T	Corruption level and payoffs realize

t
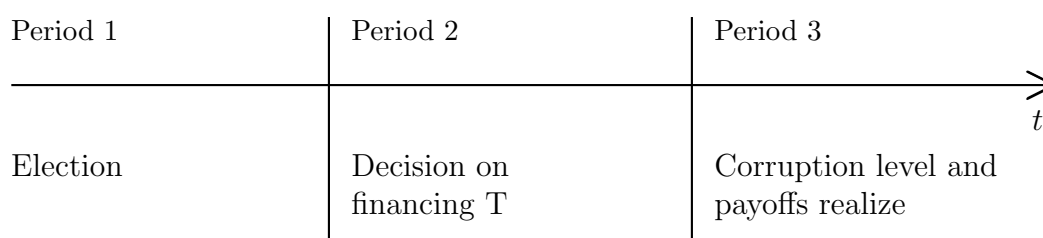
5.3.2 The Economy without Financial Institutions

In this section, we study the case without financial institutions. There exists no formal credit market. For all groups, the utility functions are separably additive in the endowment A, possible benefits from corruption or other economic activities, and the disutility of corruption.

Depositors. When there are no financial institutions, the group of depositors has no possibility to invest their initial endowment: There is no credit market where they could lend their money and, as they are not relatives of a corrupt official, they do not have access to the informal credit market. Thus, the depositors' utility function is composed of their initial endowment and of their losses from corruption. The utility of each depositor is given by:[15]

$$U_D^N(c) = A - u(c) \tag{5.1}$$

Corrupt Officials. The corrupt officials receive bribes of the amount of $\sigma(N-1)c$.[16] In order to get access to their jobs, the corrupt officials have

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[15]The superscripts N denote the utility levels in the case with *no* financial institutions.

[16]Note that certain restrictions have to be imposed on σ to ensure that the revenues from corruption equal the sum of bribes paid in the economy. The revenues from corruption depend on how many individuals use each particular service. This is given by σ. The sum of bribes paid, in turn, depends on how many services each individual uses. This can be

to pay the entrance fee $T(c) = tc$ to their superiors. To finance this fee, the corrupt officials need some funds in addition to their initial endowment A. We allow each corrupt official to borrow only from one relative. If this informal credit market is to be cleared, the group sizes of corrupt officials and relatives have to be equal, i.e., $\alpha_K = \alpha_R$.[17] We also assume that $A < T \le 2A$. This means that each corrupt official has to borrow some amount from his relative and that one relative has enough funds to lend the whole missing amount for the entry fee. Note that the superiors could always get at least a payment of A from the corrupt officials. Then, the corrupt officials would not need external sources of financing. However, as the focus of this model is the effect of the different modes of financing the entry fee on the level of corruption, we exclude such a case by assumption.

The corrupt officials borrow the amount $(tc - A)$ from the relatives and repay $(1 + b^N)(tc - A)$. The equivalent to the interest rate on the informal credit market, b^N, is determined in a Nash bargaining game among the pairs of corrupt officials and relatives. We assume equal bargaining power of corrupt officials and relatives. The utility of the corrupt officials when there are no financial institutions is:

$$U_K^N(c) = \sigma(N - 1)c - (1 + b^N)(tc - A) - u(c) \tag{5.2}$$

Relatives. The relatives receive the interest rate b^N on the amount of capital which they lend to their corrupt family member. Their utility is thus:

$$U_R^N(c) = A + b^N(tc - A) - u(c) \tag{5.3}$$

When bargaining over b^N, corrupt officials and relatives have the same disagreement payoff $A - u(c)$. If negotiations break down, the corrupt officials have to stay depositors and are left with their endowment and the costs of

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captured by a parameter ϕ. The total revenues from corruption are $\sigma(N - 1)c\alpha_K N$. These have to equal the sum of bribes paid by all citizens, i.e., $cN\phi$. The restriction on σ would then be $\sigma = \frac{\phi}{(N-1)\alpha_K}$. This model uses the disutility function $-u(c)$ to capture the costs from corruption for each individual. Here, ϕ can be thought to be implicitly included.

[17]For our model, this is the most restrictive case as the group of voters that potentially have a positive stake in corruption is minimized. If we allow for the possibility that each corrupt official borrows from several relatives, more voters receive a positive, albeit smaller, revenue from corruption. Only in the extreme case, with perfect competition among the relatives, their rent from corruption would be reduced to zero.

corruption. The relatives have no possibility to invest their endowment and are left with the same utility level. We can state the following result for the bargaining game in the case without financial institutions:

Proposition 5.1 *In the economy without functioning financial institutions, the relatives lend to the corrupt officials on the informal credit market and receive the interest rate b^N, i.e.,*

$$b^N = \frac{[\sigma(N-1) - t]c}{2(tc - A)}. \tag{5.4}$$

Proof. The Nash bargaining solution with symmetric bargaining power prescribes that b^N maximizes the surplus that is then split evenly among the two parties. Formally, the solution is given by:

$$b^N = \arg\max \left[\left(U_K^N(c) - U_D^N(c) \right) \left(U_R^N(c) - U_D^N(c) \right) \right]$$

This yields the following first-order condition:

$$\frac{\partial U_R^N}{\partial b^N} \left(U_K^N(c) - U_D^N(c) \right) + \frac{\partial U_K^N}{\partial b^N} \left(U_R^N(c) - U_D^N(c) \right) = 0$$

After explicitly writing out the utility levels and simplifying, we get:

$$\sigma(N-1)c - (1 + b^N)(tc - A) - u(c) = A + b^N(tc - A) - u(c)$$

Solving for b^N, this condition immediately yields $b^N = \frac{[\sigma(N-1) - t]c}{2(tc - A)}$.   ■

In the case without functioning financial institutions, corrupt officials and relatives share the net surplus from corruption and have the same disagreement payoff. Their utility levels after the bargaining are thus:

$$U_K^N(c) = U_R^N(c) = \frac{1}{2}[\sigma(N-1) - t]c + A - u(c) \tag{5.5}$$

As discussed above, there must be a net surplus of corruption that can be split in bargaining. That is, the upper bound for T is $[\sigma(N-1) - t]c > 0$. Each party gets its disagreement payoff and a positive revenue on top of that. Otherwise, the positions in the bureaucracy would cease to be attractive. Thus, in the case without functioning financial institutions the range of t is defined by $A < tc < \sigma(N-1)c$.

5.3.3 The Economy with Financial Institutions

Next, we introduce financial institutions in the economy. To keep the analysis of the financial sector tractable, we study a small open economy. Therefore, the interest rate r is determined by the world market and is identical for borrowing and saving. In the following, we distinguish two cases: In the first case, banks are able to screen the borrowers. As we will explain below, when banks have a screening technology, they deny credit to any borrower who intends to finance an entry fee for a position in the bureaucracy. In the second case, banks are not able to detect corrupt officials and offer a pooling contract at the rate r.

Depositors. The depositors can invest their endowment on the formal credit market. They still suffer from corruption. For both the case with screening and with pooling, their utility with a functioning credit market is thus:[18]

$$U_D^{BS}(c) = U_D^{BP}(c) = (1+r)A - u(c) \tag{5.6}$$

Perfect Screening

When the banks are able to screen perfectly, they will not accept corrupt officials as creditors. The reason why banks wish to exclude corrupt officials may be that they have committed themselves to a code of ethics. This code includes that they are wary of supporting any instances of corruption.[19] We assume in this section that banks have a perfect screening technology. In the model, banks receive perfect signals about their creditors without incurring any costs.[20] As a result, they offer credit only to non-corrupt investors on the world market at the interest rate r. Depositors and relatives have the opportunity to save at the interest rate r.[21]

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[18]When the four groups decide to use the formal credit market and go to the bank that offers screening contracts, their utilities are denoted with the superscript BS. When banks offer pooling credits, utilities are denoted with the superscript BP. When citizens decide not to use the bank although a banking sector is present and functioning, we denote their utility with the superscripts NBS or NBP, respectively.

[19]Many international banks subscribe to such a code of ethics. There, they commit themselves to refusing all interactions that could be linked to money-laundering activities. For an example, see www.imb.ru/en/about/ethics_code.htm.

[20]In practice, the screening process could, for example, involve that banks demand a business plan from potential borrowers in order to evaluate their investment projects. In the absence of a market for consumer credits, corrupt officials have no possibility to get credit as they are unable to provide a business plan.

[21]We do not consider the possibility that banks may only be able to screen partially. Including this would not lead to any substantially new results but to a hybrid of the results

Corrupt Officials. For the corrupt officials, the situation does not change much compared to the case without financial institutions as the banks exclude them from the formal credit market. The only way to finance the entry fee is to borrow from their relatives. However, the relatives now have the outside option to save at the bank at the rate r. We denote the bargaining outcome over the equivalent to the interest rate in the informal credit market in this case with b^{BS}. The utility of the corrupt officials when they borrow from their relatives is:

$$U_K^{NBS}(c) = \sigma (N-1) c - \left(1 + b^{BS}\right)(tc - A) - u(c) \qquad (5.7)$$

If the corrupt officials do not borrow from their relatives, they are not able to pay the entry fee and remain depositors. Therefore, their outside option amounts to $U_K^{BS}(c) = (1+r) A - u(c)$.

Relatives. The relatives have the choice to save at the bank or to lend to the corrupt officials. When they decide to lend to the corrupt officials, they earn the rate b^{BS} on the amount that they lend. For the rest of their endowment, they receive the rate r from the bank. Their utility is:

$$U_R^{NBS}(c) = A + b^{BS}(tc - A) + r(2A - tc) - u(c) \qquad (5.8)$$

If the relatives save their whole initial endowment at the bank, their utility is $U_R^{BS}(c) = (1+r) A - u(c)$.

We can state the following result for the bargaining game in the case without functioning financial institutions and screening:

Proposition 5.2 *If banks are able to screen perfectly, the relatives lend to the corrupt officials on the informal credit market and receive the interest rate b^{BS}, i.e.,*

$$b^{BS} = \frac{(N-1) \sigma c - tc (1-r) - 2rA}{2 (tc - A)}. \qquad (5.9)$$

Proof. See the appendix. ∎

After the bargaining, the utility functions in the situation where banks have access to a perfect screening technology are the same for corrupt officials and relatives:

$$U_K^{BS}(c) = U_R^{BS}(c) = \frac{1}{2} [\sigma (N-1) - (1+r) t] c + (1+r) A - u(c) \qquad (5.10)$$

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of the two extreme cases pooling and perfect screening.

The equivalent to the interest rate on the informal credit market decreases with respect to the case without banks. Formally, $b^{BS} < b^N$ when the following inequality holds:

$$(N-1)\sigma c - tc(1-r) - 2rA < [\sigma(N-1) - t]c \Leftrightarrow r(tc - 2A) < 0 \quad (5.11)$$

This is always fulfilled. Given our assumption that $tc < 2A$, the existence of a functioning banking sector with screening always reduces the relatives' revenue from corruption. The relatives now have an additional opportunity to save. Whatever they do not lend to the corrupt officials, i.e., $2A - tc$, they can save at the bank at the rate r. Relatives and corrupt officials still have equal disagreement payoffs as they both become depositors when the negotiations break down. In symmetric Nash bargaining, the relatives thus have to compensate the corrupt officials for their additional gain of $r(2A - tc)$ from saving at the bank. Thus, they lend to them at a lower interest rate.

The presence of banks sets an implicit lower bound for the interest rate on the informal credit market: The relatives will not agree to lend to the corrupt officials at a rate lower than r. When bargaining over the net surplus from corruption, both parties take these opportunity costs for the relatives of not saving at the bank into account. The gross surplus of corruption is diminished by $(1 + r)tc$.

Now, the upper bound for T is given by $[\sigma(N-1) - (1+r)t]c > 0$. If this condition is fulfilled, we also have that $b_{BS} > r$. In the case with functioning financial institutions the range of t is defined by $A < tc < \frac{\sigma(N-1)}{1+r}c$.

No Screening Possible

When banks cannot screen, they serve all borrowers and offer a pooling contract at the rate r. Therefore, both corrupt officials and relatives possess additional opportunities to lend or borrow.

Corrupt Officials. When bargaining on the informal credit market, both the relatives and the corrupt officials now have the outside option to use the formal credit market. This affects their disagreement utilities. We denote the bargaining outcome in presence of a bank that offers a pooling credit with b^{BP}. The utility of the corrupt officials if they borrow from their relatives is:

$$U_K^{NBP}(c) = \sigma(N-1)c - (1 + b^{BP})(tc - A) - u(c) \quad (5.12)$$

The corrupt officials can also borrow the amount $tc - A > 0$ from the bank. For this, they have to pay the interest rate r. When in office, the corrupt officials earn the benefits from corruption by collecting a bribe from each individual in the economy. The utility of the corrupt officials when they borrow on the formal credit market is:

$$U_K^{BP}(c) = \sigma(N - 1)c - (1 + r)(tc - A) - u(c) \tag{5.13}$$

Relatives. The relatives can now invest in the formal credit market or stay in the informal credit market and lend to the corrupt officials. When the relatives decide to stay in the informal credit market, they receive the rate b^{BP} for the amount $(tc - A)$ that they lend to the corrupt officials. They can save the rest of their endowment, $2A - tc$, at the bank at the rate r. When the relatives decide to stay in the informal credit market and lend to the corrupt officials, their utility is:

$$U_R^{NBP}(c) = A + b^{BP}(tc - A) + r(2A - tc) - u(c) \tag{5.14}$$

When the relatives invest only in the formal credit market, they get the same utility as the depositors, i.e., $U_R^{BP}(c) = (1 + r)A - u(c)$.

For a given interest rate r, we can analyze the incentives of the corrupt officials and relatives to participate in the formal credit market. Note that the depositors always participate in the formal credit market as they have no other investment opportunities.

In the bargaining game, the disagreement payoffs of both corrupt officials and relatives are now given by $U_K^{BP}(c)$ and $U_R^{BP}(c)$. Since the disagreement payoffs differ for the two parties, their incentives to make concessions in the bargaining game change, too. In the case where banks offer pooling contracts, we can state the following result:

Proposition 5.3 *In the economy with functioning financial institutions where banks offer pooling contracts, the Nash bargaining solution yields $b^{BP} = r$. Bargaining does not create any additional surplus. The only interest rate in this economy is the world market rate r.*

Proof. See the appendix. ∎

When bargaining on the informal credit market, both groups thus receive exactly the same utility level as when they use the bank. Individually, each

corrupt official is indifferent between using the bank or borrowing from his relative. The reason for that is that one single individual does not have any influence on the corruption level that is determined in the elections. Given that their individual decision does not have an impact on the overall corruption level, the corrupt officials are indifferent between staying in the informal credit market and using the formal credit market. Note that it is irrelevant whether or not the corrupt officials actually use the bank. The relatives always get the same utility level. Thus, their interest in the level of corruption remains unchanged.

5.4   Voting on Anti-Corruption Policies

In this section, we describe how the level of corruption is determined in the political process, and how the political support for low or high corruption levels determines the incentives of politicians to fight corruption. We develop a model of probabilistic voting. The corruption level is the policy platform on which the candidates run for office. We abstract from eventual difficulties in implementing the politically desired corruption level. The candidates choose the corruption level that maximizes their chance of winning the elections. This depends on the utilities that the voters derive from this level of corruption.

A probabilistic voting model has the advantage of incorporating the voters' responsiveness to marginal policy changes. In contrast to a median voter model, it does not only count the individual votes but takes into account *how much* this policy matters for the different groups of voters, i.e., the voters' political responsiveness. In a median voter model, the group size would in a trivial way determine the outcome of a low or high corruption level, depending on the position of the median voter. With a probabilistic voting model, we can explain high corruption levels even when a large fraction of the voters suffers from corruption: By discussing several assumptions on the political responsiveness of the different groups of voters, we allow for outcomes where a minority of voters influences the equilibrium corruption level. This is the case when the victims of corruption have diverse positions on other policy issues or strongly differing ideologies.

Furthermore, probabilistic voting models have the characteristic that they yield a unique equilibrium outcome: If the objective function of the candidates is strictly concave, the candidates choose the same uniquely defined policy in

equilibrium. This characteristic is very useful for our aim to compare different policy outcomes for the cases without banks and with functioning financial institutions.[22]

The groups of voters are of a fraction α_J of the total population with $J = \{D, K, R\}$ and $\sum_J \alpha_J = 1$. In the basic model, we exclude the superiors from voting. This is changed in section 5.6.1. There are two candidates, X and Y, running for election. We assume each of the two candidates strives to get the majority of votes in the population.[23] The candidate who wins the majority of votes implements his proposed policy. In addition to their utility from the corruption policy $U_J(c)$, the voters bases their votes on their ideology. This ideology component can be a second policy dimension, where the candidates are not able to make credible commitments but are expected to implement their individually preferred policy. It might thus capture political ideology or other political interests that are not easily switched. Each citizen has an ideologic preference for one or the other candidate. Election promises of the candidates are not going to change these preferences.

Within each group, the individual ideologies differ so that groups are not homogenous. For example, some individuals of group J may be biased towards candidate X because of their preferences for an interventionist economic policy, whereas other individuals from the same group may be biased towards candidate Y because they prefer a free market economy. This ideological bias is captured by the individual-specific parameter s_{iJ} which measures the ideological preference for candidate Y of voter i of group J. The s_{iJ} can be positive or negative. A positive value implies that the voter is biased in favor of candidate Y whereas a negative value shows a bias in favor of candidate X. Generally, the more s_{iJ} differs from 0, the stronger is the ideology component in the citizen's voting decision. A citizen with a strong ideologic bias is less responsive to changes in the policy platforms c_X and c_Y announced by the candidates. The individual ideology parameters are uniformly distributed in each group according to $s_{iJ} \sim [-\frac{1}{2S_J}; \frac{1}{2S_J}]$.

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[22]For a discussion of the features of probabilistic voting models see, e.g., Persson and Tabellini (2000).

[23]Similarly, we could assume that the candidates maximize their probabilities of winning the elections, that is, the probabilities of getting the majority of votes. As shown in Lindbeck and Weibull (1987), under fairly general conditions, the maximization problem for the candidates is then similar to the problem of maximizing the vote shares. These conditions are fulfilled by the assumptions in this model.

Taking into account all the components which influence the election decision of voter i in group J, voter i prefers candidate X if and only if:

$$U_J(c_X) > U_J(c_Y) + s_{iJ} \tag{5.15}$$

The time structure for the voting game is as follows: First, the two candidates announce their policy platforms c_X and c_Y. By assumption, they are able to commit perfectly to implementing these policy proposals. The candidates know the voters' policy preferences $U_J(c)$ and the distributions for s_{iJ}. They do not know the realizations of the s_{iJ}. After the announcement of the policy platforms, candidates observe the realizations of the s_{iJ}. Then, elections are held. The candidate with the majority of votes wins the elections. He implements the policy platform that he has announced. The time structure of the election subgame is summarized in figure 5.2.

Figure 5.2: Time Structure of the Elections

Stage 1	Stage 2	Stage 3	Stage 4
			t
c_X and c_Y are announced	s_{iJ} realize	Election	c^* is implemented
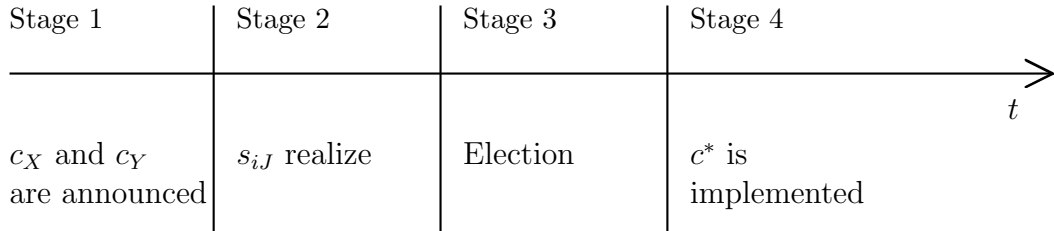
In a probabilistic voting model, candidates compete by catering to the groups of voters who are most responsive to changes in their policy platforms.[24] That is, candidates are interested in identifying how easily voters of a group will switch to vote for them in response to a marginal policy change. For each group, the "swing voter", i.e., the voter who is exactly indifferent between voting for candidate X or Y, is identified by the condition:

$$s_J = U_J(c_X) - U_J(c_Y) \tag{5.16}$$

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[24]Dixit and Londregan (1996) discuss the importance of a group's responsiveness to a policy change in the context of redistributive politics. They measure a voter's responsiveness to redistributive politics by two parameters: One captures the strength of the ideological preferences of the voter. The other parameter measures the marginal utility changes due to a policy change. In our model, this is captured by S_J and the first derivatives of the utility functions $\frac{\partial U_J(c)}{\partial c}$, respectively.

All voters in a group J with an s_{iJ} lower than s_J prefer candidate X, all others prefer candidate Y. Integrating over the ideologic biases within groups and summing over all groups gives us the vote share for candidate X as a function of the policy platforms c_X and c_Y:[25]

$$v_X = \sum_J \alpha_J S_J \left(s_J + \frac{1}{2S_J} \right) = \sum_J \alpha_J S_J \left(U_J(c_X) - U_J(c_Y) + \frac{1}{2S_J} \right) \quad (5.17)$$

Both candidates individually choose the policy platform c in order to maximize their vote share v. The vote share is a continuous and differentiable function of the distance between the two policies announced by the candidates. When the objective functions of the candidates are strictly concave in c, we get a unique equilibrium that maximizes the vote share for each candidate (see Coughlin and Nitzan, 1981, or Lindbeck and Weibull, 1987). In equilibrium, we have complete convergence of the policy platforms:

Proposition 5.4 *In the elections, both candidates choose the same policy platform c^*. For each parameter constellation, there exists a unique c^*. It is determined by the condition*

$$\frac{\partial v}{\partial c} = 0 \iff \sum_J \alpha_J S_J \frac{\partial U_J(c)}{\partial c} = 0. \quad (5.18)$$

Proof. The probabilistic voting model leads to a unique equilibrium if the vote shares of candidates X and Y are strictly concave functions of the policy platforms c_X and c_Y. This is straightforward to show as by construction, the utility functions of all groups are linearly additive and comprise only terms which are linear in c, and the disutility from corruption $-u(c)$. By our definition, $-\frac{\partial^2 u(c)}{(\partial c)}(c) < 0$. This means that also the vote shares of the candidates are strictly concave in c, i.e., $\frac{\partial^2 v}{(\partial c)^2} < 0$. Given this, the equilibrium policy must maximize the candidates' vote share and must be existing and unique. ∎

In order to derive the equilibrium corruption levels, we plug in the utility functions of all groups. Then, the corruption levels can be compared for the cases without and with financial institutions. This is done in the next section.

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[25]For candidate Y, the vote share is derived similarly by integrating over all voters with a s_{iJ} higher than s_J and summing over all groups: $v_Y = \sum_J \alpha_J S_J \left(\frac{1}{2S_J} - s_J \right) = \sum_J \alpha_J S_J \left(U_J(c_Y) - U_J(c_X) + \frac{1}{2S_J} \right)$.

5.5   Results: The Impact of Financial Institutions on the Corruption Level

In this section, we derive the equilibrium corruption levels for the cases without and with financial institutions. We then compare the equilibrium corruption levels in order to derive whether and under which conditions functioning financial institutions can reduce corruption.

5.5.1   Corruption Level without Financial Institutions

The following lemma describes the policy choice without financial institutions:

Lemma 5.1 *If no banks exist, the candidates propose a policy platform that determines an equilibrium corruption level c_N^*, implicitly defined by*

$$\frac{\partial u(c_N^*)}{\partial c} = \frac{(\alpha_R S_R + \alpha_K S_K)\left[\frac{\sigma(N-1)-t}{2}\right]}{\sum_J \alpha_J S_J} \tag{5.19}$$

with $J \in \{D, K, R\}$.

Proof. To obtain the equilibrium corruption level for the situation without financial institutions, we use the utility functions defined in section 5.3.2 and plug them into the first order condition for the equilibrium corruption level:

$$\frac{\partial v}{\partial c} = \sum_J \alpha_J S_J \left(-\frac{\partial u(c)}{\partial c}\right) + (\alpha_R S_R + \alpha_K S_K)\frac{\sigma(N-1)-t}{2} = 0$$

With $\frac{\partial u(c)}{\partial c} > 0$ and $\frac{\partial^2 u(c)}{(\partial c)} > 0$, the equilibrium corruption level c_N^* is uniquely defined.   ∎

On the left hand side, we see the marginal disutility from corruption. It is the same for all groups. In the denominator of the right hand side, we find the groups that suffer from corruption. As all citizens suffer equally from corruption, this is the sum over all groups, weighted with the political responsiveness of the groups. The utility components in the numerator of the right hand side stem from those groups that have a positive interest in corruption: The relatives, whose earnings on the informal credit market depend positively on the corruption level, and the corrupt officials, who get a positive surplus from their job. Note that the equilibrium corruption level decreases as the entry fee

increases. The more the corrupt officials have to pay for their jobs, the lower is the net surplus of corruption. Then, the relatives and the corrupt officials have a lower marginal benefit from an increasing corruption level and are more supportive of anti-corruption policies. Note that the depositors only show up in the denominator as they do not have any positive revenue from corruption.

5.5.2 Corruption Level with Financial Institutions

Next, we look at the equilibrium corruption levels with functioning financial institutions.

Perfect Screening

The following lemma describes the policy choice if banks screen their borrowers:

Lemma 5.2 *If banks possess a perfect screening technology, the candidates propose a policy platform that determines an equilibrium corruption level c^*_{BS}, implicitly defined by*

$$\frac{\partial u(c^*_{BS})}{\partial c} = \frac{(\alpha_R S_R + \alpha_K S_K)\left[\frac{\sigma(N-1)-(1+r)t}{2}\right]}{\sum_J \alpha_J S_J}. \tag{5.20}$$

Proof. To obtain the equilibrium corruption level for the situation with financial institutions and screening, we use the utility functions defined in section 5.3.3 for the case with screening and plug them into the first order condition for the equilibrium corruption level:

$$\frac{\partial v}{\partial c} = 0 \Leftrightarrow \sum_J \alpha_J S_J \left(-\frac{\partial u(c)}{\partial c}\right) + (\alpha_K S_K + \alpha_R S_R)\frac{\sigma(N-1)-(1+r)t}{2} = 0$$

With $\frac{\partial u(c)}{\partial c} > 0$ and $\frac{\partial^2 u(c)}{(\partial c)} > 0$, the equilibrium corruption level c^*_{BS} is uniquely defined. ∎

Corrupt officials and relatives still use the informal credit market. Since $tc < 2A$, relatives use both the informal and the formal financial markets. They save the part of their endowment that they do not lend to the corrupt officials at the bank. The relatives have a positive stake in corruption because they lend to the corrupt officials on the informal credit market.

However, the relatives face a coordination problem: If they could coordinate on saving at the bank, this would reduce the political support for corruption and would lead to a lower equilibrium corruption level. Individually, however, it is optimal for each relative to lend to a corrupt official at the rate $b^{BS} > r$: If all other relatives also lend to corrupt officials, the corruption level is high anyway. Similarly, the corruption level remains low if all other relatives save at the bank, even if a single relative decides to lend to a corrupt official. As the effect of a single voter on the election outcome is negligible, the individual decision to stay in the informal credit market does not alter the equilibrium corruption level.

No Screening Possible

The following lemma describes the policy choice if banks are not able to detect the group of corrupt officials:

Lemma 5.3 *If banks offer pooling contracts, the candidates propose a policy platform that determines an equilibrium corruption level c^*_{BP}, implicitly defined by*

$$\frac{\partial u(c^*_{BP})}{\partial c} = \frac{\alpha_K S_K \left[\sigma \left(N - 1\right) - (1 + r) t\right]}{\sum_J \alpha_J S_J}. \tag{5.21}$$

Proof. To obtain the equilibrium corruption level for the situation with financial institutions and pooling, we use the utility functions defined in section 5.3.3 for the case where no screening is possible and plug them into the first order condition for the equilibrium corruption level:

$$\frac{\partial v}{\partial c} = 0 \Leftrightarrow \sum_J \alpha_J S_J \left(-\frac{\partial u(c)}{\partial c}\right) + \alpha_K S_K [\sigma \left(N - 1\right) - (1 + r)t] = 0$$

With $\frac{\partial u(c)}{\partial c} > 0$ and $\frac{\partial^2 u(c)}{(\partial c)} > 0$, the equilibrium corruption level c^*_{BP} is uniquely defined.   ∎

Now, only the corrupt officials get a positive rent from corruption. The relatives are missing from the numerator of the right hand side of the expression as they do not have a positive stake in corruption anymore. They receive the interest rate r on their total asset endowment. Note again that for this, it is irrelevant whether the corrupt officials use the bank or not.

The corrupt officials are in a prisoners' dilemma-like situation. In the aggregate, they would prefer to use the informal credit market and borrow from

their relatives while giving them a higher interest rate than the bank. They would then have allies in the elections: If relatives had a stake in corruption, they would vote against possible anti-corruption measures.

Individually, however, the strategy to win over a relative by offering him a rate $b^{BP} > r$ is not optimal for the corrupt officials: Suppose that all corrupt officials are borrowing from the bank. Official i has no incentive to switch to the informal credit market and offer a rate higher than r to his relative. The relative would agree to lend to the corrupt official when offered a higher rate than from the bank. Yet, the corrupt official would only win over one voter to the pro-corruption side. This one vote does not change the corruption level chosen by the politician. Next, suppose that all other corrupt officials borrow from their relatives at a rate $b^{BP} > r$. Then, it pays for official i to switch to the formal credit market because he can then borrow at a lower rate. When all others stay in the informal credit market, the corruption level is not lowered. Thus, each corrupt official individually has the incentive to switch to the formal credit market or to lower the rate he offers to the relative to $b^{BP} = r$. Therefore, the relatives do not get any additional surplus from lending in the informal credit market. This means that the corrupt officials cannot coordinate to give the relatives a stake in corruption and remain the only group of voters with a positive interest in corruption.

5.5.3 Effects of Financial Institutions

We now compare the corruption levels for the cases with and without banks.

Proposition 5.5 *If banks possess a perfect screening technology, the corruption level with functioning financial institutions is always lower than the corruption level without financial institutions,i.e., $c_N^* > c_{BS}^*$.*

Proof. See the appendix. ∎

In the case without banks as well as in the case with banks that are able to screen, the entry fee is financed via the informal credit market. Corrupt officials and relatives share the revenues from corruption. Why does the existence of a functioning banking sector then decrease the equilibrium corruption level? When there are banks, the relatives have the option to save at the bank. Thus, they incur some opportunity costs if they decide to lend to the corrupt

officials. The higher the entry fee, the higher is the amount they lend on the informal credit market and the higher are the foregone returns on the bank deposits. When sharing the surplus from corruption, the corrupt officials and the relatives take these opportunity costs into account. For both groups, this decreases the marginal net benefit from corruption. In the situation with banks and screening, both groups are less responsive to a change in the corruption level than in the situation without banks. As a consequence, the politicians cater less to these groups. The equilibrium corruption level is reduced.

What happens if banks are unable to screen and the corrupt officials have access to the formal credit market?

Proposition 5.6 *If banks offer a pooling contract, the corruption level with functioning financial institutions is lower than the corruption level without these institutions, i.e., $c_{BP}^* < c_N^*$, if and only if*

$$\alpha_K S_K \left[\frac{\sigma(N-1)-t}{2} - rt \right] < \alpha_R S_R \frac{\sigma(N-1)-t}{2}. \qquad (5.22)$$

Proof. See the appendix.   ∎

All costs and benefits from corruption are weighted with the political importance of the groups of voters, that is, the group size α_J and the group's political responsiveness S_J. The higher S_J, the more swing voters does a group have and the more do the politicians cater to this group. The corrupt officials' net marginal benefits of corruption with banks and pooling are weighted with the political importance of corrupt officials. Similarly, the relatives' net marginal benefits of corruption without banks are weighted with the political importance of the relatives. Whenever the benefits of the corrupt officials are smaller than those of the relatives, the introduction of a banking system leads to a reduction of the corruption level in the economy. The existence of banks with pooling increases the voters' support of anti-corruption policies.

The left hand side of condition 5.22 shows the marginal net benefits of the corrupt officials for the case when a functioning banking system with pooling is in place. All revenues from corruption are reaped by the corrupt officials. With respect to the case without financial institutions, they receive an additional half of the surplus from corruption, $\frac{\sigma(N-1)-t}{2}$. The reason is that they can now finance the entry fee via the bank. Equivalently, if they still borrow from the relatives, they do not have to give the relatives an additional surplus over

the world market interest rate r. Without financial institutions, they had to borrow from their relatives and share the surplus from corruption in order to get credit from them. The disadvantage of the banking system is that the corrupt officials have to pay the interest rate r to finance the entry fee. With a banking system, they have marginal costs for financing the entry fee of rt.

On the right hand side, we see why the relatives cease to be supporters of high corruption levels when a banking system is in place: With banks that offer pooling contracts, the relatives lose their half of the net return on corruption, i.e., $\frac{\sigma(N-1)-t}{2}$. They would receive this amount without a banking system. Instead, they earn the rate r on their endowment A, which is independent of the corruption level.

With our assumption that $\alpha_K = \alpha_R$, condition 5.22 can be simplified to $S_R > S_K \left(1 - \frac{2rt}{\sigma(N-1)-t}\right)$. We know from the corrupt officials' participation constraint that $\sigma(N-1) - t > 0$. Therefore, we have that $1 - \frac{2rt}{\sigma(N-1)-t} \leq 1$. Consider first the case where both groups have the same responsiveness to a marginal policy change, that is $S_K = S_R$. It is then clear that financial institutions lead to a lower equilibrium corruption level: In the presence of a banking sector with pooling, the relatives lose all their gains from corruption and become strict supporters of anti-corruption policies. The corrupt officials, in turn, gain from the presence of banks as they do not have to share the returns from corruption with the relatives. On the other hand, they also lose from having to pay the interest rate to the bank. In total, the corrupt officials' net marginal gains from corruption due to the banking system are lower than the marginal gains of the relatives in the case without banks. This means that with banks, the relatives are stronger opponents of an increase of the corruption level than the corrupt officials are supporters of such an increase. If both groups have equal political power, this results in a lower corruption level when banks offer pooling contracts.

This effect is reinforced for $S_K < S_R$. In this case, the relatives are more responsive to marginal changes in the policy variable than the corrupt officials. This is plausible when the anti-corruption campaign is publicly advertised. Then, the relatives see that there is the opportunity to vote against corruption. The political responsiveness, or the importance that voters attach to anti-corruption policies, can be increased when the issue receives a lot of public attention, for example, when the news media publishes investigations on

corrupt government officials.[26] Being part of the corrupt system, the corrupt officials will also without advertising attach a high importance to the issue.

When the corrupt officials have a larger political influence than the relatives, i.e., when $S_K > S_R$, financial institutions could also make the situation worse and increase the equilibrium corruption level. The corrupt officials could be more responsive to announced changes in the corruption level as they are the main part of the corrupt system and in a way, their living depends on it. In such a case, the politicians respond more to the group of corrupt officials as it has more swing voters than the group of relatives.

For $t < \frac{\sigma(N-1)}{1+2r}$ and $S_K > S_R$, it could happen that a banking system with pooling increases the corruption level in the economy. The advantage for the corrupt officials of a banking sector with pooling is that they can finance the entry fee via the bank. They do not have to share the returns from corruption with the relatives. This makes them desire a higher corruption level. In this case, the introduction of a banking sector with pooling would promote corruption.

Note that for $t > \frac{\sigma(N-1)}{1+2r}$, $\left(1 - \frac{2rt}{\sigma(N-1)-t}\right) < 0$, and a banking sector with pooling always decreases the equilibrium corruption level, irrespective of the relative influence of the groups of voters.

The depositors do not have any influence on the decision for a lower or higher corruption level in the two different economic settings. As they always only suffer from corruption, their utilities enter the first order condition for the optimal policy choice exactly in the same way in the cases with and without financial institutions. The level of corruption is lower than if they were not considered by the candidates. For the comparison of one situation to the other, however, they do not play a role, regardless of their share in the population α_D or their political responsiveness S_D.

We can conclude that a financial sector where banks are able to screen perfectly and commit to a code of ethics unambiguously reduces the equilibrium corruption level. If banks can only offer pooling contracts, it depends on the political power of the different groups of voters whether the corruption level in the economy is reduced or not: In most cases, the presence of functioning financial institutions decreases corruption. Only if banks are unable to screen,

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[26]Brunetti and Weder (2003) empirically show that an independent press significantly decreases corruption levels. The reason they give is that corrupt behavior by government officials is more likely to be uncovered by a free press.

the political influence of the corrupt officials compared to that of the relatives is very high, and the entry fee is not too high, banks can have a negative effect on the political support for anti-corruption policies.

5.6 Extensions

In the following, we consider two extensions to the basic model. First, we endogenize the choice of the entry fee by the superiors of the corrupt officials. Second, we look at the influence of financial institutions on the corruption level when we also have entrepreneurs whose business activities in the presence of financial markets expose them to additional costs of corruption.

5.6.1 Endogenizing the Entry Fee

So far, the superiors of the corrupt officials have been left out of the picture. The model focussed entirely on the implications of the financing of the entry fee, taking its size as given. The entry fee can be endogenized by modelling the superiors of the corrupt officials as a group of citizens who participate in the political process. We assume that there is a group of superiors α_S, where $\alpha_S < \alpha_K$. Each superior collects entry fees from several corrupt officials. The total number of corrupt officials is distributed evenly over all superiors, so that each superior collects entry fees from a proportion $\frac{\alpha_K}{\alpha_S}$ of corrupt officials.

Unlike everyone else in the economy, the superiors do not suffer from corruption. This assumption is plausible: Being upper level bureaucrats, the superiors could be privileged in several ways, so that they are exempt from paying bribes in order to get public services. Furthermore, to assume costs of corruption also for the superiors would only make the calculations more cumbersome without adding any new insights. As the superiors do not pay bribes, the population size N that determines the income from corruption, $\sigma(N-1)c$, is the same as in the basic model. The superiors' utility is:

$$U_S(c) = \frac{\alpha_K}{\alpha_S} tc(t) \tag{5.23}$$

All superiors are identical and choose the same entry fee in equilibrium. There is no competition between the superiors as the number of corrupt officials and positions is fixed and all corrupt officials have equal ability. We further

assume that the superiors do not face a coordination problem. They are able to act in a monopolistic way on the market for lucrative positions in the economy. This is plausible as the superiors are a small group.[27]

Otherwise, the incentives to free-ride among the superiors would destroy the rents from corruption. For each individual superior, it would then be better to extract the whole rent from corruption by choosing a high entry fee, given that the other superiors leave a positive rent from corruption to the corrupt officials. This would preserve a high corruption level in the elections. The individual superior would increase his gains from corruption. In equilibrium, these individual incentives would lead to a full extraction of corruption rents from the corrupt officials, even though the superiors are able to anticipate that this leads to a low, or in the extreme case zero, corruption level in the elections.[28] For the present model, we neglect such considerations.

For reasons of tractability, we introduce a specific disutility function of corruption for all groups of voters except for the superiors: $-u(c) = -\frac{1}{2}c^2$. This enables us to explicitly solve for the equilibrium corruption levels.

It is important to fix the time structure of the game: We introduce the choice of t as an additional stage *before* the elections. The rest of the game evolves like in the basic model. Thus, in the bargaining and the elections, the agents take the entry fee t as given. When choosing t, the superiors can anticipate the following behavior in the election and the bargaining stages.[29] The time structure is summarized in figure 5.3.
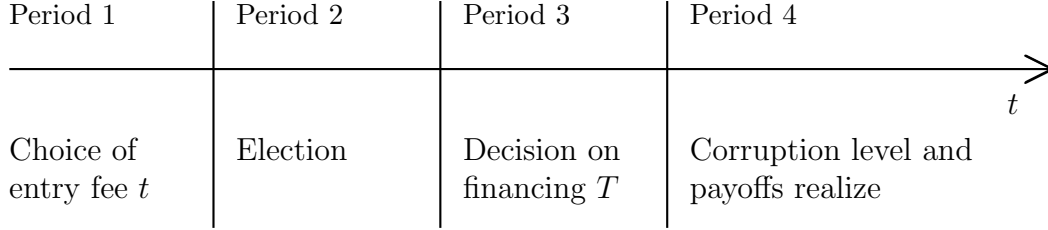
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[27]Coordination problems would not arise if we had one monopolistic superior. Likewise, the group of superiors could select one of them to decide on the size of the entry fee.

[28]The corruption level could still be positive due to the superiors' own positive interest in corruption. However, the superiors are a rather small group of voters. To grant them very high political influence would mean to overexpand the framework of a probabilistic voting model. There are other models, such as lobbying models, that capture large political influence by small groups in a better way. In some countries, like the Ukraine, the superiors seem to control substantial parts of the political process. This is an interesting topic for future research.

[29]A reverse time structure, where the elections are held first and the superiors choose the entry fee after that would lead to time inconsistency problems: For a given corruption level, the superiors will always want to extract *all* the surplus from corruption from the corrupt officials. This leaves corrupt officials and relatives without a positive rent from corruption. For the extreme case, where the superiors have no influence in the elections, this would lead to an equilibrium corruption level of zero and thus to zero revenues for the superiors. To grant the superiors large political influence in such a setting is outside the scope of this model. As mentioned before, this issue should be addressed in a political rent-seeking framework instead of a probabilistic voting model.

Figure 5.3: Time Structure with Endogenous Entry Fee

Period 1	Period 2	Period 3	Period 4
Choice of entry fee t	Election	Decision on financing T	Corruption level and payoffs realize

In the first period, the superiors choose the entry fee, anticipating the subsequent behavior of the corrupt officials and the relatives in the election and bargaining stages. Therefore, from the point of view of the superiors, the equilibrium corruption level c^* depends on the size of the entry fee t. In this model, we get a linear relationship between corruption level and entry fee. The first order condition for the superiors' problem is:

$$\frac{\partial U_S(c)}{\partial c} = 0 \Leftrightarrow c(t) = -t\frac{\partial c}{\partial t} \tag{5.24}$$

Backward induction gives us the bargaining outcome and the equilibrium corruption levels dependent on t. With respect to the basic model, they include in addition the political interests of the superiors. In their optimization calculus, the superiors anticipate the equilibrium corruption outcome. In the following, we derive the equilibrium corruption levels and the equilibrium entry fees for each of the three cases: no financial institutions, financial institutions with perfect screening and with pooling. Then, we compare the corruption levels for the different financial systems.

Using the specification $-u(c) = -\frac{1}{2}c^2$ with lemmas 5.1, 5.2, and 5.3, we can describe the equilibrium corruption levels:

Lemma 5.4 *With the endogenous choice of the entry fee, and $J \in \{D, K, R\}$, the equilibrium corruption levels are, for the case without financial institutions*

$$c_N^*(t) = \frac{(\alpha_R S_R + \alpha_K S_K)\frac{\sigma(N-1)-t}{2} + S_S\alpha_K t}{\sum_J \alpha_J S_J}, \tag{5.25}$$

for the case with financial institutions with screening

$$c_{BS}^*(t) = \frac{(\alpha_R S_R + \alpha_K S_K)\frac{\sigma(N-1)-(1+r)t}{2} + S_S\alpha_K t}{\sum_J \alpha_J S_J}, \tag{5.26}$$

and for the case with financial institutions with pooling

$$c^*_{BP}(t) = \frac{\alpha_K S_K \left[\sigma(N-1) - (1+r)t\right] + S_S \alpha_K t}{\sum_J \alpha_J S_J}. \tag{5.27}$$

Proof. See the appendix.   ■

With respect to the basic model, we now have an additional group of voters with a positive interest in corruption: The equilibrium corruption levels for a given t are increased by the marginal gains from corruption $\alpha_K t$ of the superiors, weighted with their political responsiveness S_S. Note that we still have $\sum_J \alpha_J S_J$ with $J = \{D, K, R\}$, as the superiors do not suffer from corruption.

The superiors now take into account this political equilibrium when deciding on how to set the entry fee t:

Lemma 5.5 *When maximizing their revenue from the entry fee, the superiors choose the following sizes of the entry fee t, depending on the presence of a financial system. For for the case without financial institutions, we have*

$$t^*_N = \frac{(\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(\alpha_R S_R + \alpha_K S_K) - 4S_S \alpha_K}, \tag{5.28}$$

for the case with financial institutions with screening, we have

$$t^*_{BS} = \frac{(\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(1+r)(\alpha_R S_R + \alpha_K S_K) - 4S_S \alpha_K}, \tag{5.29}$$

and for the case with financial institutions with pooling, we have

$$t^*_{BP} = \frac{\alpha_K S_K \sigma(N-1)}{2(1+r)\alpha_K S_K - 2S_S \alpha_K}. \tag{5.30}$$

Proof. See the appendix.   ■

We can see from these expressions that t depends on the size α_J and on the political influence S_J of those groups of voters that profit from corruption, namely corrupt officials, relatives, and superiors. Note that in the presence of banks, t is diminished as the interest rate r offered by the bank shows up in the denominator: In their choice of t, the superiors internalize that the outside options for corrupt officials and relatives to borrow and save at the bank reduce their net surplus from corruption.

We can now use the results for t to derive the equilibrium corruption levels. When comparing the equilibrium corruption level for the case without financial

institutions with the cases where we have financial institutions, we find that our main results hold. The results are robust to the introduction of an endogenous choice of the entry fee.

Proposition 5.7 *When the superiors endogenously choose the entry fee t, functioning financial institutions always reduce the equilibrium corruption level for the case where banks have access to a perfect screening technology, i.e., $c^*_{BS} < c^*_N$. For the case where banks offer pooling credits, financial institutions decrease the equilibrium corruption level, i.e., $c^*_{BP} < c^*_N$, if and only if*

$$\alpha_R S_R > \alpha_K S_K \left[\frac{(1+r)S_K^2 + S_S^2 - (2+3r)S_K S_S}{(1+r)S_K^2 + S_S^2 - (2+r)S_K S_S} \right]. \tag{5.31}$$

Proof. See the appendix. ∎

While the results of the basic model hold in the setting with the endogenous choice of the entry fee, the mechanisms that lead to these results are now different. This is particularly clear for the case with financial institutions and screening. Financial institutions with screening reduce the equilibrium corruption level. In the basic model, this was due to the reduction of the rents from corruption for relatives and corrupt officials: They take into account the opportunity costs for the relatives. The relatives cannot get the interest rate r on the part of their endowment that they lend to the corrupt officials. With the endogenous choice of the entry fee, the reason for this result is different: In the presence of financial institutions with screening, the superior has a lower revenue from corruption. To see this, look at the equilibrium corruption levels c^*_N and c^*_{BS}:

$$c^*_N = \frac{(\alpha_R S_R + \alpha_K S_K)Z + \frac{S_S \alpha_K (\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(\alpha_R S_R + \alpha_K S_K) - 4 S_S \alpha_K}}{\sum_J \alpha_J S_J} \tag{5.32}$$

and

$$c^*_{BS} = \frac{(\alpha_R S_R + \alpha_K S_K)Z + \frac{S_S \alpha_K (\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(1+r)(\alpha_R S_R + \alpha_K S_K) - 4 S_S \alpha_K}}{\sum_J \alpha_J S_J} \tag{5.33}$$

where

$$Z = \left[\frac{\sigma(N-1)}{2} - \frac{(\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(\alpha_R S_R + \alpha_K S_K) - 4 S_S \alpha_K} \right] \tag{5.34}$$

The numerator comprises all positive marginal utilities from a higher corruption level. It has two components: The first, Z, is the net marginal benefit from corruption for corrupt officials and relatives. It is equal for both cases. The second is the marginal benefit from corruption for the superiors.

The marginal gains for the superiors are reduced in the case with financial institutions and screening. The reason for this is the following: When choosing the entry fee, the superiors anticipate the voting behavior of corrupt officials and relatives. If the superiors would reduce the net benefits from corruption of these groups by demanding a higher entry fee, this would result in a lower political support for corruption by both corrupt officials and relatives. When the relatives have the option to save at the bank, their opportunity costs of not saving at the bank reduce the surplus from corruption. By choosing a lower entry fee in the presence of financial institutions, the superiors exactly compensate this loss. This way, they can achieve that the voting behavior of corrupt officials and relatives remains unchanged.

That the superiors *exactly* compensate the corrupt officials and relatives for their opportunity costs in the presence of banks is the result of the linearity of the equilibrium corruption levels in t. However, the effect is more general: The superiors always have the incentives to adjust the entry fee in order to win political allies to support high corruption levels.

For the case with financial institutions and pooling, it is interesting to look at the impact of the political responsiveness of the superiors on condition 5.31. First, consider the case where the superiors do not have any political influence, $S_S = 0$. Then, we have that $c_N^* > c_{BP}^*$ if and only if $\alpha_R S_R > \alpha_K S_K$, and, with the assumption that $\alpha_K = \alpha_R$, $S_R > S_K$. Financial institutions with pooling lead to a lower corruption level if the political responsiveness of relatives, the losers from higher corruption in the presence of banks, is higher than the responsiveness of the corrupt officials and vice versa.

For $S_S > 0$, the expression $\left[\frac{(1+r)S_K^2 + S_S^2 - (2+3r)S_K S_S}{(1+r)S_K^2 + S_S^2 - (2+r)S_K S_S} \right]$ from condition 5.31 is always smaller than 1. When S_S increases, the numerator of the right hand side of condition 5.31 decreases faster than the denominator. In the numerator, $S_K S_S$ is weighted with $(2+3r)$, whereas in the denominator, only with $(2+r)$. Overall, an increase in S_S makes it more likely that condition 5.31 is fulfilled. That is, higher political responsiveness of the superiors increases the parameter range for which a banking system with pooling reduces the

equilibrium corruption level. The reason is that the superiors in the margin profit more from corruption in a system without banks. With banks, they internalize that the corrupt officials have to pay the interest rate r to the bank and lower the entry fee accordingly. The reason is that they want the corrupt officials to be their allies in the support of high corruption levels. We can see this if we compare t_N^* and t_{BP}^* for the case where $\alpha_K S_K = \alpha_R S_R$. Then, we get:

$$t_N^* > t_{BP}^* \Leftrightarrow \frac{\alpha_K S_K \sigma (N-1)}{2\alpha_K S_K - 2S_S \alpha_K} > \frac{\alpha_K S_K \sigma (N-1)}{2(1+r)\alpha_K S_K - 2S_S \alpha_K} \tag{5.35}$$

As $r > 0$, this inequality always holds. Thus, the superiors are stronger supporters of a high corruption level in the case without banks. The introduction of financial institutions reduces the superiors' marginal benefits from corruption and diminishes thereby their support for high corruption levels.

Overall, our results are robust to endogenizing the choice of the entry fee. Financial institutions with screening always decrease the equilibrium corruption level. The introduction of the group of superiors increases the parameter range for which financial institutions with pooling reduce the corruption level with respect to the basic model.

5.6.2 Corruption in the Entrepreneurial Sector

In this section, we introduce an additional group of voters, namely, the entrepreneurs E. The entrepreneurs would like to start their business activities. For this, they have to invest. Since their own funds are insufficient, they first need credit. By assumption, the entrepreneurs can get credit only on the formal credit market. When there are no financial institutions, the entrepreneurs thus have to stay depositors.

Entrepreneurs suffer from corruption like all other groups of citizens in the basic model. Moreover, they incur additional costs of corruption due to their business activities. Whenever there is a functioning financial system, the entrepreneurs have access to the formal credit market. They can borrow from the bank at the interest rate r to finance their investment I. From their investment project, they get a return R. This return is diminished due to corruption: For example, entrepreneurs need licenses for market entry or have to fulfill certain regulations.

The discretionary power of the bureaucrats in charge of business regulation allows them to extract rents from the entrepreneurs. The extraction is the easier, the higher the overall level of corruption in the economy.[30] We assume that this additional exposure of the entrepreneurs to corruption depends on the size of their investment project. For simplicity, we assume that each entrepreneur pays one of these additional bribes. Thus, the return of each investment project is diminished by γc with $\gamma \in \left(0; \frac{1}{c}\right)$. The range of γ is assumed such as to guarantee at least some positive return from entrepreneurial activity in the presence of corruption.[31] Considering this, the utility of the entrepreneurs for both the case with screening and the one with pooling is given by:

$$U_E^{BS}(c) = U_E^{BP}(c) = R(1 - \gamma c) - (1 + r)(I - A) - u(c) \tag{5.36}$$

Note that the projects of the entrepreneurs do not involve any risk. Therefore, banks do not have to screen the entrepreneurs. They only screen to exclude corrupt officials from getting credit.

Corrupt Officials. When in office, the corrupt officials earn the benefits from corruption by collecting a bribe from each individual in the economy and from collecting additional bribes from the entrepreneurs. The group size of the entrepreneurs is α_E. Therefore, the absolute number of entrepreneurs in the economy is $\alpha_E N$. The additional bribes collected from the entrepreneurs are distributed evenly among all corrupt officials. When there is a formal credit market, each corrupt official has an additional gain from corruption of $\frac{\alpha_E}{\alpha_K} R \gamma c$.

In this section, we go back to the basic model in that we take the size of the entry fee, t, as given.

Perfect Screening

When banks are able to deny credit to the corrupt officials, they remain on the informal credit market. When entrepreneurs have to pay additional bribes, this increases the surplus from corruption that is split in the bargaining between

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[30]Djankov et al. (2002) show that countries with a heavy regulation of market entry of new firms have higher corruption levels. Also, they provide supportive evidence for the argument that entry regulation benefits politicians and the bureaucracy.

[31]This can be an exogenous upper bound. Assume, for example, an upper bound for c, $\bar{c}$, such that internal solutions for c are guaranteed, and take $\gamma \in \left[0; \frac{1}{\bar{c}}\right]$.

corrupt officials and relatives. For this case, we get a new equivalent to the interest rate on the informal credit market b_E^{BS}:

$$b_E^{BS} = \frac{\left[\sigma\left(N-1\right) + \frac{\alpha_E}{\alpha_K}R\gamma\right]c - tc\left(1-r\right) - 2rA}{2\left(tc - A\right)} \quad (5.37)$$

In comparison to the basic model, the surplus from corruption is still split evenly among the two groups. It is now augmented by the additional gains from corruption, $\frac{\alpha_E}{\alpha_K}R\gamma$. When there is a banking system and the entrepreneurs can start their business activities, the revenues from a corrupt position are higher than in the case without a banking system. This also means that the superiors of the corrupt official are now able to demand a higher entry fee T.

Now, the upper bound for T is given by $[\sigma(N-1) + \frac{\alpha_E}{\alpha_K}R\gamma - (1+r)t]c > 0$. Therefore, in the case with functioning financial institutions the range of t is defined by $A < tc < \frac{[\sigma(N-1) + \frac{\alpha_E}{\alpha_K}R\gamma]}{1+r}c$.

We can now compare the equilibrium corruption levels for the cases without financial institutions and with banks that use screening. We relate the resulting condition to the condition in the basic model (see proposition 5.5).

Proposition 5.8 *Additional corruption in the entrepreneurial sector further strengthens the result that the presence of financial institutions with screening reduces the equilibrium corruption level with respect to the case without financial institutions, i.e., $c_{BS}^* < c_N^*$, if and only if*

$$(\alpha_K S_K + \alpha_R S_R)\frac{1}{2\alpha_K} < S_E. \quad (5.38)$$

Proof. See the appendix. ∎

What is the role of the entrepreneurs in the political game? The presence of banks has the positive effect that entrepreneurs are able to start their business activities. Then, however, they also suffer more from corruption than the rest of the population: In addition to their private costs of corruption, they have to pay bribes for their business activities. As voters, the entrepreneurs are thus more supportive of anti-corruption policies in the case with financial institutions. On the other hand, the corrupt officials can appropriate additional bribes from the entrepreneurs, which they share with their relatives. They and their relatives are thus more interested in high corruption levels when a banking sector is in place.

Financial institutions with screening always reduce the corruption level when there is no additional corruption in the entrepreneurial sector. When we have corruption in the entrepreneurial sector, this result can be reversed. Whether the above condition is fulfilled or not depends on the relative political influence of the different groups of voters. If we assume again that $\alpha_K = \alpha_R$, the condition reduces to $\frac{1}{2}(S_K + S_R) < S_E$.

When banks can screen perfectly, corruption in the entrepreneurial sector reduces the equilibrium corruption level if the entrepreneurs, the group that suffers from corruption, have the larger political weight compared to the average political weight of corrupt officials and relatives. If corrupt officials and relatives are more responsive to changes in the corruption level and are thus the more attractive target groups for the politician, the condition is reversed. Then, it can happen that financial institutions increase the equilibrium corruption level.

No Screening Possible

In the case where the corrupt officials have access to the formal credit market, the utility levels of the relatives are the same as in the basic model. The bargaining leads to the same rate of the informal credit market $b^{BP} = r$ (see proposition 5.3).

Proposition 5.9 *Additional corruption in the entrepreneurial sector increases the parameter space for which the presence of financial institutions with pooling reduces the equilibrium corruption level, compared to the case without banks, i.e., $c^*_{BP} < c^*_N$, if and only if $S_K < S_E$.*

Proof. See the appendix. ∎

The corrupt officials again benefit from higher corruption with banks.: Entrepreneurs can start their investment projects and thus have to pay additional bribes. For the relatives, the presence of banks means that they lose the revenue from corruption which they get when only the informal credit market is in place. The entrepreneurs suffer from additional bribe payments when running a business. When banks offer pooling contracts, corruption in the entrepreneurial sector reduces the equilibrium corruption level when the responsiveness of corrupt officials to a marginal change in the corruption level is lower than that of the entrepreneurs. That is, the group that profits from the

additional corruption in the presence of financial institutions with pooling has to have a larger political influence than the the group that suffers from the additional corruption.

Generally, additional corruption in the entrepreneurial sector strengthens our result that financial institutions reduce the political support for high corruption levels if the group of entrepreneurs, the one that suffers under the additional corruption, has a large political weight. Note that the intensity of the additional exposure of the entrepreneurs to corruption, captured by γ, is irrelevant for the results. The reason is that the costs for the entrepreneurs, $R\gamma c$, also constitute additional gains from corruption for the corrupt officials. There are no losses from the transfer of resources from the entrepreneurs to the corrupt officials.

Overall, our results are not fully robust to the introduction of additional corruption to the entrepreneurial sector. However, we can see an additional interesting effect: The reason that functioning financial institutions could have negative effects for the fight against corruption is that banks can become a part of the corrupt system: When they finance entrepreneurs who pay high bribes to protect their business activities, they indirectly contribute to the revenues from corruption.[32] If banks could screen also the entrepreneurs and commit themselves not to lend to entrepreneurs that are part of the corrupt system and borrow in order to finance bribes, the additional revenues from corruption would not exist.[33]

5.7 Conclusion

The literature has studied corruption on the low levels of the administration and on the high levels of government, that is, among politicians, separately. However, both types of corruption are linked by corruption on the intermediate levels of the bureaucracy. There, corruption occurs when superiors demand entry fees in exchange for positions on lower levels of the hierarchy. In many developing and transition countries, such second hand markets for jobs are observed.

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[32]Sometimes, the situation may be even more complicated as entrepreneurs may also directly finance the entry fees for some corrupt officials.

[33]In their code of ethics, banks commit themselves not to lend to creditors who may finance bribes with their credits. For an example, see www.imb.ru/en/about/ethics_code.htm.

We have shown that this link between low and high level corruption and the necessity to externally finance part of the entry fee leads to the persistence of corruption if financial institutions are missing. When the corrupt officials finance the entry fee on the informal credit market, they give their relatives a stake in corruption. Therefore, these groups of voters do not support anti-corruption campaigns.

What are the policy implications of our model? In democratic regimes, institutions matter for the fight against corruption. Our analysis has demonstrated that financial institutions are crucial for the political success of anti-corruption policies. Therefore, substantial effort is necessary to establish a functioning financial system. Only this can create the political support that democratic governments need to implement reforms such as anti-corruption policies. Phrased differently, a politician will have incentives to run on an anti-corruption platform only with functioning financial institutions. The reason is that functioning financial institutions reduce or abolish the incentives of some groups of voters to support corruption.

Thus, for a country that strives to reduce corruption, the first step should be to establish a functioning banking system. In our model, if banks are able to screen, financial institutions always reduce the equilibrium corruption level. This is not too unrealistic even for developing countries: For example, corrupt officials can be excluded from getting credit if there is no consumer credit market. However, also when banks are not able to screen, the presence of a functioning banking sector in our model provides the relatives with an additional option to invest and neutralizes their positive stake in corruption.

After the establishment of financial institutions, the second step is to improve the capabilities of banks with respect to project evaluation. Moreover, banks should be given an incentive to fight against corruption by committing themselves not to finance corrupt ventures.

The mechanism we have characterized also feeds back into the incentives of a government to establish the legal and institutional environment that allows a functioning banking sector to develop. They are influenced, for example, by how much support a government gets for liberalizing market entry for foreign banks that commit themselves to a code of ethics including an anti-corruption policy. Therefore, the political economy of structural reforms and corruption are closely related to each other.

5.8 Appendix

In the appendix, we show the omitted proofs in the order of their appearance in the chapter.

Proof of Proposition 5.2

The Nash bargaining solution obtains when b^{BS} maximizes the surplus that can be split among the two parties:

$$b^{BS} = \arg\max[(U_K^{NBS}(c) - U_K^{BS}(c))(U_R^{NBS}(c) - U_R^{BS}(c))]$$

Both relatives and corrupt officials have the outside option to become depositors. Therefore, the Nash bargaining solution has to fulfill:

$$U_K^{NBS}(c) = U_R^{NBS}(c)$$

or:

$$[(N-1)+\alpha_E NR\gamma]\sigma c-(1+b^{BS})(tc-A)-u(c) = A+b^{BS}(tc-A)+r(2A-tc)-u(c)$$

Solving for b^{BS}, this condition yields $b^{BS} = \frac{[(N-1)]\sigma c-tc(1-r)-2rA}{2(tc-A)}$. ∎

Proof of Proposition 5.3

The Nash bargaining solution obtains when b^{BP} maximizes the surplus that can be split among the two parties:

$$b^{BP} = \arg\max[(U_K^{NBP}(c) - U_K^{BP}(c))(U_R^{NBP}(c) - U_R^{BP}(c))]$$

Explicitly writing out the utility levels and simplifying yields:

$$-(1 + b^{BP})(tc - A) + (1 + r)tc = A + b^{BP}(tc - A) + r(2A - tc) \Leftrightarrow b^{BP} = r$$

Therefore, we get that $U_K^{NBP}(c) = U_K^{BP}(c)$ and $U_R^{NBP}(c) = U_R^{BP}(c)$. ∎

Proof of Proposition 5.5

Comparing the first order conditions for the equilibrium corruption levels in the case without a bank, as derived in lemma 5.1, and with banks offering screening contracts, as derived in lemma 5.2, yields:

$$\frac{\partial u(c_N^*)}{\partial c} - \frac{\partial u(c_{BS}^*)}{\partial c} = \frac{(\alpha_K S_K + \alpha_R S_R)\frac{\sigma(N-1)-t}{2}}{\sum_J \alpha_J S_J} - \frac{(\alpha_K S_K + \alpha_R S_R)\frac{\sigma(N-1)-(1+r)t}{2}}{\sum_J \alpha_J S_J}$$

This difference is positive if and only if $\frac{-rt(\alpha_K S_K + \alpha_R S_R)}{2} < 0$. This is always true. As $\frac{\partial u(c)}{\partial c} > 0$ and $\frac{\partial^2 u(c)}{(\partial c)} > 0$, this means that $c_N^* > c_{BS}^*$. ∎

Proof of Proposition 5.6

Comparing the first order conditions for the equilibrium corruption levels in the case without a bank, as derived in lemma 5.1, and with banks offering pooling contracts, as derived in lemma 5.3, yields:

$$\frac{\partial u(c_N^*)}{\partial c} - \frac{\partial u(c_{BP}^*)}{\partial c} = \frac{(\alpha_K S_K + \alpha_R S_R)\frac{\sigma(N-1)-t}{2}}{\sum_J \alpha_J S_J} - \frac{\alpha_K S_K \left[\sigma(N-1) - (1+r)t\right]}{\sum_J \alpha_J S_J}.$$

This difference is positive if and only if $\alpha_K S_K \left(\frac{\sigma(N-1)-t}{2} - rt\right) < \alpha_R S_R \frac{\sigma(N-1)-t}{2}$.

When this condition is fulfilled, as $\frac{\partial u(c)}{\partial c} > 0$ and $\frac{\partial^2 u(c)}{(\partial c)} > 0$, this means that $c_N^* > c_{BP}^*$. ∎

Proof of Lemma 5.4

To obtain the equilibrium corruption level for the situation without financial institutions, we use the utility functions defined in sections 5.3.2 and 5.3.3, substituting $-\frac{1}{2}c^2$ for $-u(c)$. In addition, we take the utility function of the superiors from equation 5.23, weighted with the political responsiveness and group size of the superiors $\alpha_S S_S$. We plug that into the first order condition for the equilibrium corruption level as defined in proposition 5.4.

For the case without financial institutions, the first order condition reads:

$$-c \sum_J \alpha_J S_J + (\alpha_R S_R + \alpha_K S_K)\left[\frac{\sigma(N-1)-t}{2}\right] + S_S \alpha_K t = 0$$

Solving for c, we obtain the equilibrium corruption level $c_N^*(t)$.

For the case with financial institutions with screening, we get:

$$-c \sum_J \alpha_J S_J + (\alpha_R S_R + \alpha_K S_K)\left[\frac{\sigma(N-1)-(1+r)t}{2}\right] + S_S \alpha_K t = 0$$

Solving for c, we obtain the equilibrium corruption level $c_{BS}^*(t)$.

For the case with financial institutions with pooling, we get:

$$-c \sum_J \alpha_J S_J + \alpha_K S_K \left[\sigma(N-1) - (1+r)t\right] + S_S \alpha_K t = 0$$

Solving for c, we obtain the equilibrium corruption level $c_{BP}^*(t)$. ∎

Proof of Lemma 5.5

For the case without financial institutions, we plug $c_N^*(t)$ in the first order condition of the superiors' maximization problem:

$$(\alpha_R S_R + \alpha_K S_K)\frac{\sigma(N-1)-t}{2} + S_S\alpha_K t = \frac{1}{2}(\alpha_R S_R + \alpha_K S_K)t - S_S\alpha_K t$$

Solving for t, we get the equilibrium entry fee t_N^*:

$$t_N^* = \frac{(\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(\alpha_R S_R + \alpha_K S_K) - 4S_S\alpha_K}$$

For the case with financial institutions and screening, we plug $c_{BS}^*(t)$ in the first order condition of the superiors' maximization problem:

$$(\alpha_R S_R + \alpha_K S_K)\frac{\sigma(N-1)-(1+r)t}{2} + S_S\alpha_K t = \frac{(1+r)(\alpha_R S_R + \alpha_K S_K)t}{2} - S_S\alpha_K t$$

Solving for t, we get the equilibrium entry fee t_{BS}^*:

$$t_{BS}^* = \frac{(\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(1+r)(\alpha_R S_R + \alpha_K S_K) - 4S_S\alpha_K}$$

For the case with financial institutions and pooling, we plug $c_{BP}^*(t)$ in the first order condition of the superiors' maximization problem:

$$\alpha_K S_K(\sigma(N-1) - (1+r)t) + S_S\alpha_K t = \alpha_K S_K(1+r)t - S_S\alpha_K t$$

Solving for t, we get the equilibrium entry fee t_{BP}^*:

$$t_{BP}^* = \frac{\alpha_K S_K \sigma(N-1)}{2(1+r)\alpha_K S_K - 4S_S\alpha_K}$$

■

Proof of Proposition 5.7

The equilibrium corruption level without financial institutions c_N^* is now:

$$
\begin{aligned}
c_N^* = {} & \frac{1}{\sum_J \alpha_J S_J}[(\alpha_R S_R + \alpha_K S_K)\left(\frac{\sigma(N-1)}{2} - \frac{(\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(\alpha_R S_R + \alpha_K S_K) - 4S_S\alpha_K}\right) \\
& + S_S\alpha_K \frac{(\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(\alpha_R S_R + \alpha_K S_K) - 4S_S\alpha_K}]
\end{aligned}
$$

For the case where banks have access to a perfect screening technology, the equilibrium corruption level c_{BS}^* is:

$$c_{BS}^* = \frac{1}{\sum_J \alpha_J S_J}[(\alpha_R S_R + \alpha_K S_K)\left(\frac{\sigma(N-1)}{2} - \frac{(\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(\alpha_R S_R + \alpha_K S_K) - 4S_S\alpha_K}\right)$$
$$+ S_S\alpha_K \frac{(\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(1+r)(\alpha_R S_R + \alpha_K S_K) - 4S_S\alpha_K}]$$

Now, we can compare the equilibrium corruption levels for the case without financial institutions and the case with financial institutions with screening. We get that $c_N^* > c_{BS}^*$ if and only if:

$$S_S\alpha_K \frac{(\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(\alpha_R S_R + \alpha_K S_K) - 4S_S\alpha_K} > S_S\alpha_K \frac{(\alpha_R S_R + \alpha_K S_K)\sigma(N-1)}{2(1+r)(\alpha_R S_R + \alpha_K S_K) - 4S_S\alpha_K}$$

This reduces to $(1+r) > 1$. As $r > 0$, this is always true.

For the case where banks can only offer pooling contracts, the equilibrium corruption level c_{BP}^* is:

$$c_{BP}^* = \frac{1}{\sum_J \alpha_J S_J}[\alpha_K S_K\left(\sigma(N-1) - \frac{\alpha_K S_K\sigma(N-1)}{2(1+r)\alpha_K S_K - 2S_S\alpha_K}\right)$$
$$+ S_S\alpha_K \frac{\alpha_K S_K\sigma(N-1)}{2(1+r)\alpha_K S_K - 2S_S\alpha_K}]$$

Now, we can compare the equilibrium corruption levels for the case without financial institutions and the case with financial institutions and pooling. We get that $c_N^* > c_{BP}^*$ if and only if:

$$\alpha_R S_R - \frac{(\alpha_R S_R + \alpha_K S_K)^2 - 2S_S\alpha_K(\alpha_R S_R + \alpha_K S_K)}{2(\alpha_R S_R + \alpha_K S_K) - 4S_S\alpha_K}$$
$$> \alpha_K S_K - \frac{\alpha_K S_K}{\alpha_K S_K - S_S\alpha_K} + \frac{S_S\alpha_K\alpha_K S_K}{(1+r)\alpha_K S_K - S_S\alpha_K}$$

Simplification yields:

$$\alpha_R S_R > \alpha_K S_K\left[3 - \frac{2\alpha_K S_K}{\alpha_K S_K - S_S\alpha_K} + \frac{2S_S\alpha_K}{(1+r)\alpha_K S_K - S_S\alpha_K}\right]$$

and finally:

$$\alpha_R S_R > \alpha_K S_K\left[\frac{(1+r)S_K^2 + S_S^2 - (2+3r)S_K S_S}{(1+r)S_K^2 + S_S^2 - (2+r)S_K S_S}\right]$$

$\blacksquare$

Proof of Proposition 5.8

If banks have a perfect screening technology, $c_{BS}^* < c_N^*$ if and only if:

$$\frac{(\alpha_K S_K + \alpha_R S_R)\frac{[\sigma(N-1)+\sigma\alpha_E NR\gamma-(1+r)t]}{2} - \alpha_E S_E R\gamma}{\sum_J \alpha_J S_J} < \frac{(\alpha_K S_K + \alpha_R S_R)\frac{[\sigma(N-1)-t]}{2}}{\sum_J \alpha_J S_J}$$

This reduces to:

$$(\alpha_K S_K + \alpha_R S_R)\frac{\left(\frac{\alpha_E}{\alpha_K}R\gamma - rt\right)}{2} < \alpha_E S_E R\gamma$$

Again, all marginal utilities are weighted with their political responsiveness of the groups. With respect to proposition 5.5, corruption in the entrepreneurial sector further decreases the equilibrium corruption level c_{BS}^* in the presence of a financial system with screening if the *additional* marginal benefits for corrupt officials and relatives due to the additional corruption in the entrepreneurial sector are smaller than the additional marginal costs for the entrepreneurs. This is the case if and only if:

$$(\alpha_K S_K + \alpha_R S_R)\frac{\alpha_E}{2\alpha_K}R\gamma < \alpha_E S_E R\gamma$$

Simplification yields $(\alpha_K S_K + \alpha_R S_R)\frac{1}{2\alpha_K} < S_E$. ∎

Proof of Proposition 5.9

If banks offer pooling contracts, $c_{BP}^* < c_N^*$ if and only if:

$$\frac{\alpha_K S_K[\sigma(N-1)+\sigma\alpha_E NR\gamma-(1+r)t] - \alpha_E S_E R\gamma}{\sum_J \alpha_J S_J} < \frac{(\alpha_K S_K + \alpha_R S_R)\frac{[\sigma(N-1)-t]}{2}}{\sum_J \alpha_J S_J}$$

or:

$$\alpha_K S_K\left[\frac{\alpha_E}{\alpha_K}R\gamma + \frac{\sigma(N-1)-t}{2} - rt\right] < \alpha_E S_E R\gamma + \alpha_R S_R\frac{\sigma(N-1)-t}{2}$$

With respect to proposition 5.6, the condition for $c_{BP}^* < c_N^*$ is strengthened if the additional costs for the entrepreneurs, weighted with their political importance, are higher than the additional gains for the corrupt officials, weighted with their political importance. This is the case if and only if:

$$\alpha_K S_K\frac{\alpha_E}{\alpha_K}R\gamma < \alpha_E S_E R\gamma$$

Simplification yields $S_K < S_E$. ∎

Chapter 6

Concluding Remarks

6.1 Main Findings

In this study, we have presented tools of analysis for understanding how political institutions constrain and shape the incentives of political decision-makers. We have shown that political institutions matter for the incentives of politicians to implement economic reforms. Thus, we were able to find reasons for the lack of reforms in the incentive structure of politicians. This is particularly interesting for the current political debates in many countries about whether or not and in which way to implement economic reforms. Our results give reasons for why current governments might not enact sufficiently large economic reforms, delay necessary reforms, or take the wrong reform steps, as they are commonly perceived to do.

The research presented here has built on the political economy literature. In chapter 2, as a preparation for the study of particular economic reforms, we have surveyed the part of this literature that looks at political institutions. Two important insights have emerged from that: First, we have examined the definition of political institutions as constraints for political decision-makers. This definition is not only quite general but also very useful for the analysis of political incentives as it allows to take the preferences of politicians as exogenous. Second, we have identified the concepts of political institutions that are implicit in the political economy literature. It has become clear that for each specific research question, the level of analysis has to be chosen accordingly. Political institutions are a complex structure that makes it impossible to look at the whole array of institutional constraints on policy-making at once.

The literature survey has shown that standard models to analyze the inter-dependencies between different levels of political institutions are still missing. Also, at least in some cases, the literature fails to distinguish clearly between the political and the economic realm. This makes it difficult to disentangle the mechanisms by which political institutions shape the incentives of political decision-makers. Confusion about the explanatory and the endogenous variables can obstruct the view of the effects of political institutions.

Yet, there exists no one-way relation: Political institutions shape economic outcomes. By doing this, they also define the policy preferences of individuals. Changed preferences might then lead to different policy choices or even to reforms of the institutional framework. In the latter case, the causality is reversed: Then, political institutions are not causes of economic outcomes. Rather, the design of political institutions is a political choice by agents whose preferences are determined by the economic environment.

Which direction of the causality we have to consider, depends on the scale of the research question. We have concluded that for the purpose of this study, namely, the analysis of incentives to implement economic reforms in a static setting, political institutions have to be taken as exogenous. While economic reforms have long-term impacts, they are composed of many one-shot political decisions reached by individual policy-makers at a specific point in time. For each single policy choice, the politicians thus encounter a given institutional environment.

We have analyzed incentives of political decision-makers to implement economic reforms in three different cases, namely, the decisions to privatize, to introduce new policies in issues where interest groups play a predominant role, and to enact anti-corruption policies. For each of these cases, we have chosen to focus on the effects of a different level of political institutions.

For chapter 3, we have selected the level of political regimes. The incentives to reform the entrepreneurial sector are different in democratic and autocratic regimes. Under certain conditions, politicians in all government types can have inefficiently high incentives to privatize state-owned enterprises. Already a crude distinction of political regimes makes it possible to explain variations in political incentives. The focus on political incentives for privatization instead of the analysis of privatization outcomes has given us a very important insight: It is not necessarily the case that the decision for privatization is taken because politicians are interested in increasing efficiency. If this were so, outside

pressure to privatize, for example by international organizations, would always be beneficial. Our analysis has shown that things are different: Governments can have incentives to privatize when it would be more efficient to leave a firm in state-ownership. Privatization in such a case cannot be welfare-enhancing. Thus, it can be detrimental to exert outside pressure for the implementation of privatization programs without knowing the incentive structure of politicians.

In chapter 4, we have focussed on the involvement of interest groups in the political decision-making process. For this question, we have abstracted from other political institutions such as political regimes or electoral systems. We have looked at issues where organized interests have a large influence on policy decisions. Our illustrative case has been the decision of a government to implement a new policy of AIDS relief in developing countries. If the incentives of political decision-makers depend on contributions by special interest groups, we get in many cases a lower funding of new policies than would be desired by the general public. We have argued that the reasons for that result lie in the two-stage structure of the political decision-making process and the involvement of lobbies therein: If interest groups are given the right to decide on a policy, their failure to compromise reduces their incentives to support the implementation of that policy. The government then allocates too few resources to the implementation of the new policy. In particular, such a government inertia results when interest groups are involved both in the process of choosing a new policy and in the subsequent decision about the allocation of resources to that policy.

In chapter 5, we have analyzed how the introduction of functioning financial markets changes the incentives of politicians to implement anti-corruption policies. In the presence of a banking system, more voters support anti-corruption measures than in the case without banks. The reason is that a banking system provides new opportunities for investing and borrowing. When banking systems are introduced, citizens who formerly relied on lending to corrupt officials gain access to the formal credit market. If they use this new opportunity, they cease to be political supporters of a corrupt bureaucracy. In the elections, politicians running on an anti-corruption platform then have a higher chance of winning. Financial markets thus help to achieve a reduction of corruption in the bureaucracy. The exogenous introduction of new economic institutions changes the sets of preferences of the citizens, and, as a consequence, the policy choices of the politicians.

6.2   Topics for Future Research

The incentives of political decision-makers are shaped by political institutions. This holds both for the implementation of economic policies and for reforms of the political institutions themselves. In this study, we have looked for explanations for the perceived lack of necessary economic reforms. We have been able to identify some of the reasons why politicians have incentives to stick to the status quo or to implement inefficient reforms. Mostly, these stem from preferences of the politicians that are not related to the specific policy issue but focus on reelection, keeping political power, or appropriating private revenues.

Such preferences may, in the right institutional environment, improve the performance of politicians. Yet, if the political institutions are only imperfectly able to mitigate the distortive forces, they can also create incentives for inefficient policy choices. Furthermore, changes of the economic environment can lead to different incentives for policy choice.

In this study, we have attempted to answer the question why inefficient policies are chosen while efficient alternatives may not be politically viable. For any economic policy advice, it is important to understand the constraints that the political decision-makers face. These are given by the political institutions. If we understand how these institutions influence the incentives of political decision-makers, we can suggest policy alternatives that already take into account these political constraints. In the words of Dixit (1997, p. 228): "It is futile to advise the government to take an action that maximizes the economist's usual measure of overall social welfare if doing so will cost the government the next election."

Yet, to understand the constraints that politicians face and to identify feasible alternatives within these constraints is only the first step. Once we have found the reasons for the lack of reforms, the next and much larger project is to ask how better reform incentives can be created. In the present study, we have not touched this important topic. We have taken political institutions as exogenous constraints on policy-making.

A question that is long standard in the field of contract theory and the theory of the firm should also be asked by political economists: How can we design incentives more efficiently? What do political institutions have to look like in order to give political decision-makers the right incentives to enact reforms? For this project, we will have to treat political institutions as endogenous. The

theoretical literature that analyzes how political institutions are created and how they may be changed is still very small. Moreover, it is mostly concerned with the purely institutional development and does not ask for the economic outcomes that are determined by these institutions.

To explain the development of political institutions together with their effects on economic outcomes is a very important area of future research in political economics. Political economists should think about ways to reform political institutions in order to improve the incentives of politicians.

However, when asking for the reform of political institutions, we run into new difficulties: Given that politicians have wrong incentives to implement economic reforms, why should they have the right incentives to enact institutional reforms? From chapter 2, we have learnt that institutional changes are, and ought to be, more difficult than changes of economic outcomes. The reason is that institutions should display some stability in order to grant commitment power to politicians and enable them to credibly implement reforms.

We have identified changes of ideas, interests, and of the economic environment as the possible causes of institutional development. It is trivial to state that political preferences for institutional reforms make such reforms implementable, as long as these preferences are expressed by those who have the political decision-making power. Reforms of political institutions encounter the same problems as economic reforms. They, too, are chosen only when there is enough political support for their implementation.

However, institutional reforms may affect other groups of citizens and thus may encounter a different opposition than economic reforms. The complexity of the political process might have a positive side: In cases where a big economic reform may be politically unfeasible, a reform of political institutions in small steps might be another way to go.

We do not believe that it is an easy task to design efficient political institutions and to implement institutional reforms. Yet, we believe that this is exactly the direction the research in political economy should take. Economic methods seem to be the appropriate tools to closely analyze the incentive structures that are defined by political institutions.

Economic methods also seem to be the right basis to discuss how these institutions could be improved in order to optimize the incentives of politicians. For this, we need ideas about the origins and the development of political

institutions. Moreover, we have to relate these endogenously derived political institutions to the policy choices that are taken in their framework and the resulting economic outcomes.

The old role of political economists was to find reasons for inefficient policy outcomes. With the new research project, we can give the field an additional and much more positive task. Then, research in political economy will help to design better political institutions. It will find ways to improve both political incentives and economic outcomes.

Bibliography

[1] Abed, George T., and Hamid R. Davoodi (2000): Corruption, Structural Reform, and Economic Performance in the Transition Economies, IMF Working Paper No. WP/00/132

[2] Acemoglu, Daron (2002): Why Not a Political Coase Theorem? Social Conflict, Commitment, and Politics, NBER Working Paper No. 9377

[3] Acemoglu, Daron, Simon Johnson, and James A. Robinson (2001): The Colonial Origins of Comparative Development: An Empirical Investigation, American Economic Review 91(5), 1369-1401

[4] Acemoglu, Daron, Simon Johnson, and James A. Robinson (2002): Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution, Quarterly Journal of Economics 117(4), 1231-1294

[5] Acemoglu, Daron, Simon Johnson, and James A. Robinson (2004): Institutions as the Fundamental Cause of Long-Run Growth, NBER Working Paper No. 10481

[6] Acemoglu, Daron, Michael Kremer, and Atif Miran (2003): Incentives in Markets, Firms, and Governments, NBER Working Paper No. 9802

[7] Acemoglu, Daron, and James A. Robinson (2002): Economic Backwardness in Political Perspective, NBER Working Paper No. 8831

[8] Acemoglu, Daron, and Thierry Verdier (1998): Property Rights, Corruption and the Allocation of Talent: A General Equilibrium Approach, Economic Journal 108(450), 1381-1403

[9] Acemoglu, Daron, and Thierry Verdier (2000): The Choice between Market Failure and Corruption, American Economic Review 90(1), 194-211

[10] Aghion, Philippe, Alberto Alesina, and Francesco Trebbi (2004): Endogenous Political Institutions, Quarterly Journal of Economics 119(2), 565-611

[11] Aghion, Philippe, and Patrick Bolton (2003): Incomplete Social Contracts, Journal of the European Economic Association 1(1), 38-67

[12] Aidt, Toke S. (1998): Political Internalization of Economic Externalities and Environmental Policy, Journal of Public Economics 69(1), 1-16

[13] Aidt, Toke S. (2003): Economic Analysis of Corruption: A Survey, Economic Journal 113(491), F632 - F658

[14] Alesina, Alberto (1988): Credibility and Political Convergence in a Two-Party System with Rational Voters, American Economic Review 78(4), 796-805

[15] Alesina, Alberto (1994): Political Models of Macroeconomic Policy and Fiscal Reforms, in: Haggard, Stephen, and Steven B. Webb (eds.): Voting for Reform: Democracy, Political Liberalization and Economic Adjustment, New York: Oxford University Press, 37-60

[16] Alesina, Alberto, and David Dollar (2000): Who Gives Foreign Aid to Whom and Why?, Journal of Economic Growth 5(1), 33-63

[17] Alesina, Alberto, and Allan Drazen (1991): Why are Stabilizations Delayed?, American Economic Review 81(5), 1170-1188

[18] Alesina, Alberto, Sule Özler, Nouriel Roubini, and Phillip Swagel (1996): Political Instability and Economic Growth, Journal of Economic Growth 1(2), 189-212

[19] Armijo, Leslie (1999): Balance Sheet or Ballot Box? Incentives to Privatize in Emerging Democracies, in: Oxhorn, Philip, and Pamela Starr (eds.): Markets and Democracy in Latin America: Conflict or Convergence?, Boulder, CO: Lynne Rienner, 161-202

[20] Arocena, Pablo (2004): Privatization Policy in Spain: Stuck between Liberalisation and the Protection of Nationals' Interests, CESifo Working Paper No. 1187

[21] Austen-Smith, David (1987): Interest Groups, Campaign Contributions, and Probabilistic Voting, Public Choice 54(2), 123-139

[22] Austen-Smith, David, and Jeffrey Banks (1988): Elections, Coalitions, and Legislative Outcomes, American Political Science Review 82(2), 405-422

[23] Austen-Smith, David, and Jeffrey Banks (1989): Electoral Accountability and Incumbency, in: Ordeshook, Peter C. (ed.): Models of Strategic Choice in Politics, Ann Arbor: University of Michigan Press, 121-148

[24] Banks, Jeffrey, and Rangarajan Sundaram (1993): Adverse Selection and Moral Hazard in a Repeated Elections Model, in: Barnett, William A., Melvin J. Hinich, and Norman J. Schofield (eds.): Political Economy: Institutions, Information, Competition, and Representation, Cambridge: Cambridge University Press, 295-311

[25] Bardhan, Pranhab (1997): Corruption and Development: A Review of Issues, Journal of Economic Literature 35(3), 1320-1346

[26] Baron, David P. (2003): Competing for the Public through the News Media, Stanford Research Paper No. 1808

[27] Baron, David, and John Ferejohn (1989): Bargaining in Legislatures, American Political Science Review 83(4), 1181-1206

[28] Bazerman, Max H., and Henry S. Faber (1986): The General Basis of Arbitrator Behavior: An Empirical Analysis of Conventional and Final-Offer Arbitration, Econometrica 54(6), 1503-1528

[29] Beck, Paul B., and Michael W. Maher (1986): A Comparison of Bribery and Bidding in Thin Markets, Economic Letters 20, 1-5

[30] Bennedsen, Morten (2000): Political Ownership, Journal of Public Economics 76(3), 559-581

[31] Bennedsen, Morten, and Sven E. Feldman (2001): Informational Lobbying and Political Contributions, CEBR Copenhagen Discussion Paper No. 2001-13

[32] Bennedsen, Morten, and Sven E. Feldman (2002): Lobbying Legislatures, Journal of Political Economy 110(4), 919-946

[33] Bennedsen, Morten, and Christian Schultz (2003): Outsourcing, Market Structure, and Elections, Centre for Industrial Economics Copenhagen Discussion Paper No. 2003-05

[34] Berne, Michel, and Gérard Pogorel (2004): Privatization Experiences in France, CESifo Working Paper No. 1195

[35] Bernheim, Douglas B., and Michael D. Whinston (1986a): Menu Auctions, Resource Allocation, and Economic Influence, Quarterly Journal of Economics 101(1), 1-31

[36] Bernheim, Douglas B., and Michael D. Whinston (1986b): Common Agency, Econometrica 54(4), 923-942

[37] Berry, Jeffrey M. (1999): The New Liberalism: The Rising Power of Citizen Groups, Washington DC: Brookings Institution Press

[38] Besley, Timothy, and Anne Case (2003): Political Institutions and Policy Choices: Evidence from the United States, Journal of Economic Literature 41(1), 7-73

[39] Besley, Timothy, and Stephen Coate (1997): An Economic Model of Representative Democracy, Quarterly Journal of Economics 112(1), 85-114

[40] Besley, Timothy, and Stephen Coate (2001): Lobbying and Welfare in a Representative Democracy, Review of Economic Studies 68(1), 67-82

[41] Besley, Timothy, and John McLaren (1993): Taxes and Bribery: The Role of Wage Incentives, Economic Journal 103(127), 119-141

[42] Biais, Bruno and Enrico Perrotti (1997): Machiavellian Underpricing, CEPR Discussion Paper No. 2014

[43] Biais, Bruno, and Enrico Perrotti (2002): Machiavellian Privatization, American Economic Review 92(1), 240-258

[44] Black Duncan (1948): On the Rationale of Group Decision Making, Journal of Political Economy 56(1), 23-34

[45] Blanchard, Oliver, and Philippe Aghion (1996): On Insider Privatization, European Economic Review 40(3-5), 759-766

[46] Bloch, Francis, and Delphine Manceau (1999): Persuasive Advertising in Hotelling's Model of Product Differentiation, International Journal of Industrial Organization 17(4), 557-574

[47] Börner, Kira, and Florian Herold (2004): The Costs and Benefits of a Separation of Powers: An Incomplete Contracts Approach, mimeo

[48] Bös, Dieter (2000): Privatization under Asymmetric Information, Indian Journal of Applied Economics 8, 285-326

[49] Bös, Dieter, and Philipp Harms (1997): Mass Privatization, Management Control and Efficiency, Journal of Public Economics 64(3), 343-357

[50] Bortolotti, Bernardo, Marcella Fantini, and Domenico Sinisalco (2003): Privatization Around the World: Evidence from Panel Data, Journal of Public Economics 88(1-2), 305-332

[51] Bortolotti, Bernardo, and Paolo Pinotti (2003): The Political Economy of Privatization, FEEM Working Paper No. 45.2003

[52] Boycko, Maxim, Andrei Shleifer, and Robert Vishny (1996): A Theory of Privatization, Economic Journal 106(435), 309-319

[53] Brennan, Geoffrey, and James M. Buchanan (1965): The Calculus of Consent, Ann Arbor: University of Michigan Press

[54] Brennan, Geoffrey, and James M. Buchanan (1985): The Reason of Rules, Cambridge: Cambridge University Press

[55] Brunetti, Aymo, and Beatrice Weder (2003): A Free Press is Bad News for Corruption, Journal of Public Economics 87(5-6), 1801-1824

[56] Bueno de Mesquita, Bruce, James D. Morrow, Randolph M. Siverson, and Alastair Smith (2000): Political Institutions, Political Survival, and Policy Success, in: Bueno de Mesquita, Bruce, and Hilton L. Root (eds.): Governing for Prosperity, New Haven: Yale University Press, 59-84

[57] Burnside, Craig, and David Dollar (2000): Aid, Policies, and Growth, American Economic Review 90(4), 847-868

[58] Caillaud, Bernard, and Jean Tirole (1999): Party Governance and Ideological Bias, European Economic Review 43(4-6), 779-789

[59] Caillaud, Bernard, and Jean Tirole (2002): Parties as Political Intermediaries, Quarterly Journal of Economics 107(4), 1453-1490

[60] Calvert, Randall (1985): Robustness of the Multidimensional Voting Model: Candidate Motivations, Uncertainty, and Convergence, American Journal of Political Science 29(1), 69-95

[61] Carlyle, Thomas [1840] (1966): On Heroes, Hero-Worship, and the Heroic in History (ed. by Carl Niemeyer), Lincoln, NE: University of Nebraska Press

[62] Celarier, Michelle (1997): Privatization: A Case Study in Corruption, Journal of International Affairs 50(2), 531-543

[63] Coate, Stephen (2001): Political Competition with Campaign Contributions and Informative Advertising, NBER Working Paper No. 8693

[64] Coate, Stephen, and Stephen Morris (1995): On the Form of Transfers to Special Interests, Journal of Political Economy 103(6), 1210-1235

[65] Coate, Stephen, and Stephen Morris (1999): Policy Persistence, American Economic Review 89(5), 1327-1336

[66] Cook, Paul (1997): Privatization, Public Enterprise Reform and the World Bank: Has "Bureaucrats in Business" Got it Right?, Journal of International Development 9(6), 887-897

[67] Coughlin, Peter, and Shmuel Nitzan (1981): Directional and Local Electoral Equilibria with Probabilistic Voting, Journal of Economic Theory 24(2), 226-239

[68] Cox, Gary W. (1987): Electoral Equilibria under Alternative Voting Institutions, American Journal of Political Science 31(1), 82-108

[69] Cox, Gary W. (1990): Centripetal and Centrifugal Incentives in Electoral Systems, American Journal of Political Science 34(4), 903-935

[70] Cox, Gary W. (1997): Making Votes Count, Cambridge: Cambridge University Press

[71] Crawford, Vincent P. (1979): On Compulsory-Arbitration Schemes, Journal of Political Economy 87(1), 131-159

[72] Czada, Roland M., and Adrienne Windhoff-Héritier (eds.)(1991): Political Choice: Institutions, Rules, and the Limits of Rationality, Frankfurt am Main: Campus

[73] Debande, Olivier, and Guido Friebel (2004): A Positive Theory of "Give-away" Privatization, mimeo, forthcoming in: International Journal of Industrial Organization

[74] Delfgaauw, Josse, and Robert Dur (2003): From Public Monopsony to Competitive Market, Timbergen Institute Discussion Paper TI No. 2002-118/1

[75] Dewatripont, Mathias, and Jean Tirole (1999): Advocates, Journal of Political Economy 107(1), 1-39

[76] Dewatripont, Mathias, Ian Jewitt, and Jean Tirole (1999a): The Economics of Career Concerns, Part I: Comparing Information Structures, Review of Economic Studies 66(1), 183-198

[77] Dewatripont, Mathias, Ian Jewitt, and Jean Tirole (1999b): The Economics of Career Concerns, Part II: Application to Missions and Accountability of Government Agencies, Review of Economic Studies 66(1), 199-217

[78] Dewatripont, Mathias, and Gérard Roland (1995): The Design of Reform Packages under Uncertainty, American Economic Review 85(5), 1207-1223

[79] Dixit, Avinash (1996): Special Interest Lobbying and Endogenous Commodity Taxation, Eastern Economic Journal 22, 375-388

[80] Dixit, Avinash (1997): Economists as Advisers to Politicians and to Society, Economics and Politics 9(3), 225-230

[81] Dixit, Avinash, Gene M. Grossman, and Elhanan Helpman (1997): Common Agency and Coordination: General Theory and Application to Government Policy Making, Journal of Political Economy 105(4), 752-769

[82] Dixit, Avinash, and Peter Londregan (1996): The Determinants of Success of Special Interests in Redistributive Politics, Journal of Politics 58(4), 1132-1155

[83] Djankov, Simeon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer (2002): The Regulation of Entry, Quarterly Journal of Economics 117(1), 1-37

[84] Djankov, Simeon, Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer (2003): The New Comparative Economics, Journal of Comparative Economics 31(4), 595-619

[85] Djankov, Simeon, and Peter Murrell (2002): Enterprise Restructuring in Transition: A Quantitative Survey, Journal of Economic Literature 40(3), 739-792

[86] Dollar, David, and Aart Kraay (2003): Institutions, Trade and Growth, Journal of Monetary Economics 50(1), 133-162

[87] Downs, Anthony (1957): An Economic Theory of Democracy, New York: Harper and Row

[88] Drazen, Allan (1996): The Political Economy of Delayed Reform, Policy Reform 1, 25-46

[89] Drazen, Allan, and Nuno Limão (2003): Government Gains from Self-Restraint: A Bargaining Theory of Inefficient Redistribution Policies, CEPR Discussion Paper No. 4007

[90] Duverger, Maurice (1954): Political Parties, New York: Wiley

[91] Easterly, William, and Ross Levine (2003): Tropics, Germs, and Crops: How Endowments Influence Economic Development, Journal of Monetary Economics 50(1), 3-39

[92] European Bank for Reconstruction and Development: Transition Report (yearly publication), London:EBRD

[93] European Bank for Reconstruction and Development: Transition Report (2002): Agriculture and Rural Transition, London: EBRD

[94] Epstein, David, and Sharyn O'Halloran (1995): A Theory of Strategic Oversight: Congress, Lobbyists, and the Bureaucracy, Journal of Law, Economics, and Organization 11(2), 227-255

[95] Epstein, Gil S., and Shmuel Nitzan (2002a): Stakes and Welfare in Rent-Seeking Contests, Public Choice 112(1-2), 137-142

[96] Epstein, Gil S., and Shmuel Nitzan (2002b): Endogenous Public Policy, Politicization, and Welfare, Journal of Public Economic Theory 4(4), 661-677

[97] Epstein, Gil S., and Shmuel Nitzan (2004): Strategic Restraint in Contests, European Economic Review 48(1), 201-210

[98] Esping-Andersen, Gosta (1990): The Three Worlds of Welfare Capitalism, Cambridge: Polity

[99] EU-Commission (2001): Reports from issue-group meetings, at: http://europa.eu.int/comm/trade/csc/med.htm, last accessed on 06/09/2004

[100] Farber, Henry S. (1980): An Analysis of Final-Offer Arbitration, Journal of Conflict Resolution 35, 683-705

[101] Feddersen, Timothy J. (2004): Rational Choice Theory and the Paradox of Not Voting, Journal of Economic Perspectives 18(1), 99-112

[102] Feigenbaum, Harvey B., and Jeffrey R. Henig (1997): Privatization and Political Theory, Journal of International Affairs 50(2), 338-355

[103] Felli, Leonardo, and Antonio Merlo (2000): Endogenous Lobbying, CESifo Working Paper No. 291

[104] Ferejohn, John (1986): Incumbent Performance and Electoral Control, Public Choice 50(1-3), 5-26

[105] Fernandez, Raquel, and Dani Rodrik (1991): Resistance to Reform: Status Quo Bias in the Presence of Individual-Specific Uncertainty, American Economic Review 81(5), 1146-1155

[106] Foellmi, Reto, and Manuel Oechslin (2003): Who Gains from Non-Collusive Corruption?, University of Zurich Working Paper No. 142

[107] Fredriksson, Per G., and Jakob Svensson (2003): Political Instability, Corruption and Policy Formation: the Case of Environmental Policy, Journal of Public Economics 87(7-8), 1383-1405

[108] Frey, Bruno (1997): Institutions: The Economic Perspective, in: Steunenberg, Bernard, and Frans van Vught (eds.)(1997): Political Institutions and Public Policy - Perspectives on European Decision Making, Dordrecht: Kluwer Academic Publishers, 29-44

[109] Frydman, Roman, and Andrzej Rapaczynski (1993): Insiders and the State: Overview of Responses to Agency Problems in East European Privatizations, Economics of Transition 1(1), 39-59

[110] Galal, Ahmed, Leroy Jones, Pankaj Tandon, and Ingo Vogelsang (1994): Welfare Consequences of Selling Public Enterprises, New York: Oxford University Press

[111] Ganslandt, Mattias, Keith E. Maskus, and Eina V. Wong (2001): Developing and Distributing Essential Medicines to Poor Countries: The DEFEND Proposal, The World Economy 24(6), 779-795

[112] Gawande, Kishore (1997): US Non-Tariff Barriers as Privately Provided Public Goods, Journal of Public Economics 64(1), 61-81

[113] Gersbach, Hans, and Verena Liessem (2002): Financing Democracy, CESifo Working Paper No. 821

[114] Gibbons, Robert (1988): Learning in Equilibrium Models of Arbitration, American Economic Review 78(5), 896-912

[115] Gibbons, Robert (1992): A Primer in Game Theory, New York: Harvester Wheatsheaf

[116] Glazer, Amihai, and Bernard Grofman (1989): Why Representatives are Ideologists though Voters are not, Public Choice 61(1), 29-39

[117] Glaeser, Edward L., Rafael La Porta, Florencio Lopez-de-Silanes, and Andrei Shleifer (2004): Do Institutions Cause Growth?, NBER Working Paper No. 10568

[118] Glaeser, Edward L., and Andrei Shleifer (2002): Legal Origins, Quarterly Journal of Economics, 117(4), 1193-1228

[119] Goel, Rajeev K., and Daniel P. Rich (1989): On the Economic Incentives for Taking Bribes, Public Choice 61(3), 269-275

[120] Greenwood, Justin (1997): Representing Interests in the European Union, New York: St. Martin's Press

[121] Grofman, Bernard, and Donald Wittman (eds.)(1989): The Federalist Papers and the New Institutionalism, New York: Agathon Press

[122] Grossman, Gene M., and Elhanan Helpman (1994): Protection for Sale, American Economic Review 84(4), 833-850

[123] Grossman, Gene M., and Elhanan Helpman (1996): Electoral Competition and Special Interest Politics, Review of Economic Studies 63(2), 265-286

[124] Grossman, Gene M., and Elhanan Helpman (1999): Competing for Endorsements, American Economic Review 89(3), 501-524

[125] Grossman, Gene M., and Elhanan Helpman (2001): Special Interest Politics, Cambridge, Mass.: MIT Press

[126] Grossman, Herschel (1991): A General Equilibrium Model of Insurrections, American Economic Review 81(4), 912-921

[127] Grossman, Herschel (1994): Production, Appropriation, and Land Reform, American Economic Review 84(3), 705-712

[128] Grossman, Herschel (1999): Kleptocracy and Revolutions, Oxford Economic Papers 51(2), 267-283

[129] Grossman, Herschel, and Minseong Kim (1996): Predation and Accumulation, Journal of Economic Growth 1(3), 333-351

[130] Gupta, Sanjeev, Davoodi, Hamid, and Rosa Alonso-Terme (2002): Does Corruption Affect Income Inequality and Poverty?, Economics of Governance 3(1), 23-45

[131] Haggard, Stephan, and Steven B. Webb (1993): What Do We Know about the Political Economy of Economic Policy Reform?, World Bank Research Observer 8(2), 143-168

[132] Haggard, Stephen, and Steven B. Webb (eds.) (1994): Voting for Reform: Democracy, Political Liberalization, and Economic Adjustment, New York: Oxford University Press

[133] Hall, Peter A. (1986): Governing the Economy: The Politics of State Intervention in Britain and France, Cambridge: Polity

[134] Hall, Robert E., and Charles I. Jones (1999): Why Do Some Countries Produces so much more Output per Worker than Others?, Quarterly Journal of Economics 114(1), 83-166

[135] Hamilton, Alexander, James Madison, and John Jay [1788](1961): The Federalist Articles, New York: New American Library

[136] Hart, Oliver, Andrei Shleifer, and Robert Vishny (1997): The Proper Scope of Government: Theory and Application to Prisons, Quarterly Journal of Economics 112(4), 1127- 1161

[137] Henisz, Witold J. (2004): Political Institutions and Policy Volatility, Economics and Politics 16(1), 1-27

[138] Hillman, Ayre L., and Eliakim Katz (1987): Hierarchical Structure and the Social Costs of Bribes and Transfers, Journal of Public Economics 34(1), 129-142

[139] Hobbes, Thomas [1651](1998): Leviathan (ed. by J.C.A. Gaskin), Oxford: Oxford University Press

[140] Hotelling, Harold (1929): Stability in Competition, Economic Journal 39(1), 41-57

[141] Jain, Arvind K. (1998): Economics of Corruption, Boston: Kluwer Academic Publishers

[142] Jain, Arvind K. (2001a): Corruption: A Review, Journal of Economic Surveys 15(1), 71-121

[143] Jain, Arvind K. (2001b): The Political Economy of Corruption, London: Routhledge

[144] Jones, Bryan D., Tracy Sulkin, and Heather A. Larsen (2003): Policy Punctuations in American Political Institutions, American Political Science Review 97(1), 151-169

[145] Keman, Hans (1997): Approaches to the Analysis of Institutions, in: Steunenberg, Bernard, and Frans van Vught (eds.): Political Institutions and Public Policy - Perspectives on European Decision Making, Dordrecht: Kluwer Academic Publishers, 1-27

[146] Kirchsteiger, Georg, and Andrea Prat (2001): Inefficient Equilibria in Lobbying, Journal of Public Economics 82(3), 349-375

[147] Kiewiet, Roderick D., and Mathew D. McCubbins (1991): The Logic of Delegation: Congressional Parties and the Appropriations Process, Chicago: University of Chicago Press

[148] Knack, Stephen, and Philip Keefer (1995): Institutions and Economic Performance: Cross-Country Tests Using Alternative Institutional Measures, Economics and Politics 7(3), 207-227

[149] Krasner, Stephen D. (1988): Sovereignty: An Institutional Perspective, Comparative Political Studies 21(1), 66-94

[150] Kratochwil, Friedrich, and John G. Ruggie (1986): International Organization: A State of the Art on an Art of the State, International Organization 40(4), 753-775

[151] Krehbiel, Keith (2004): Legislative Organization, Journal of Economic Perspectives 18(1), 113-128

[152] Kremer, Michael (2001): Public Policies to Stimulate the Development of Vaccines and Drugs for the Neglected Diseases, WHO Commission on Macroeconomics and Health Working Paper Series No. WG2:8

[153] Krishna, Vijay, and John Morgan (2001): Asymmetric Information and Legislative Rules: Some Amendments, American Political Science Review 95(2), 435-452

[154] Laffont, Jean-Jacques (1999): Incentives and Political Economy, Oxford: Oxford University Press

[155] Laffont, Jean-Jacques, and Tchétché N'Guessan (1999): Competition and Corruption in an Agency Relationship, Journal of Development Economics 60(2): 271-295

[156] Laffont, Jean-Jacques, and Jean Tirole (1991): Privatization and Incentives, Journal of Law, Economics, and Organization 7, 84-105

[157] Lahiri, Sajal, and Pascalis Raimondos-Moeller (2000): Lobbying by Ethnic Groups and Aid Allocation, Economic Journal 110(462), 62-79

[158] Laitin, David, and Aaron Wildavsky (1988): Political Culture and Political Preferences, American Political Science Review, 82(2), 589-596

[159] La Porta, Rafael, and Florencio Lopez-de-Silanes (1999): The Benefits of Privatization: Evidence from Mexico, Quarterly Journal of Economics 114(4), 1193-1242

[160] La Porta, Rafael, Florencio Lopez-de-Silanes, Christian Pop-Eleches, and Andrei Shleifer (2004): Judicial Checks and Balances, Journal of Political Economy 112(2), 445-470

[161] La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny (1997): Legal Determinants of External Finance, Journal of Finance 52(3), 1131-1150

[162] La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny (1998): Law and Finance, Journal of Political Economy 106(6), 1113-1155

[163] La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny (1999): The Quality of Government, Journal of Law, Economics, and Organization 15(1), 222-279

[164] La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny (2000): Investor Protection and Corporate Governance, Journal of Financial Economics, 58(1-2), 3-27

[165] Le Breton, Michel, and François Salanie (2003): Lobbying under Political Uncertainty, Journal of Public Economics 87(12), 2589-2610

[166] Ledyard, John O. (1984): The Pure Theory of Large Two-Candidate Elections, Public Choice 44(1), 7-41

[167] Levy, Gilat (2002): A Model of Political Parties, Eitan Berglas School of Economic Working Paper No. 14-02

[168] Lijphart, Arendt (1984): Democracies: Patterns of Majoritarian and Consensus Government in 21 Countries, New Haven: Yale University Press

[169] Lijphart, Arendt (1994): Electoral Systems and Party Systems: A Study of Twenty-Seven Democracies 1945-1990, Oxford: Oxford University Press

[170] Lindbeck, Assar, and Jorgen W. Weibull (1987): Balanced-Budget Redistribution as the Outcome of Political Competition, Public Choice 52(3), 273-297

[171] Linster, Bruce G. (1994): Cooperative Rent-Seeking, Public Choice 81(1), 23-34

[172] Locke, John [1690](1976): The Second Treatise of Government (ed. by J. W. Gough), Oxford: Blackwell

[173] Lopez-de-Silanes, Florencio, Andrei Shleifer, and Robert W. Vishny (1997): Privatization in the United States, Rand Journal of Economics 28(3), 447-471

[174] Lülfesmann, Christoph (2002): Benevolent Government, Managerial Incentives, and the Virtues of Privatization, FEEM Working Paper No. 77.2002

[175] Lui, Francis T. (1985): An Equilibrium Queuing Model of Bribery, Journal of Political Economy 93(4), 760-81

[176] MacIntyre, Andrew (2003): The Power of Institutions: Political Architecture and Governance, Ithaca: Cornell University Press

[177] Magee, Christopher (2002): Endogenous Trade Policy and Lobby Formation: An Application to the Free-Rider Problem, Journal of International Economics 57(2), 449-471

[178] Marceau, Nicolas, and Michael Smart (2003): Corporate Lobbying and Commitment Failure in Capital Taxation, American Economic Review 93(1), 241-251

[179] March, James G., and Johan P. Olsen (1983): The New Institutionalism: Organizational Factors in Political Life, American Political Science Review 78(3), 734-749

[180] March, James G., and Johan P. Olsen (1989): Rediscovering Institutions, New York: The Free Press

[181] March, James G., and Johan P. Olsen (1995): Democratic Governance, New York: The Free Press

[182] March, James G., and Johan P. Olsen (1996): Institutional Perspectives on Political Institutions, Governance 9(3), 247-264

[183] Mauro, Paolo (1995): Corruption and Growth, Quarterly Journal of Economics 110, 681-712

[184] Mayer, Wolfgang, and Pascalis Raimondos-Moeller (2003): The Politics of Foreign Aid: A Median Voter Perspective, Review of Development Economics 7(2), 165-178

[185] Megginson, Willian L., and Jeffrey Netter (2001): From State to Market: A Survey of Empirical Studies on Privatization, Journal of Economic Literature 39(2), 321-389

[186] Merlo, Antonio (1997): Bargaining over Governments in a Stochastic Environment, Journal of Political Economy 105(1), 101-131

[187] Messner, Matthias, and Matthias Polborn (2004): Voting on Majority Rules, Review of Economic Studies 71(1), 115-132

[188] Milgrom, Paul R., Douglass C. North, and Barry R. Weingast (1990): The Role of Institutions in the Revival of Trade: The Law Merchant, Private Judges, and the Champagne Fairs, Economics and Politics 2(1), 1-23

[189] Mitra, Devashish (1999): Endogenous Lobby Formation and Endogenous Protection: A Long-Run Model of Trade-Policy Determination, American Economic Review 89(5), 1116-1134

[190] Mocan, Naci (2004): What Determines Corruption? International Evidence from Micro Data, NBER Working Paper No. 10460

[191] Moe, Terry M. (1990): Political Institutions: The Neglected Side of the Story, Journal of Law, Economics, and Organization 6, 213-253

[192] Moe, Terry M., and Michael Caldwell (1994): The Institutional Foundations of Democratic Government: A Comparison of Presidential and Parliamentary Systems, Journal of Institutional and Theoretical Economics 150(1), 171-195

[193] Montesquieu, Charles de Secondat [1748](1991): The Spirit of the Laws, Littleton, Colo: Rothman

[194] Mookherjee, Dilip, and Ivan P.L. Png (1995): Corruptible Law Enforcers: How Should They Be Compensated?, Economic Journal 105(428), 145-159

[195] Morelli, Massimo (2004): Party Formation and Policy Outcomes under Different Electoral Systems, Review of Economic Studies 71(7), 829-853

[196] Mosley, Paul (1996): The Failure of Aid and Adjustment Policies in Sub Saharan Africa: Counter-Examples and Policy Proposals, Journal of African Economics 5(3), 406-443

[197] Mueller, Dennis C. (1989): Public Choice II, Cambridge: Cambridge University Press

[198] Mueller, Dennis C. (ed.)(1997): Perspectives on Public Choice: A Handbook, Cambridge: Cambridge University Press

[199] Mulligan, Casey B., Richard Gil, and Xavier Sala-i-Martin (2004): Do Democracies have Different Public Policies than Nondemocracies?, Journal of Economic Perspectives 18(1), 51-74

[200] Murphy, Kevin M., Andrei Shleifer, and Robert W. Vishny (1991): The Allocation of Talent: Implications for Growth, Quarterly Journal of Economics 106(2), 503-530

[201] Murphy, Kevin M., Andrei Shleifer, and Robert W. Vishny (1993): Why is Rent-Seeking so Costly to Growth?, American Economic Review 83(2), 409-414

[202] Myerson, Roger B. (1993): Effectiveness of Electoral Systems for Reducing Government Corruption: A Game-Theoretic Analysis, Games and Economic Behavior 5, 118-132

[203] Myerson, Roger B. (1997): Economic Analysis of Political Institutions: An Introduction, in: Kreps, David M., and Kenneth F. Wallis (eds.): Advances in Economic Theory and Econometrics: Theory and Applications, Volume 1, Cambridge: Cambridge University Press, 46-65

[204] Myerson, Roger B. (1999): Theoretical Comparison of Electoral Systems: 1998 Schumpeter Lecture, European Economic Review 43(4-6), 671-697

[205] Nellis, John (1999): Time to Rethink Privatization in Transition Economies?, International Finance Corporation, Discussion Paper No. 38, Washington D.C.

[206] North, Douglass C. (1990): Institutions, Institutional Change and Economic Performance, Cambridge: Cambridge University Press

[207] North, Douglass C. (1991): Institutions, Journal of Economic Perspectives 5(1), 97-112

[208] North, Douglass C., and Robert P. Thomas (1973): The Rise of the Western World: A New Economic History, Cambridge: Cambridge University Press

[209] North, Douglass C., Barry R. Weingast (1989): Constitutions and Commitment: The Evolution of Institutions Governing Public Choice in Seventeenth-Century England, Journal of Economic History 49(4), 803-832

[210] Olsen, Gorm R. (2000): Public Opinion and Development Aid: Is there a Link?, CDR Working Paper No. 00.9

[211] Olsen, James G. (1991): Political Science and Organization Theory. Parallel Agendas but Mutual Disregard, in: Czada, Roland M., and Adrienne Windhoff-Héritier (eds.): Political Choice: Institutions, Rules, and the Limits of Rationality, Frankfurt am Main: Campus, 87-120

[212] Olson, Mancur (1965): The Logic of Collective Action, Cambridge, Mass.: Harvard University Press

[213] Olson, Mancur (1982): The Rise and Decline of Nations, New Haven: Yale University Press

[214] Olson, Mancur (1995): Dictatorship, Democracy, and Development, American Political Science Review 87(3), 567-576

[215] Osborne, Martin J., and Al Slivinski (1996): A Model of Political Competition with Citizen-Candidates, Quarterly Journal of Economics 111(1), 65-96

[216] Pagano, Marco, and Paolo Volpin (2002): The Political Economy of Corporate Governance, CEPR Discussion Papers No. 2682

[217] Persson, Torsten (1998): Economic Policy and Special Interest Politics, Economic Journal 108(447), 310-327

[218] Persson, Torsten (2002): Do Political Institutions Shape Economic Policy?, Econometrica 70(3), 883-905

[219] Persson, Torsten, Gérard Roland, and Guido Tabellini (1997): Separation of Powers and Political Accountability, Quarterly Journal of Economics 112(4), 1163-1202

[220] Persson, Torsten, and Guido Tabellini (1994): Does Centralization Increase the Size of the Government?, European Economic Review 38(3-4), 765-773

[221] Persson, Torsten, and Guido Tabellini (1999): The Size and Scope of Government: Comparative Politics with Rational Politicians, 1998 Alfred Marshall Lecture, European Economic Review 43(4-6), 699-753

[222] Persson, Torsten, and Guido Tabellini (2000): Political Economics: Explaining Economic Policy, Cambridge, Mass.: MIT Press

[223] Persson, Torsten, and Guido Tabellini (2003): The Economic Effects of Constitutions, Cambridge, Mass.: MIT Press

[224] Persson, Torsten and Guido Tabellini (2004): Constitutions and Economic Policy, Journal of Economic Perspectives 18(1), 75-98

[225] Persson, Torsten, Guido Tabellini, and Francesco Trebbi (2003): Electoral Rules and Corruption, Journal of the European Economic Association, 1(4), 958-989

[226] Piketty, Thomas (1999): The Information-Aggregation Approach to Political Institutions, European Economic Review 43(4-6), 791-800

[227] Potters, Jan, Randolph Sloof, and Frans van Winden (1997): Campaign Expenditure, Contributions and Direct Endorsements: The Strategic Use of Information and Money to Influence Voter Behavior, European Journal of Political Economy 13(1), 1-31

[228] Prat, Andrea (2002a): Campaign Spending with Office-Seeking Politicians, Rational Voters, and Multiple Lobbies, Journal of Economic Theory 103(1), 162-189

[229] Prat, Andrea (2002b): Campaign Advertising and Voter Welfare, Review of Economic Studies 69(4), 999-1017

[230] Putnam, Robert D. (1993): Making Democracy Work, Princeton: Princeton University Press

[231] Rama, Martin, and Guido Tabellini (1998): Lobbying by Capital and Labor over Trade and Labor Market Policies, European Economic Review 42(7), 1295-1316

[232] Rawls, John (1971): A Theory of Justice, Cambridge, Mass.: Belknap Press of Harvard University Press

[233] Redoano, Michela, and Kimberly A. Scharf (2004): The Political Economy of Policy Centralization: Direct versus Representative Democracy, Journal of Public Economics 88(3-4), 799-817

[234] Risse-Kappen, Thomas (1991): Public Opinion, Domestic Structure and Foreign Policy in Liberal Democracies, World Politics 43(4), 479-512

[235] Rodrik, Dani, Arvind Subramanian, and Francesco Trebbi (2002): Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development, NBER Working Paper No. 9305

[236] Roland, Gérard (2002): The Political Economy of Transition, Journal of Economic Perspectives 16(1), 29-50

[237] Roland, Gérard (2004): Slow-Moving and Fast-Moving Institutions, CESifo DICE Report 2(2), 16-21

[238] Roland, Gérard, and Khalid Sekkat (2000): Managerial Career Concerns, Privatization, and Restructuring in Transition Economies, European Economic Review 44(10), 1857-1872

[239] Romer, David (2003): Misconceptions and Political Outcomes, Economic Journal 113(1), 1-20

[240] Romer, Thomas, and Howard Rosenthal (1978): Political Resource Allocation, Controlled Agendas, and the Status Quo, Public Choice 33(1), 27-43

[241] Romer, Thomas, and Howard Rosenthal (1979): Bureaucrats versus Voters: On the Political Economy of Resource Allocation by Direct Democracy, Quarterly Journal of Economics 93(4), 563-587

[242] Rose-Ackerman, Susan (1975): The Economics of Corruption, Journal of Public Economics 4, 187-203

[243] Rose-Ackerman, Susan (1999): Corruption and Government: Causes, Consequences, and Reform, Cambridge: Cambridge University Press

[244] Schmidt, Klaus M. (1996a): Incomplete Contracts and Privatization, European Economic Review 40(3-5), 569-579

[245] Schmidt, Klaus M. (1996b): The Costs and Benefits of Privatization: An Incomplete Contracts Approach, Journal of Law, Economics, and Organization 12(1), 1-24

[246] Schmidt, Klaus M. (2000): The Political Economy of Mass Privatization and the Risk of Expropriation, European Economic Review 44(2), 393-421

[247] Schmidt, Klaus M., and Monika Schnitzer (1993): Privatization and Management Incentives in the Transition Period in Eastern Europe, Journal of Comparative Economics 17(2), 264-287

[248] Schmidt, Manfred G. (1987): The Politics of Labour Market Policy, in: Castles, Francis G., Franz Lehner, and Manfred G. Schmidt (eds.): Managing Mixed Economies, Berlin: Walter de Gruyter, 4-53

[249] Schmitz, Patrick W. (2000): Partial Privatization and Incomplete Contracts: The Proper Scope of Government Reconsidered, FinanzArchiv 57(4), 394-411

[250] Schnitzer, Monika (2003): Privatisierung in Osteuropa: Strategien und Ergebnisse, Perspektiven der Wirtschaftspolitik 4(3), 359-377

[251] Shapiro, Carl, and Robert D. Willig (1990): Economic Rationales for the Scope of Privatization, in: Suleiman, Ezra N., and John Waterbury (eds.): The Political Economy of Public-Sector Reform and Privatization, Boulder: Westview Press, 55-87

[252] Sheshinski, Eytan, and Luis L. Lopez-Calva (2003): Privatization and its Benefits: Theory and Evidence, CESifo Economic Studies 49(3), 429-460

[253] Shirley, Mary M. (1997): The Economics and Politics of Government Ownership, Journal of International Development 9(6), 849-864

[254] Shirley, Mary M. (1999): Bureaucrats in Business: The Roles of Privatization versus Corporatization in State-Owned Enterprise Reform, World Development 27(1), 115-136

[255] Shirley, Mary M., and Patrick Walsh (2000): Public versus Private Ownership: The Current State of the Debate, World Bank Working Papers - Private Sector Development Series No. 2420

[256] Shleifer, Andrei (1998): State versus Private Ownership, Journal of Economic Perspectives 12(4), 133-150

[257] Shleifer, Andrei, and Robert Vishny (1993): Corruption, Quarterly Journal of Economics 108(3), 599-618

[258] Shleifer, Andrei, and Robert Vishny (1994): Politicians and Firms, Quarterly Journal of Economics 109(4), 995-1025

[259] Shleifer, Andrei, and Robert Vishny (1998): The Grabbing Hand, Government Pathologies and Their Cures, Cambridge, Mass.: Harvard University Press

[260] Sikkink, Kathryn (1993): Human Rights, Principled Issue Networks, and Sovereignty in Latin America, International Organization 47(3), 411-441

[261] Steunenberg, Bernard and Frans van Vught (eds.)(1997): Political Institutions and Public Policy - Perspectives on European Decision Making, Dordrecht: Kluwer Academic Publishers

[262] Svensson, Jakob (2000a): Foreign Aid and Rent-Seeking, Journal of International Economics 51(2), 437-461

[263] Svensson, Jakob (2000b): When is Foreign Aid Policy Credible? Aid Dependence and Conditionality, Journal of Development Economics 61(1), 61-84

[264] Therien, Jean-Philippe, and Alain Noel (2000): Political Parties and Foreign Aid, American Political Science Review 94(1), 151-162

[265] Treisman, Daniel (2000): The Causes of Corruption: A Cross-National Study, Journal of Public Economics 76(3), 399-457

[266] Tullock, Gordon (1980): Efficient Rent-Seeking, in: Buchanan, James, Robert D. Tollison, and Gordon Tullock (eds.): Toward a Theory of the Rent-Seeking Society, College Station, TX: Texas A. and M. University Press, 97-112

[267] Vickers, John, and George Yarrow (1989): Privatization: An Economic Analysis, Cambridge, Mass.: MIT Press

[268] Vickers, John, and George Yarrow (1991): Economic Perspectives on Privatization, Journal of Economic Perspectives 5(2), 111-132

[269] Vining, Aidan R., and Anthony E. Boardman (1992): Ownership versus Competition: Efficiency in Public Enterprise, Public Choice 73(2), 206-239

[270] Wade, Robert (1982): The System of Administrative and Political Corruption: Canal Irrigation in South India, Journal of Development Studies 18(3), 287-328

[271] Weaver, Kent R., and Bert A. Rockman (eds.) (1993): Do Institutions Matter? Government Capabilities in the United States and Abroad, Washigton, D.C.: The Brookings Institution

[272] Weber, Max (1919)[1994]: Politik als Beruf, in: Max Weber Gesamtausgabe I/17, Tübingen: Mohr, 157-226

[273] Weingast, Barry R. (1995): The Economic Role of Political Institutions: Market-Preserving Federalism and Economic Development, Journal of Law, Economics and Organization 11(1), 1-31

[274] Williamson, Oliver (1985): The Economic Institutions of Capitalism, New York: Free Press

[275] Wilson, James Q. (1989): Bureaucracy: What Government Agencies Do and Why They Do It, New York: Basic Books

[276] Windhoff-Héritier, Adrienne (1991): Institutions, Interests, and Political Choice, in: Czada, Roland M., and Adrienne Windhoff-Héritier (eds.): Political Choice: Institutions, Rules, and the Limits of Rationality, Frankfurt am Main: Campus, 27-52

[277] Wittman, Donald (1977): Candidates with Policy Preferences: A Dynamic Model, Journal of Economic Theory 14, 180-189

[278] Wittman, Donald (1995): The Myth of Democratic Failure: Why Political Institutions are Efficient, Chicago: University of Chicago Press

[279] World Bank (1995): Bureaucrats in Business: A World Bank Policy Research Report, New York: Oxford University Press

[280] Worldbank (1998): New Frontiers in Diagnosing and Combating Corruption, PREM Notes No. 7, Washington DC: Worldbank

[281] Yarrow, George (1986): Privatization in Theory and Practice, Economic Policy 2, 324-377

[282] Yarrow, George (1999): A Theory of Privatization, or Why Bureaucrats are Still in Business, World Development 27(1), 157-168

[283] Young, Oran R. (1991): Political Leadership and Regime Formation: On the Development of Institutions in International Society, International Organization 45(3), 281-308

[284] Yu, Zhihao (2003): Environmental Protection: A Theory of Direct and Indirect Competition for Political Influence, mimeo, forthcoming in: Review of Economic Studies

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