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Bureaucrats or Politicians?*

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Abstract

Policies are typically chosen by politicians and bureaucrats. This paper investigates the criteria that should lead a society to allocate policy tasks to elected policymakers (politicians) or non elected bureaucrats. Politicians tend to be preferable for tasks that have the following features: they do not involve too much specific technical ability relative to effort; there is uncertainty *ex ante* about *ex post* preferences of the public and flexibility is valuable; time inconsistency is not an issue; small but powerful vested interests do not have large stakes in the policy outcome; effective decisions over policies require taking into account policy complementarities and compensating the losers; the policies imply redistributive conflicts among large groups of voters. The reverse apply to the attribution of prerogatives to bureaucrats.

1 Introduction

Policies are chosen and implemented by both elected representatives (politicians) and non elected bureaucrats. This paper studies the criteria that should guide the allocation of policy responsibilities between politicians and bureaucrats.

In most countries non elected central bankers conduct monetary policy, with much independence. Fiscal policy is, instead, by and large chosen by elected representatives (governments and legislatures). Regulatory policies are normally the result of both political and bureaucratic

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intervention. Foreign policy is decided by politicians. What criteria should lead a society to allocate decision power on different policy tasks?

Economists have emphasized one specific argument for delegating policy to a non elected bureaucrat: time inconsistency in monetary policy, as in Kydland and Prescott (1977) and Barro and Gordon (1983). Rogoff (1985) pointed out how an independent and inflation averse central banker not subject to ex post democratic control would improve social welfare. Walsh (1995) and Persson and Tabellini (1993) discussed "contractual" arrangements between popular representatives and independent central bankers.¹

Time inconsistency is clearly not the only criterion for choosing between bureaucrats and politicians. There is much more to it. For instance, even fiscal policy is marred with a host of time inconsistency problems, but societies are reluctant to allocate this policy prerogative to independent bureaucrats. Note, however, that Blinder (1997) argues that some aspects of fiscal policy could be allocated to an independent agency operating like an independent Central Bank.² An ability to commit to a certain course of action may even be desirable in foreign policy, which however is always the prerogative of appointed politicians, at least in the more relevant phase of choosing the general strategy.³

In this paper we investigate how different incentives facing bureaucrats and politicians lead them to act differently in different circumstances, and how the constitution should allocate tasks to the two types of agents. Our starting point is the premise that politicians are motivated by a reelection goal, whereas bureaucrats are motivated by a "career concern". That is, politicians want to be re-elected; bureaucrats instead want to improve their professional prospects in the public or private sector, and this motivates them to perform well whatever tasks they receive.⁴ In different circumstances and for different types of policies, these incentives play out differently and this leads to a variety of trade offs in the choice of politicians or bureaucrats. We investigate both policies that have a "public good" nature and redistributive policies. We also discuss the role of bribes and campaign contributions in alternative settings by stressing an agency problem: politicians and bureaucrats

¹For an empirical discussion of the benefits of independent central bankers see Grilli Masciandaro and Tabellini (1991), Alesina and Summers (1993) for OECD countries and Cukierman (1992) for a larger sample of countries.

²Also the Business Council of Australia (1999) proposed that tax policy in Australia be set by an independent agency within limits imposed by the legislature.

³See Putnam (1988) for a discussion of the role and benefits of commitments in international relations.

⁴For a discussion of how bureaucrats are motivated by prospect of career enhancement see the classic treatment in Wilson (1989) especially Chapter 9.

need to be motivated to put effort or to abstain from grabbing rents for themselves.

We analyze many different types of policies, trying to be reasonably exhaustive. Politicians tend to be preferable for tasks that have the following features: differences in performance are due to effort, more than to individual talent or technical ability; the preferences of the public are unstable and uncertain, so that flexibility is valuable, a case that may be especially relevant for complex policy environments; time inconsistency is unlikely to be a relevant issue; the stakes for organized interest groups are small, or the legal system is poorly designed so that corruption is widespread; side payments to compensate the losers are desirable and relevant, or bundling of different aspects of policy management and a comprehensive approach is important; and finally in policies that are purely redistributive. The reverse applies to the attribution of prerogatives to bureaucrats.

These results seem consistent with some features of existing institutional arrangements and may also serve as a normative benchmark for the new Constitutions currently under formation such as the new European Constitution and those of new democracies. A few examples may clarify some of our points. Monetary policy involves fairly sophisticated skills, has relatively few distributional consequences (compared say to fiscal policy) and social preferences on what is the appropriate goal of monetary policy do not vary much: at least ex-ante most people would agree that monetary policy ought to control inflation with some room for stabilization. Incidentally, these arguments provide a rationale for independent central bankers even for those who do not believe that time inconsistency of monetary policy is a major problem, such as Blinder (1999). On the contrary, foreign policy is an area where it is very difficult to describe ex ante reasonably precise and fixed policy goals; in a changing world the preferences of the public may change substantially. Just think of how preferences for foreign policy changed in the US before and after September 11, 2001. Finally, much of fiscal policy has a redistributive nature and is in the hands of politicians. But other redistributive policies that pit consumers at large against the special interests of monopolistic producers, such as regulation utilities, are often controlled by non elected bureaucrats.

Our paper is related to several recent contributions that have investigated the role of career concerns rather than explicit contracts. Dewatripont, Jewitt and Tirole (1999a,b) discuss the foundations of this approach and apply it to study the behavior of government agencies. They focus on some issues related to ours, namely the nature and "fuzziness" of the agencies mission, but they do not contrast bureaucratic and

political accountability. Dewatripont and Tirole (1999) study the role of advocates that provide information and opinion to policymakers, and discuss how the career concerns of advocates may improve policymaking. Probably the more closely related paper to ours is Maskin and Tirole (2001). Their goal is to investigate the attribution of responsibilities between accountable and non accountable agencies. The latter have intrinsic motivations, while the former seek to please their principals because of implicit rewards (career concerns). In our set up, instead, we neglect the role of intrinsic motivations: both bureaucrats and politicians need to be kept accountable with implicit incentives; but the implicit incentive schemes can be of two kinds: those that define a politician (striving for re-election), and those that define a bureaucrat (career concerns). Besley and Gathak (2003) also study intrinsically motivated agents, and focus on how to combine intrinsic motivation with implicit rewards. Besley and Coate (2003) contrast appointed and elected regulators of public utilities; both policymakers' types are intrinsically motivated, but direct election allows the voters to unbundle policy issues. Finally, we share with Aghion, Alesina and Trebbi (2002) a discussion of the role of electoral control versus delegation of power, although in a rather different setting.

The paper is organized as follows. Section 2 describes the simplest case of our model and justifies its assumptions. Sections 3 and 4 discuss cases of policies with a "public good" nature and with no redistribution. Section 5 reviews the issue of delegation to solve time inconsistency problems. Sections 6, 7 and 8 deal with redistribution and with the role of organized interest groups. Section 9 discusses informally several additional applications of our model and the last section concludes.

2 The Model

Consider a society that has to decide whether to assign a certain policy to an elected officer or to a bureaucrat. With the generic term "policymaker" we indicate who chooses policy, so he or she can be either a politician or a bureaucrat.

In the simplest possible case we consider a single policy, the result of which is determined by the effort put in by the policymaker and by his ability. Thus, the policy outcome y is defined as follows:

$$y = \theta + a \tag{1}$$

where a represents the effort of the policymaker and $\theta \sim N(\bar{\theta}, \sigma_\theta^2)$ is his random ability. Ability and effort are additive.⁵ Citizens care about the

⁵Alternatively they could be multiplicative leading to more complicated algebra

policy outcome according to a well behaved, concave utility function, $U(y)$. For the moment we consider linear preferences, $U(y) = y$, since the strict concavity of the utility function does not affect the nature of the results and simply makes the notation more cumbersome. We introduce strict concavity later when it matters.

Effort is costly, and the strictly convex and increasing cost is labelled $C(a)$. The reward for the policymaker is labelled $R(a)$ and it differs depending on whether the policymaker is a politician or a bureaucrat. Both of them maximize their utility defined as:

$$R(a) - C(a) \tag{2}$$

with $C_a > 0$, $C_{aa} > 0$ and $R(a)$ to be defined below (subscripts denote partial derivatives).

The timing is as follows. At the "Constitutional Table" society chooses who has control rights over the policy (in the simplest case there is only one, there will be multiple policies later). Then the policymaker chooses effort, a , before knowing his ability, θ . Finally nature chooses θ , outcomes are observed and the reward is paid. Irrespective of who has control rights, only the outcome y is observable by the principals, not its composition between effort and ability. Hence the agent's reward can only be based on the policy outcome, y .

Note that we assume that control over a policy can only be given either to a bureaucrat or to a politician: we do not allow for joint control over policies, or for some checks and balances between the two. We return to this issue below in the discussion of extensions.

2.1 The bureaucrat's reward

We posit that bureaucrats are motivated by career concerns. That is, they are concerned with the perception of their ability θ in the eyes of those that may then promote them or offer them alternative job opportunities in the private sector. Therefore the bureaucrat's reward is (the suffix B stands for Bureaucrat):

$$R^B(a) = \mathbf{E}(E(\theta | y)) = \mathbf{E}(y - a^e) = \mathbf{E}(\theta + a - a^e)$$

where a^e is the public's perception of a . Note that, if the principal is risk neutral, then the implicit reward offered by career concerns coincides with the optimal contract for the principal, under the constraint that effort and ability are not separately observable. In other words, if the bureaucrat were the agent of a principal who provides monetary reward, $R(a)$ would be the equilibrium reward offered.

but similar results. See Dewatripont, Jewitt and Tirole (1999b) for a detailed discussion of differences in the two formulations.

2.2 The politician's reward

The politician's goal is to be reelected and he accomplishes this goal if y is above a threshold W . Therefore we have (the suffix P stands for Politician):

$$R^P(a) = \Pr(y \geq W) = 1 - P(W - a) \quad (3)$$

where $P(W - a) = \Pr(\theta \leq W - a)$. We impose rationality of the voters, so that they expect that the alternative to reelecting the incumbent is to get another one with average talent, who in equilibrium will put the same amount of effort as the current one.⁶ In fact every period is identical and the politician's effort choice is made before he observes his talent. It follows that:

$$W = \bar{\theta} + a^e \quad (4)$$

We do not allow any career concerns for the politicians, other than to be reelected.⁷

3 Attribution of a single task

3.1 Perfect monitoring

We start with the simplest case, namely perfect monitoring of the policy outcome y . We compute the first order condition with respect to effort, a , taking the expected level of effort a^e as given, and then we impose the equilibrium requirement, that $a^e = a$. For the bureaucrat we obtain:

$$1 = C_a(a^B) \quad (5)$$

where a^B indicates the equilibrium effort of the bureaucrat.

With a normal distribution for θ , equilibrium effort by the politician a^P , is defined implicitly by:

$$n(\bar{\theta}) = C_a(a^P) \quad (6)$$

where $n(\bar{\theta}) = 1/\sigma_\theta\sqrt{2\pi}$ is the density of the normal distribution of θ evaluated at its mean.

It immediately follows that:

⁶Alternative assumptions about the determination of the threshold are of course possible. We do not pursue here this extension.

⁷Persson and Tabellini (2000) discuss the implications of this political model more extensively. An alternative would be to allow a non-elected politician to also have career concerns, just as bureaucrats do. But as long as politicians retain an electoral incentive, this more general formulation would cloud the algebra without many additional insights.

Proposition 1 $a^P \leq a^B$ depending on parameters' values. But more uncertainty about ability (a larger σ_θ) makes the bureaucrat more attractive.

Intuitively, an increase in the variance of θ makes politicians put less effort. The reason is that voters' behavior is less sensitive to the observation of policy, since more of the policy outcome is due to randomness. The marginal effect of effort on the perceived bureaucrat ability is instead independent of the variance of θ ; this is because the compensation offered to a bureaucrat is linear in performance, and thus independent of the distribution of ability.

One way of interpreting this result is that tasks for which talent is especially important, that is tasks that are more inherently technical, should be allocated to bureaucrats rather than politicians, a result that seem reasonable and it is also obtained by Maskin and Tirole (2001) in a different context.⁸

3.2 Imperfect monitoring

We now move to the case of imperfect monitoring, that is a situation in which performance is not perfectly observable. Thus, we add noise, ε , besides talent (θ) and effort (a) :

$$y = \theta + \varepsilon + a$$

with $\varepsilon \sim N(0, \sigma_\varepsilon^2)$, uncorrelated with θ and unobservable. Only performance y is observed and can be the basis of rewards.

In this case the reward for bureaucrats can be rewritten as:

$$R^B(a) = \mathbf{E}(E(\theta | y)) = \bar{\theta} + \beta \mathbf{E}(\theta + \varepsilon + a - a^e - \bar{\theta}) \quad (7)$$

where $\beta = \sigma_\theta^2 / (\sigma_\theta^2 + \sigma_\varepsilon^2) < 1$. Given our assumption of normality of the distributions, we obtain a well known signal extraction result. Now the perception of talent is "discounted" by a term β which reflects the signal to noise ratio. In equilibrium the choice of the bureaucrat is given by:

$$\beta = C_a(a^B) \quad (8)$$

Not surprisingly, the bureaucrat puts in less effort the lower is the signal to noise ratio.

The politician reward is now given by the same expression as above, except that now the distribution from which the probability $\Pr(y \geq W)$

⁸This result would be reinforced if the extent to which bureaucratic ability is rewarded were also allowed to vary. Tasks where technical abilities matter more are also those for which rewards for ability are higher.

can be computed has a larger variance, that reflects both the variance of θ and of ε . It is immediate to derive the first order condition of the politician as follows:

$$n(\bar{\theta}, 0) = C_a(a^P)$$

where $n(\bar{\theta}, 0) = 1/(\sqrt{\sigma_\theta^2 + \sigma_\varepsilon^2}\sqrt{2\pi})$ is the density of the random variable $\theta + \varepsilon$, evaluated at the mean of both θ and ε .

We are now ready to establish the following

Proposition 2 *Imperfect monitoring (high σ_ε^2) reduces effort for both types of policymakers. Higher σ_θ^2 increases a^B but decreases a^P .*

Therefore, less monitoring does not favor one or the other type of policymakers. However with imperfect monitoring a larger variance of θ actually increases effort of the bureaucrat; therefore this result strengthens what obtained in Proposition 1. This result is related to those obtained by Dewatripont, Jewitt and Tirole (1999b) who also point out that performance less closely tied to talent or effort weakens the incentives of bureaucrats. But note that the same conclusions also apply to a politician. Hence, imperfect monitoring reduces the performance of any policymaker, but it does not provide an argument for preferring a politician to a bureaucrat at the constitutional stage.

4 Complex Tasks

We now add an element of complexity in tasks. In particular we focus on a situation (rather common) in which at the Constitutional Table the voters are not sure how their preferences will evolve. We return to the case of perfect monitoring and we assume that there are two possible policies, that is two different directions in which effort can be devoted to, that is $y_i = \theta + a_i$, with $i = 1, 2$.

With multiple tasks, which will be our focus from now on, one needs to specify a general cost function with multiple arguments, $C = C(a_1, a_2)$. Instead of using the general formulation, we simplify to either an additive case ($C = C(a_1 + a_2)$) or to a separable case, ($C = C(a_1) + C(a_2)$) choosing the one that is simplest without generating knife hedge or "trivial" results. The more general specification of costs generates qualitatively similar results. We begin in this section by considering additive costs, so that $C = C(a_1 + a_2)$.

At the Constitutional Table the (identical) voters are uncertain about their ex post preferences over alternative policies, so that voters utility is now given by the following strictly concave function:

$$U(\lambda y_1 + (1 - \lambda)y_2) \tag{9}$$

with $\lambda = 1$ with probability $q > 1/2$, $\lambda = 0$ with probability $(1 - q)$. Thus, society does not know ex ante what it will like ex post; but there is no disagreement ex post amongst members of society. Disagreements and redistribution will be analyzed below.

The timing is now as follows. First, at the Constitutional Table the voters choose whether to assign this policy to a bureaucrat or to a politician, then nature chooses λ , that is social preferences are determined. Then the policymaker chooses $[a_i]$, then nature chooses θ , and finally policy is determined and rewards paid. We assume that λ is observable but not verifiable.⁹

Choosing a non-elected bureaucrat means that voters decide at the Constitutional Table to assign a task to the bureaucrat. Given that at the Constitutional Table preferences are not yet known, one can only assign to the bureaucrat an unconditional task defined as follows:

$$y = \delta y_1 + (1 - \delta)y_2 \quad (10)$$

where δ is a parameter specified by the Constitution. A crucial assumption is that the parameter δ cannot be contingent on the realization of the random variable λ : the mission for the bureaucrat cannot be contingent on the realization of ex post voters' preferences. This element of contract incompleteness is plausible: A bureaucrat is somebody who is not appointed through the political process, and therefore he will not follow the ebb and flows of changing voters' preferences. For example the independence of the central bank is tied to the fact that the central banker does not have to respond to the voters or even their representatives for his policy choices, other than for how he fulfills the goals assigned by the law to the central bank. But these goals can only be formulated in a simple and general way, like keep inflation under control; the central bank objectives cannot be changed with electoral results, almost by definition of what an independent central bank is.¹⁰

Under these assumptions, the rewards of the bureaucrats are:

$$R^B(a) = \mathbb{E}(E(\theta | y)) = \mathbb{E}(\theta + \delta a_1 + (1 - \delta)a_2 - \delta a_1^e - (1 - \delta)a_2^e) \quad (11)$$

Given additive costs and $q > 1/2$, it is optimal to set $\delta = 1$.¹¹ The first

⁹Aghion Alesina and Trebbi (2002) also study of constitutional design in a case in which social preferences are not fully revealed ex ante. Their model and their emphasis is however quite different.

¹⁰See Alesina and Gatti (1995) for an explicit discussion of insulation of the missions assigned to the central bank from changes in the preferences of the electorate.

¹¹If costs were separable, then the optimal δ would be increasing with q , at a rate that is decreasing with the curvature of $U(\cdot)$ for obvious reason having to do with risk aversion;

order conditions for the bureaucrat imply:

$$a_1^B = C_a^{-1}(1), \quad a_2^B = 0 \quad (12)$$

That is the bureaucrat focuses all his effort on the "main" activity of his mandate because that is more helpful in signaling his ability. Thus, the voters' utility in equilibrium is given by:

$$U^B = qEU(\theta + a_1^B) + (1 - q)EU(\theta) \quad (13)$$

The key here is that by choosing a bureaucrat who is non responsive to the ebb and flows of society's preferences, citizens are "stuck" with the risk that effort is misallocated and the bureaucrat pursues the wrong goals, those that ex-ante seem more likely to be relevant.

This is what differentiates the politician from the bureaucrat. The politician's goals always depend on the realization of λ (i.e., on the preferences of the voters). Thus, knowing λ the politician will devote effort only to the task preferred ex post by the voters according to the first order condition given above in (6). The following proposition follows.

Proposition 3 *The politician always chooses the right task from the voters' perspective. This advantage of the politician is more important the more risk averse are the voters.*

This result is simple but important. Delegation to bureaucrats is safe when society's preferences are well known and stable. But when they change, the "rigidity" of a bureaucrat's behavior makes the latter much less attractive. This helps us to understand why monetary policy is often delegated to an independent central bank, while foreign policy is typically under the control of politicians. Few would disagree with the statement that the appropriate goal for monetary policy is to keep inflation under control with some room for stabilization policy; and this goal is unlikely to change over time. But preferences regarding foreign policy are unlikely to be stable and unchanged, and as a result an appropriate simple bureaucratic goal cannot be stated once and for all. As a result, having a politician make decisions under direct democratic control and following the ebb and flows of preferences in a changing world may be superior to a fixed and unchangeable bureaucratic mission.

Because in our formulation delegating policy to a bureaucrat implies some rigidity, risk aversion plays a key role. More risk aversion implies more aversion to rigidity, a result which is also obtained in a different setting about constitutional design by Aghion, Alesina and Trebbi (2002).

5 Time inconsistency

The benefits of flexibility associated with political delegation has a cost, when society's preferences are time inconsistent. The rigidity of bureaucratic control, instead, offers protection against time inconsistency. Delegation to an independent agency to gain credibility is extensively used in monetary policy (as captured by Rogoff (1985)). Our model offers a different formalization of this point.

Suppose, again, that there are two tasks, $i = 1, 2$, say fighting unemployment (task 1) and enforcing tax collection (task 2). Citizens care about both tasks, with simple linear preferences:

$$U(y_1, y_2) = y_1 + y_2 \quad (14)$$

Effective tax enforcement depends on the policymaker's effort and ability, $y_2 = \theta + a_2$. But equilibrium unemployment also depends on tax enforcement relative to the private sector expectations, a_2^e , because of some externalities. Specifically, suppose that the policy outcome in task 1 (fighting unemployment) is given by:

$$y_1 = \theta + a_1 - (a_2 - a_2^e) \quad (15)$$

Thus, low unemployment is brought about by ability and effort in choosing the right labor market policies ($a_1 + \theta$), but it is also facilitated by an unexpectedly low level of tax enforcement. For instance, the allocation of labor and capital between the underground and the formal sector depends on the expectation of tax enforcement (a_2^e). Tax enforcement amounts to discover and fine firms operating in the underground economy. The expectation of tighter enforcement helps the economy, because it induces firms to operate in the more efficient formal sector (this is where the externality would play a role). But once allocative decisions have been made by private individuals, tight enforcement maybe counterproductive (or less productive), because it subtracts resources from the private sector and it may force some firms operating in the underground economy to close down or fire workers. Alternatively, as in the standard Barro and Gordon (1983) model of monetary policy, task 2 could be thought of as keeping low inflation, while task 1 could be stimulating economic growth through tax on structural policies; effort in keeping inflation low (i.e. a high value of a_2) reduces economic growth, once private sector's expectations of inflation have been freed into nominal wage contracts. Whatever the precise economic interpretation, in this model the final outcome depends on the interaction between the policymakers' decisions and the private sector expectations, and this creates a time inconsistency.

Suppose throughout that policy commitments are unavailable, meaning that first private expectations are formed, and then effort in both tasks, a_1 and a_2 , are chosen. One can show (see the Appendix for the derivation) that politicians are much more likely to fall into the traps of time inconsistency, compared to bureaucrats. The goals of a politician are unavoidably linked to the ex-post welfare of voters, through reelection motives. The bureaucrat instead can be given an explicit mission, possibly different from whatever is ex-post optimal for the voters. This possibility of strategic delegation enables society to overcome credibility problems. When time inconsistency is a prominent determinant of policy decisions made under discretion, the case in favor of delegation to a bureaucrat is very compelling. This conclusion is essentially identical to Rogoff's point about strategic delegation in monetary policy. But our framework shows more clearly another benefit of bureaucratic delegation: it allows separation of tasks. One could assign one task to a bureaucrat and one task to the politician. In the Appendix we show more precisely the following:

Proposition 4 *Under time inconsistency, the bureaucrat generally does better than the politician, for two reasons: first, the mission of a bureaucrat can be narrowly defined to avoid time inconsistent goals; second, even if this cannot be achieved because tasks cannot be split among separate agencies, the mission of a bureaucrat can be defined strategically to influence private sector expectations, irrespective of what is ex-post optimal for society.*

A related issue has to do with the time dimension of the flow of costs and benefits of different policy tasks. Consider two types of policies: one gives immediate benefits, the other delayed benefits. Voters have imperfect information on the nature of these benefits and cannot perfectly observe the policymakers' effort, as in the model of imperfect monitoring discussed above. In this case the politician may have an incentive to devote a suboptimally high level of effort to the task that gives immediate benefits, which is visible before an election. By doing so he manages to strategically inflate the signal of ability; this leads to a suboptimal low level of effort devoted to the policy with longer gestation lag.¹²

What about the bureaucrat in the same situation? To the extent that their rewards have the same frequency of elections, they would behave with the same incentive of politicians. However, if their career

¹²Models by Rogoff (1990), Rogoff and Sibert (1988) and Persson and Tabellini (1990 and 2000) are examples of this situation in the context of fiscal and monetary policy respectively.

rewards are more long term, they may have a lower incentive to tilt their efforts toward short termist policies, for two reasons. One is that often bureaucrats are appointed for longer than electoral cycles, often precisely to avoid short termist policies.¹³ The second one is that even if the appointment of bureaucrats are short, if they distort policy choices the blame may reach them later on and harm them later. This gives them a stronger incentive to focus on the long term goal. A politician instead may be overwhelmingly interested in winning the next elections and be less worried about repercussions later on in his career, for two reasons. One is that winning the next election is the only thing that really matters for the politician, for instance because it is the last reelection opportunity that he has. The second one is that even if his strategic manipulation of effort becomes known later on, it may not harm the politician that much. In future election the main issues at hand may be different and the voters may forget past actions of the politician. On the contrary a bureaucrats' career may be much more sensitive to past mistakes.

The implication of all of the above is that there is an argument for assigning to bureaucrats policy tasks that imply short term costs and/or delayed benefits.¹⁴

6 Lobbying and bribing

We now turn to policies which imply conflicts amongst different members of society, broadly speaking redistributive policies with winners and losers. In this section we consider the case of lobbies that can influence the choice of policies with bribes or campaign contributions . Thus here "redistribution" is intended as favors toward powerful minorities. The minority will seek to influence policy decisions to obtain favors. Both the politician and the bureaucrat can be captured by the interest group, but with different mechanisms. This difference can give raise to a constitutional preference for one or the other type of policymaker, depending on the circumstances.

There are two tasks, $i = 1, 2$, both affected linearly by effort and ability, with no spillover effects across tasks: $y_i = \theta + a_i$. The cost of effort is non-separable: $C = C(a_1 + a_2)$. Task 1 benefits the voters at large, while task 2 only benefits a small but organized interest group.

¹³Long terms of office for the Chairman of the Central Bank are considered a necessary tool to insure independence and a long term horizon in the conduct of monetary policy.

¹⁴Besley and Coate (2003) find evidence that, in US states, elected regulators tend to keep lower electricity prices compared to appointed regulators. If, as likely, lower prices come at the expenses of lower investments, this finding is consistent with the prediction of short-termism by elected (as opposed to appointed) regulators.

Voters influence policy only through elections. The organized interest group can influence policy either through bribes, b , or through campaign contributions, f . Thus, the preferences of voters are just y_1 , while those of the interest group can be written as:

$$(1 + \gamma)y_2 - b - f \tag{16}$$

where γ is a parameter capturing the intensity of the group's preferences for task 2.

Bribes can be offered to both the politician and the bureaucrat, but are illegal. Thus, if a policymaker accepts a bribe, with some exogenous probability q he is caught and pays a fine Z (the interest group is not fined). Campaign contributions are legal and can only be offered to the politician. The effect of campaign contributions is to increase the incumbent's chances of winning the elections. We model this by saying that the voters' reservation utility is a decreasing function of the campaign contributions collected by the incumbent:

$$W = \bar{\theta} + a_1^e - H(f) \tag{17}$$

where the function $H(\cdot)$ captures the effect of the campaign contributions collected by the politician. It is natural to assume that $H(0) = 0$, $H_f > 0$, $H_{ff} < 0$. Under these assumptions, we can write the policymaker's preferences as:

$$R(y_1, y_2) - C(a_1 + a_2) + (1 - \phi)b - qZ \tag{18}$$

where $R(y_1, y_2)$ are the policymaker's rewards ($R^B(y_1, y_2) = E(\theta/y_1)$ for the bureaucrat, $R^P(y_1, y_2) = \Pr(y_1 \geq W)$ for the politician), and $1 > \phi > 0$ denotes transaction costs that reduce the value of the bribe for the recipient relative to the amount paid by the interest group. The policymaker's effort devoted to task 2 is observable by the interest group, so that bribes and campaign contributions can be contingent upon the policymaker effort: $b = B(a_2)$, $f = F(a_2)$. The timing of events is as follows. First the Constitution allocates control rights over policies. Then the organized group commits to bribes and or campaign contributions, as a function of effort. Next, the policymaker allocates effort between the two tasks. Nature then chooses a realization of θ . Finally, rewards are paid.

This is a common agency game, with two types of principals: the interest group and the representative voter. The interest group has all the commitment power and can either influence the agent directly (through bribes), or indirectly (through campaign contributions). The distinction between the politician and the bureaucrat is that the latter can

only be influenced by the interest group through bribes. We want to know whether the voters are better off with the bureaucrat or with the politician, and what influences this comparison.

6.1 Bribing the bureaucrat

If the constitution gave all control rights to the bureaucrat we would have a standard common agency game, with a single active lobby. If bribes are positive, then the equilibrium must be jointly optimal for the organized group and the politician. This immediately implies:

$$a_1^B = 0, \quad a_2^B = C_a^{-1}(1 + \gamma) \quad (19)$$

Moreover, restricting attention to truthful contribution (here bribing) schedules, the equilibrium bribing schedule has the following simple form:¹⁵

$$B(a_2) = \bar{B} + \frac{1 + \gamma}{1 - \phi} a_2 \quad (20)$$

where the constant \bar{B} is chosen by the organized group so as to leave the bureaucrat indifferent between accepting or rejecting the bribe. Given the bureaucrat's preferences, this implies:

$$\bar{B} = C(a_2^B) - C(a_1^B) + a_1^B - (1 + \gamma)a_2^B + \bar{q}Z \quad (21)$$

where $a_1^B = C_a^{-1}(1)$ denotes the equilibrium policy if no bribe is accepted.

Finally, the organized group must also prefer to pay the bribe rather than be passive. This in turn puts an upper bound on the constant \bar{B} that the organized interest group is willing to pay. Taking into account (21), an equilibrium with positive bribes exists only if the following condition is satisfied:

$$\frac{(1 - 2\phi)(1 + \gamma)}{1 - \phi} a_2^B - [C(a_2^B) - C(a_1^B) + a_1^B] \geq \bar{q}Z \quad (22)$$

If instead this condition is violated, then the equilibrium with the bureaucrat delivers the optimal policy for the voters. Equation (22) makes it clear that an equilibrium in which the bureaucrat is bribed is more likely if the stakes for the organized group are high (γ is large), or if the legal system works poorly ($\bar{q}Z$ and ϕ are small).

6.2 Lobbying the politician

Next, suppose that the politician is in charge of the policy decision. A condition very similar to (22) above determines the existence of an equilibrium with bribes (the expression is not identical because the politician's reward occur through reappointment). In particular, it remains

¹⁵See Grossman and Helpman (2001).

true that bribes would be zero if the legal system is strong, so that transaction costs are high or the probability of being caught is high. But now, besides bribes, the organized interest group can also resort to campaign contributions. He will choose to do so if campaign contributions are sufficiently effective in swaying the voters.

Specifically, in an equilibrium with campaign contributions, the allocation of effort must be jointly optimal for the politician and the organized group. Thus, the equilibrium must solve the following optimization problem by choice of a_1, a_2 and f , subject to non-negativity constraints on the three choice variables, and taking voters' expectations a_1^e as given, as before.

$$\text{Max} \left\{ \Pr(\theta \geq \bar{\theta} + a_1^e - a_1 - H(f)) + (1 + \gamma)a_2 - C(a_1 + a_2) - f \right\} \quad (23)$$

The properties of the solution to this problem depend on the slope of the function $H(f)$, i.e., on how effective campaign contributions are in swaying the voters. In the Appendix we consider two cases:

First, if $H_f(0) < 1/(1 + \gamma)$, then the equilibrium has zero lobbying ($f = 0$) and the outcome is optimal for the voters ($a_2^P = 0$). In this case, campaign contributions cannot be productive enough, and the organized group will not seek to influence the politician: the group's stakes are too low relative to how much he would have to pay into the electoral campaign of the politician.

The opposite extreme occurs if $H_f(f^*) > 1/(1 + \gamma)$, where f^* denotes equilibrium campaign contributions, to be defined below. In this case, campaign contributions are very effective at the margin. Effort is allocated so as to please only the organized group, as in (19) above. And equilibrium campaign contributions are defined implicitly by the optimality condition:

$$n(\bar{\theta} - H(f^*)) \cdot H_f(f^*) = 1 \quad (24)$$

where $n(x)$ is the normal density of θ evaluated at the point x . For this to be an equilibrium, the organized group must benefit relative to the option of not lobbying at all, and this also requires: $(1 + \gamma)a_2^P \geq f^*$.

We summarize this discussion in the following:

Proposition 5 *Political lobbying can be an equilibrium, even if bribes to the bureaucrat are not. This is more likely if campaign contributions are effective in influencing the voters, but the legal system is strong and effective in discouraging bribes.*

Thus, politically appointed policymakers are more easily captured by organized interests compared to bureaucrats, particularly in advanced

democracies with a well functioning legal system. The reason is that, to influence a politician, the interest group needs to convince the voters that the politician is doing a good job and deserves to be reelected. The politician will then automatically respond with policy favors to the interest group, since this will help his chances of reelection. To influence a bureaucrat, instead, the organized group needs to engage in illegal or semi-legal activities, and fight against possibly deeply entrenched professional goals and standards of a technical bureaucracy. Policies where the stakes for organized interests are very high, or where redistributive conflicts concern small but powerful vested interests against the voters at large, may thus be more safely left in the hands of the bureaucrat. This conclusion might explain why, in many advanced countries, the regulation of public utilities is typically done by bureaucrats. In these cases, the long run interests of consumers are easy to identify, and the stakes for the utilities' supplier are very high, so that a politician may be more easily captured than the regulator.¹⁶

7 Compensation of losers

One critical task for politicians is to form coalitions in favor of certain policies, compensating losers either with direct transfers or by bundling several policies into one package. To illustrate this point, we need a conflict of interest between voters (or groups of voters) and the possibility of side payments and a possibility of bundling policies with complementarities.

Voters' utility now depends on the policy outcome and the transfer (positive or negative) received by the government. We have two voters (or homogeneous groups of voters of equal size) with concave utility function defined over private consumption, $U(c_i)$, $i = 1, 2$ and where:

$$c_1 = y_1 + t, \quad c_2 = y_2 - t, \quad y_2 \geq t \geq -y_1 \quad (25)$$

Therefore t is a direct lump sum transfer between voters and the government budget is balanced; there are no tax distortions. Each group benefits from different tasks requiring specific and uncorrelated abilities, θ_i , $i = 1, 2$. Let the distribution of θ_i have the same densities $n(\cdot)$ and cumulative distributions $N(\cdot)$ (not necessarily normal). There are random negative spillovers between the two tasks, such that:

$$y_1 = \theta_1 + a_1 - \lambda\gamma a_2, \quad y_2 = \theta_2 + a_2 - (1 - \lambda)\gamma a_1 \quad (26)$$

The parameter $0 < \gamma < 1$ denotes the strength of the negative spillover effects. But who is hurt by the spillovers is ex ante uncertain. Thus, λ

¹⁶See however the evidence by Besley and Coate (2003) quoted above.

is a random variable that can equal 1 or 0 with equal probabilities. As in section 4, we assume that λ is observable but it is not verifiable, so that the bureaucrat's mission cannot be defined contingent on λ . Thus, the policymaker will maximize its usual payoffs, with additive cost functions and with different rewards for the two types of policymakers:

$$R(a_1, a_2) - C(a_1) - C(a_2) \quad (27)$$

Timing has the usual structure. First nature sets λ and this determines which group is hurt by the spillover effect. Then the policymaker chooses a_i and t , nature sets θ_i and rewards are paid.

Consider the politician first. He maximizes reelection probabilities, which means that he has to win the favor of a strict majority of voters. Here this means winning the votes of both groups (as it will be clear below, nothing of substance hinges on the fact that in this simple example reelection requires pleasing all voters). Therefore:

$$R^P(a_1, a_2) = \Pr ob(U(c_1) \geq W_1) * \Pr ob(U(c_2) \geq W_2) \quad (28)$$

where W_i is the reservation utility of group i .

Suppose for concreteness that $\lambda = 1$. If the two reservation utilities are equal, then the politician sets transfers t so that:

$$\frac{n(x_1)}{1 - N(x_1)} = \frac{n(x_2)}{1 - N(x_2)} \quad (29)$$

where $x_1 = U^{-1}(W) - t - a_1 + \gamma a_2$ and $x_2 = U^{-1}(W) + t - a_2$. That is, the politician equalizes the "hazard rates" of losing votes from either group. In this context, the hazard rate measures the elasticity of the probability of winning with respect to transfers. Thus, this optimality condition is similar to the Ramsey rule of optimal taxation: transfers are allocated between groups so as to equalize this elasticity across groups. If the hazard rate is monotonically increasing in x , and given the assumption of the same distribution for θ_i , $i = 1, 2$, equation (29) implies $c_1 = c_2$.¹⁷ That is, the politician implements full insurance, fully compensating the losers from the negative externality (remember that compensations are costless, if they implied a transaction costs or a distortionary cost the equalization of utilities would no be complete).

Exploiting (29), the optimality conditions for the allocation of effort to the two tasks imply:

$$\begin{aligned} n(1 - N_2) &= C_a(a_1^P) \\ n(1 - N_1)(1 - \gamma) &= C_a(a_2^P) \end{aligned} \quad (30)$$

¹⁷A uniform distribution of θ satisfies the assumption of a monotonically increasing hazard rate, for instance.

Thus, the politician will allocate effort "correctly", in the sense of devoting more effort to the task that does not have negative spillovers: $a_1^P > a_2^P$ if $\lambda = 1$. Comparing (30) with (6) in section 2, however, we see that the politician is induced to put less effort also in the task with no negative externality (task 1), relative to the simple case of only one task. The reason is that bundling of two tasks requiring different abilities weakens his incentives. His likelihood of reelection now depends on his success in both tasks. Even if he puts a lot of effort in task 1, he could still lose the election because he happens to be unable in task 2. His awareness of this risk (captured by the term $(1 - N_2)$ on the left hand side of (30)), dilutes his incentives.¹⁸

Let's now turn to the bureaucrat. By assumption, the goal he is assigned cannot be contingent on λ and has to be stated at the Constitutional Table. The natural goal is to maximize total output, $(y_1 + y_2)$. If given this goal, the bureaucrat will allocate effort efficiently, taking the negative externality into account:

$$\begin{aligned} 1 &= C_a(a_1^B) \\ 1 - \gamma &= C_a(a_2^B) \end{aligned} \tag{31}$$

Nevertheless, compensating transfers will be set to zero.

Comparing the politician and the bureaucrat, we thus have:

Proposition 6 *The politician provides side payment to compensate losers but has weaker incentives than the bureaucrat; the latter, however, does not compensate losers.*

This result relies on the fact that bureaucrats cannot be given state contingent missions, and if their goal is formulated in terms of aggregate efficiency, they will neglect the distributional consequences of their actions. A politician instead can take advantage of relatively complex and evolving spillovers between issues and build majorities with complex side payments schemes. Compensating the losers makes it easier to pass legislation while at the same time providing insurance against bad luck. Imagine a policy that favors a large majority, say a badly needed highway, but that creates losers, say the property owners. Under democratic choice, the losers might be able to block the project. But the politician can put together a package of compensation for the property owners, with large benefit for the majority. In a sense this is almost what describes the job of a politician. Instead, it is hard to imagine how

¹⁸Persson and Tabellini (2000) and Seabright (1996) elaborate further on this point comparing centralized vs decentralized arrangements.

a bureaucrat might do that. How can one write on paper what a bureaucrat is allowed to do or not do, to create bundling and compensation? A bureaucrat can be delegated the task of building the best possible highway and he may potentially do a better job than the politician; but he may not have the ability, interest or authority to provide compensation to the local owners. Note also that "writing some checks" to compensate groups of losers does not require any particular technical competence, another reason why it may be difficult to generate the correct incentives for bureaucrats motivated by the career concerns that we have modeled, an observation which leads us directly into the next section.

8 Splitting the cake

We now consider a purely redistributive policy, "cake splitting". Consider three voters, the minimum number required to make the problem interesting. Each voter has a concave utility function defined on c_i with $i = 1, 2, 3$. The policy task delivers a "cake" that can be divided between the three voters, therefore:

$$y = \theta + a = c_1 + c_2 + c_3 \quad (32)$$

The utility function of the voters is concave $U(c_i)$, $i = 1, 2, 3$. The key difference between a politician and a bureaucrat is, once again, that the former needs a majority to win and the latter simply wants to signal talent. The bureaucrat can either be given no redistributive tasks, in which case redistribution is entirely arbitrary; alternatively, behind a veil of ignorance he can be assigned the task of redistributing equally, that is $y/3$ for all three voters. The politician needs two votes, and therefore he will give $y/2$ to two voters and zero to the other one. For the sake of exposition consider first the case of risk neutrality, i.e. $U(c_i) = c_i$.

Consider the politician first. Since he only needs to please two voters out of three, his reward is:

$$R^P(a) = \text{Pr } ob(y \geq 2W) \quad (33)$$

where W is the reservation utility of individual voters. With forward looking and rational voters, W equals the average expected utility they can get if the opponent is elected. If the hypothetical redistribution implemented by the opponent is unknown ex-ante, then $W = 1/3(\bar{\theta} + a^e)$. Going through the usual steps, of maximizing with respect to effort for given expectations and then imposing rational expectations, in equilibrium the politician optimality condition implies:

$$n(2/3\bar{\theta} - a^P) = C_a(a^P) \quad (34)$$

where $n(x)$ denotes the normal density evaluated at the point x . Comparing (34) with (6) in section 3, we see that once the politician is also in charge of redistribution, he can get away with less effort in equilibrium, compared to the case of no redistribution. The reason is that, as already stated, here he only needs to please two voters out of three. He can thus reduce effort, and still please two voters with the portion of the cake taken away from the minority.¹⁹

Next, consider the bureaucrat, and suppose that he is "fair", in the sense that he gives one third of y to each voter. Then his first order conditions are still identical to those formulated in (??)(5), section 3. This makes the bureaucrat more attractive for the voters for a larger range of parameter values, compared to the case of no redistribution. Intuitively, if indeed the mission of the bureaucrat can be formulated so that he abstains from redistributing and treats all voters equally, then the bureaucrat has a further advantage relative to the politician: he puts in more effort, because his incentives are not weakened by the possibility of redistribution. This advantage of the bureaucrat is reinforced if voters are risk averse, because then the politician would also expose the voters to the risk of being in the minority, compared to a "fair" bureaucrat.

There is however an interesting time inconsistency problem. Suppose that a bureaucrat has been given the task. Ex post, when the voters learn which majority would be put together by the politician, the winning majority of the voters would generally want to take the task away from the bureaucrat and to replace him with the politician.²⁰ If the redistributive stakes are strong enough, the constitution may not have enough commitment power to resist these political pressures. In this case, delegation to a bureaucrat may not be feasible in equilibrium, even though it might be desirable ex-ante. This result underlies and an additional distortionary effect of redistributive policies, even without tax distortions. Given an inability to commit to ex ante "fair" policies, in equilibrium a society may end up with a smaller cake.

Finally it is worth mentioning the case in which no redistributive goals can be given to a bureaucrat and, therefore, he distributes the cake in a totally arbitrary fashion. It is easy to see that in the case of risk neutrality this does not affect the choice ex ante between bureau-

¹⁹This result is similar to that obtained in Ferejohn (1986) and Persson and Tabellini (2000). But since here voters are forward looking, we rule out the Bertrand competition among voters that instead features in the backward looking voting equilibrium of Ferejohn (1986).

²⁰The precise conditions under which a majority of the voters would prefer to replace the "fair" bureaucrat with the politician depend on the details of the timing, and in particular on whether the replacement occurs before or after effort has been chosen by the bureaucrat.

crat and politician. But with risk aversion, uncertainty about how a bureaucrat would allocate the cake increases the ex-ante desirability of the politician. Redistribution under the politician is less risky, since two voters out of three are always included in the winning majority.

We can summarize the previous discussion into this

Proposition 7 *The possibility of redistribution reduces the equilibrium effort of the politician, but not that of the bureaucrat. Risk aversion makes the bureaucrat less or more desirable ex-ante depending on how easy it is to impose fair treatment of all voters in his task description. But even if the bureaucrat might be preferable ex ante, ex post a majority of the voters would generally renege on this choice.*

Summarizing, there are two reasons why politicians may be preferable for splitting cakes, i.e. for purely redistributive policies. One is that a time inconsistency problem may make the choice of a bureaucrat not sustainable ex-post, even though ex ante optimal. The second reason is that one can judge talent from the size of the cake, but it is more difficult to judge talent from how one cuts the cake. The constitution chosen behind a veil of ignorance could give the bureaucrat precise directions about how the cake should be cut. In practice, however, it may be quite difficult to describe ex ante a precise redistributive scheme. Leaving aside the time inconsistency problem, risk averse voters may be unwilling to delegate redistribution to a bureaucrat interested only to maximize the cake and with unclear incentives about how to cut it.

9 Extensions

Our framework can be extended in several directions. One involves modelling a more direct interaction between politicians and bureaucrats. Thus far we have considered the extreme cases in which a policy is fully in the hand of an elected politician or of a bureaucrat. In reality one can think of policies in which the tasks are split between the two. We should distinguish between two cases. One, less interesting, occurs when a politician has full decision making authority and simply delegates to a bureaucrat purely technical tasks with no decision power. We view this as a relatively minor extension of the case of our model in which the politician has full control of policy. A more interesting case is one in which the actual decision about a certain task is divided between the two and the bureaucrat has some independent decision power over some aspects of the policy.

An important example has to do with our discussion of redistribution. We could think of policies that simply increase the size of the cake

and that have a more technical nature; these could be more easily delegated to a bureaucrat, while the politician could be left in charge of redistribution. In other words political bodies should decide the general criteria of taxation, expenditures, fiscal policy and desired allocations of costs and benefits, while independent technical agencies should have the task of finding the less wasteful way of achieving these general goals. For example the legislatures could decide the desired redistributive criteria for the personal income tax and an independent bureaucrat would design the actual structure of rates, exemptions etc. This system has the advantage that the legislature would lose much of its ability of using relatively technical and "obscure" parts of the policy formation process to grant favors to specific lobbies and pressure groups. This advantage, that in principle seems considerable, should be weighed against the possibility of bribes for bureaucrats, an issue discussed above.²¹

Note however that the interaction between bureaucrats and politicians may also serve another function. Often bureaucrats are used by politicians as scapegoats. For instance "excessive" monetary tightening is often invoked by politicians to justify poor economic conditions even when monetary policy has nothing to do with it. According to Alesina et al. (2001) for instance, this is precisely what has been happening in Europe since the creation of the European Central Bank, a very independent body, with an inflation target. In Italy often the bureaucrat in charge of public accounting is used by potentially overspending politicians to argue that their hands are tied. A similar role may be served by an international bureaucracy, such as the IMF, when it prescribes so called "unpopular" policies to macroeconomically unstable countries (see the discussion in Vreeland (2003)).

The role of bureaucrats as scapegoats may certainly serve the opportunistic role of politicians, who taking advantage of the imperfect information of the public may indeed succeed, at least partially, in shifting the blame. This may interfere with the public's ability to appoint able and honest politicians. Note however that having scapegoats may actually be welfare enhancing because it may allow elected politicians to shift the blame for "unpopular" policies, for instance those with short run costs and long run benefits. Since the politicians can shift the blame in equilibrium one may have a higher dose of unpopular but welfare enhancing (in the long run) policies, precisely because the electoral cost of these policies are reduced by blame shifting.

A third extension relates to the endogenous choice of procedures, especially with regard to their transparency. Politicians may not always prefer the most transparent way of presenting their acts, an issue ex-

²¹See also Blinder (1997).

plored also in Alesina and Cukierman (1991) in a different context.²² One of the most often cited example has to do with budgetary procedures. Often public budgets are exceedingly complicated, and these complicated budget documents are approved in very cumbersome ways.²³ This complication is often higher than necessary, perhaps to make it harder for the public at large to discover all the various favors made to pressure groups in the darker corners of the budget. If the degree of transparency (say the variance of ε in our case of imperfect monitoring above) can be chosen by the policymaker, both the politician and the bureaucrat may prefer opaque procedures. An optimal arrangement here might be to split responsibilities, so that the policymaker choosing the procedure is not the same one in charge of making decisions under that procedure (i.e., he is not the residual claimant of the rents induced by a less transparent procedure).²⁴

Finally, we have characterized what would happen if the constitution was written optimally, that is behind a veil of ignorance. But this is not normally the case. For instance, to the extent that existing politicians may have an important role at the table in which Constitutions are written, one may find that actual Constitutions may deviate significantly from the optimality criteria that we have sketched. For instance real world politicians may push towards keeping for politicians precisely those functions that make their life easier (or richer); for instance politicians may be keen on retaining exactly those functions that are likely to generate generous campaign contributions even though, precisely for these reasons, these functions should be delegated to bureaucrats. Thus while we have emphasized a "normative" analysis of the Constitutional Table one could use our framework to discuss what politicians would choose to allocate to themselves and what not. This would certainly lead to different constitutional trade-offs compared to those discussed in the previous pages.

10 Conclusions

Our analysis rests on two fundamental assumptions. The first one concerns the motivation of different types of policymakers, bureaucrats and elected politicians. The former wants to signal their competence for career concerns, the latter for reelection purposes. The second assumption

²²These authors show that an "ideological" politicians may prefer to have his policies less observable to appear more moderate in a run up to the election.

²³See the volume edited by Poterba and von Hagen (2000) for an extensive discussion of the role of transparency in the budget process.

²⁴Persson, Roland and Tabellini (1987) study the benefits of separation of powers in a related context.

is that the tasks for bureaucratic agencies have to be specified *ex ante* and cannot be contingent on the realization of too many shocks on the environment and/or on the public's preferences. If one accepts these two hypotheses, the nature of our results is quite robust to variations on other less important assumptions.

This difference in how incentives play out can then be used at the constitutional table to design the appropriate allocation of tasks between the two types of policymakers. We have considered three general classes of policies: those concerning a single task, those concerning several inter-related tasks, and those concerning redistributive tasks. Consider first the case of a single policy dimension. Tasks requiring special skills and abilities (i.e. skills not shared by the population at large and with high uncertainty about the policymaker's ability) are better left in the hands of a bureaucrat. The reason is not so much that the bureaucrat may be more likely to have these skills, but rather that he has stronger incentives to show that he indeed has them. On the other hand, imperfect monitoring weakens the incentives of both policymaker types, and it is not necessarily an argument against bureaucratic delegation.

Next, consider policies with multiple dimensions, i.e. where the policy in question has several effects that have to be traded off against each other, and where there many options to choose from. Here, the politician generally is preferable for two reasons. First, it may be difficult to spell out *ex-ante* a well defined policy goal and while this *ex-ante* definition is necessary only for the bureaucrat, on the contrary the politician is automatically inclined to do whatever is in the interest of the voters. Second, the incentives of the politician induce him to take into account policy complementarities (he has to look at the overall welfare effect on voters), and to compensate the losers. A bureaucrat instead has a narrower vision due to the specificity of the task assigned to him. These advantages of the politician become a handicap in the case of time inconsistent policies, however. Here, a narrowly defined bureaucratic mission enhances policy credibility and becomes a reason to prefer a bureaucrat.

Finally, consider redistributive policies. Here the nature of the conflict matters. If the policy creates a conflict between voters at large against powerful but small special interests, then political delegation is more risky, because the politician is more likely to be captured by the interest group compared to the bureaucrat. The reason is that the interest group has one more weapon to use, with the politician, namely to help him be reelected; this weapon is useless instead in the case of the bureaucrat. The conclusion is reversed, however, in the case of redistributive conflicts between large groups in the population. Here it is generally impossible to clearly define the bureaucratic mission in terms

of the interest of the voters' at large; hence, there is always the risk that the bureaucrat will arbitrarily favor one group over the other. Moreover, even if this risk could be avoided, the constitution may not have enough commitment power to prevent removing the bureaucrat from office to replace him with a politician that would benefit the majority of voters. Hence, even if desirable, bureaucratic delegation may be unfeasible.

Appendix

1. Time inconsistency

There are two tasks, $i = 1, 2$, and:

$$U(y_1, y_2) = y_1 + y_2 \quad (35)$$

For task two $y_2 = \theta + a_2$. But y_1 depends also on private sector expectations, a_2^e .

$$y_1 = \theta + a_1 - (a_2 - a_2^e) \quad (36)$$

Suppose throughout that policy commitments are unavailable, meaning that first private expectations are formed, and then effort in both tasks, a_1 and a_2 , are chosen. In order to stress the difference between the bureaucrat and the politician, suppose now that costs are additive: $c = C(a_1) + C(a_2)$. The politician allocates effort so as to maximize:

$$\Pr(y_1 + y_2 \geq W) - C(a_1) - C(a_2) \quad (37)$$

taking the voters' reservation utility, W , and the private sector expectations, a_2^e , as given. In equilibrium, $W = 2\bar{\theta} + a_1^e + a_2^e$. Taking the first order optimality conditions for the politician and imposing rational expectations, yields the following result:

$$\begin{aligned} \frac{1}{r}n(\bar{\theta}) &= C_a(a_1^P) \\ a_2^P &= 0 \end{aligned} \quad (38)$$

Equilibrium effort on task 1 is determined by the same condition as in section 3, except that the left hand side is divided by 2 because now task 1 only contributes 50% to improve the politician's chances for re-election. But the politician exerts no effort at all on task 2 because ex-post the benefit for the voters from this policy outcome are exactly offset by the negative effect on the performance of task 1. Since voters assign equal weights to both tasks, and effort is costly, the politician

ex-post prefers to do nothing. Of course, this is suboptimal from an ex-ante perspective: only unexpectedly high a_2 hurts the performance of task 1, and under rational expectations the voters would be better off if the politician could commit to exert high effort also in task 2, and expectations were formed accordingly. Overall voters' utility under the politician is thus:

$$U^P = 2\bar{\theta} + a_1^P \quad (39)$$

Next, consider the bureaucrat, and suppose that his ability is evaluated according to a composite measure of performance, $y = \delta y_1 + (1 - \delta)y_2$, as in (11) above. Repeating the same steps, and still taking expectations as given, we now obtain:

$$\delta = C_a(a_1^B) \quad (40)$$

$$(1 - 2\delta) \leq C_a(a_2^B) \quad (41)$$

Like the politician, and for the same reasons, the bureaucrat too exerts less effort in task 2 than in task 1, because under discretion he perceives a cost from unexpectedly high effort. In fact, for $\delta \geq 1/2$, (41) implies $a_2^B = 0$. But now, the constitution gives a tool to overcome this incentive problem: tilting the bureaucratic mission towards task 2, with $\delta < 1/2$, induces the bureaucrat to reduce a_1^B and increase a_2^B . Since costs are convex, at least over some range a_2^B increases by more than a_1^B is reduced. Moreover, if expectations are formed after the constitutional stage, this is reflected into expectations, and $a_2^B = a_2^e$, so that the loss in performance in task 1 is more than offset by the improved performance in task 2. Hence, the voters' expected utility is:

$$U^B = 2\bar{\theta} + a_1^B + a_2^B \quad (42)$$

Unless effort by the politician in task 1 is very high, the voters are likely to be better off under the bureaucrat. In fact, voters would be even better off if tasks 1 and 2 could be split between two distinct bureaucrats (or between a politician in charge of task 1 and a bureaucrat in charge of task 2). The bureaucrat in charge of task 2 could be given a mission defined only on y_2 as a basis of performance, and someone else could be in charge of task 1. This would get rid entirely of the time inconsistency, since the bureaucrat in charge of task 2 would now disregard completely the negative impact of unexpectedly high a_2 in the performance of the other task. The proposition in the text follows.

2. Lobbying

As stated in the text, the equilibrium with lobbying must solve the following optimization problem by choice of a_1, a_2 and f , subject to non-negativity constraints on the three choice variables, and taking voters'

expectations a_1^e as given, as before.

$$\text{Max} \left\{ \Pr(\theta \geq \bar{\theta} + a_1^e - a_1 - H(f)) + (1 + \gamma)a_2 - C(a_1 + a_2) - f \right\} \quad (43)$$

The first order conditions for a_1 , a_2 and f evaluated at the point $a_1^e = a_1$ imply respectively:

$$n(\bar{\theta} - H(f)) - C_a(a_1 + a_2) + \mu_1 = 0 \quad (44)$$

$$1 + \gamma - C_a(a_1 + a_2) + \mu_2 = 0 \quad (45)$$

$$n(\bar{\theta} - H(f))H_f(f) - 1 + \mu_3 = 0 \quad (46)$$

where μ_i , $i = 1, 2$ are the lagrange multipliers on the non-negativity constraints for a_i , while μ_3 is the lagrange multiplier on the non-negativity constraint for f .

Consider first the case $H_f(0) < 1/(1 + \gamma)$. Since $H_{ff} < 0$, here lobbying is inefficient, and the first order conditions can only be satisfied if $f = a_2 = 0$ and a_1 is at an interior optimum defined by (44) with $\mu_1 = 0$ in it.

Next, consider the case $H_f(f^*) > 1/(1 + \gamma)$. This is the opposite extreme, in which lobbying is very effective. In this case $a_1 = 0$ and a_2 and f^* are at an interior optimum defined by (45) and (46) with $\mu_2 = \mu_3 = 0$ in them.

In the intermediate case, in which $H_f(0) > 1/(1 + \gamma)$ but the returns to campaign contributions fall rapidly, an equilibrium with lobbying does not always exist. A special knife edge case is given by the case in which $H_f(0) > 1/(1 + \gamma)$ and $H_f(f^*) = 1/(1 + \gamma) = n(\bar{\theta} - H_f(f^*))$. Here a_1 and a_2 can both be positive, and are defined by

$$1 + \gamma = C_a(a_1 + a_2)$$

and by the condition that the politician is indifferent between this equilibrium and the one with no lobbying.

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