Bureaucrats or politicians? Part II: Multiple policy tasks ☆

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Abstract

Policies are typically chosen by politicians and bureaucrats. This paper investigates first the normative criteria with which to allocate policy tasks to elected policymakers (politicians) or non-elected bureaucrats. Politicians are preferable if there is uncertainty about social preferences and flexibility is valuable, or if policy complementarities and compensation of losers is important. Bureaucrats are preferable if time inconsistency and short-termism is an issue, or if vested interests have large stakes in the policy outcome. We then compare this normative benchmark with the case in which politicians choose when to delegate and show that the two generally differ.
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1. Introduction

What is the socially optimal allocation of policy responsibilities between elected representatives (politicians) and independent bureaucrats? And how does this optimal task allocation differ from what would be chosen by the politicians themselves?

Advanced democracies delegate some key policy areas, such as monetary policy and regulation, to independent bureaucrats who make policy decisions with little political interference. A similar tendency emerged in Latin America in response to the high inflation of the eighties and nineties and even in some new democracies in Asia and Africa (e.g., Khemani, 2005). Independent bureaucrats also have important policy prerogatives in super-national organizations, and

in particular in the European Union. Yet, other policy areas, such as foreign policy or fiscal policy, generally remain under direct political control. Is this division of tasks appropriate? More generally, what normative criteria should guide the allocation of responsibilities amongst politicians and bureaucrats? And, if politicians choose whether or not to delegate policy tasks to independent bureaucrats, should we expect systematic deviations from optimality, and if so in which direction?

To address these questions, we study a principal–agent model of policy choice, where the voters are the principals and the policymakers (the agents) are motivated by a "career concern". But the career concern differs for politicians and bureaucrats. The former wants to win elections, by pleasing the voters. Top bureaucrats want to fulfill the goals of their organization, so as to appear competent in the eyes of their professional peers.[1] Throughout, we focus the attention on the individuals at the top, neglecting the internal organization of different policymaking institutions. Thus we ignore the internal organization of governments and parliaments and that of bureaucracies.

In a companion paper, Alesina and Tabellini (2007), we use this same analytical framework to study how bureaucrats and politicians differ in their performance of a single policy task. There we show that bureaucrats are preferable to politicians in technical tasks for which ability is more important than effort, and in purely redistributive tasks provided that the bureaucrat can be instructed to be "fair", i.e. to fulfill some social goals specified ex ante behind a "veil of ignorance".

In the present paper we make progress in three dimensions. First, we study multiple policy tasks and therefore how to allocate costly effort amongst several of them. We show that, from a normative perspective, politicians are preferable for tasks that have the following features: i) flexibility is valuable, because social preferences are unstable and uncertain, or because the policy environment can rapidly change; or, ii) side payments to compensate the losers are desirable and relevant, or bundling of different aspects of policy management and a comprehensive approach is important. Bureaucrats instead are preferred if iii) time inconsistency is a relevant issue and intertemporal trade-offs are important; or iv) the stakes for organized interest groups are large, and law enforcement is strong so that corruption is not widespread. Second, we address the positive question; that is we allow elected politicians, rather than citizens at the constitutional table, to choose whether or not to delegate a task to a bureaucrat. Since they do not maximize social welfare in an ex ante sense, the pattern of delegation chosen by elected politicians is different from that preferred by voters behind a veil of ignorance: politicians delegate tasks so as to increase the probability of electoral victory, net of costs of executing the task (or of the rents they grab). Third, we develop an explicitly dynamic model, which extends the simplified static setting of our previous paper.

This paper is related to a rapidly growing literature on principal–agent models of policymaking. One of the first contributions is Rogoff (1985), who pointed out that strategic delegation of monetary policy to an independent and inflation averse central banker could remedy a time inconsistency.[2] But time inconsistency cannot be the only relevant criterion for delegation. For a start fiscal policy too is marred with a host of time inconsistency problems, but societies seem reluctant to allocate this policy prerogative to independent bureaucrats.[3] An ability to commit to a 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. The career-concern model used in this paper was originally formulated by Holmstrom (1982). Dewatripont, Jewitt and Tirole (1999a,b) have used it to study the behavior of government agencies, while Persson and Tabellini (2000) have adapted it to describe the behavior of an incumbent politician, but none of these contributions contrasts bureaucratic vs political performance. This comparison is instead the focus of three recent papers. In Maskin and Tirole (2001), bureaucrats (judges) have intrinsic motivations, while political incumbents seek to please the voters. In Besley and Coate (2003) and Schultz (2003), both bureaucrats and politicians have intrinsic motivations. 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 incentive schemes differ for the two types of policymaker.

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[1] For a discussion of how bureaucrats are motivated by prospects of career enhancement and this leads them to internalize the goals of the organization, see the classic treatment in Wilson (1989), especially Chapter 9. In addition, by appearing competent, the bureaucrat can guarantee his autonomy and independence (Carpenter, 2001).

[2] Note that the benefits of strategic delegation could be achieved even without bureaucratic control, by electing a "conservative" politician — see for instance Persson and Tabellini (1994).

[3] Blinder (1997), Calmfors (2005) and the Business Council of Australia (1999) have all advocated expanding the scope of independent agencies in the formulation of fiscal policy.

Our positive analysis is based on the same premise of Epstein and O' Halloran (1999). In a similar vein Fiorina (1977) points out the blame shifting role of delegation: politicians delegate to agencies in order to blame them when things go badly and claim responsibility when success occurs. We derive this result formally, but we point out a trade off between using bureaucrats as scapegoats and rent extraction.[4]

The paper is organized as follows. Section 2 describes the simplest case of our model and discusses its assumptions. Section 3 considers optimal delegation when social preferences change over time. Section 4 studies policy tasks that entail trade-offs and allows for the possibility of compensating losers. Section 5 introduces the possibility of lobbying politicians and bribing all policymaker types. Section 6 discusses how the normative prescriptions derived in the previous sections would or would not be followed if politicians could chose whether to delegate. The last section concludes.

2. The model

Consider a society, with an infinite horizon, which has to decide whether to assign a policy task to an elected officer (a politician) or to a bureaucrat. With the generic term "policymaker" we indicate who chooses policy, either a politician or a bureaucrat. We illustrate the model with a single policy task, but then the remainder of the paper focuses on multiple tasks.[5]

In each period t, the policy outcome, y_t, is determined by the policymaker's effort, a_t, and by his ability, η_t:

$$y_t = \eta_t + a_t. \tag{1}$$

Ability is a moving average, $\eta_t = \theta_t + \theta_{t-1}$, where θ_t is an i.i.d. random variable, with mean 0, density $n(.)$ and cumulative distribution $N(.)$.[6] Thus, the policy outcome in period t is:

$$y_t = \theta_t + \theta_{t-1} + a_t. \tag{2}$$

This formulation captures the idea that a policymaker's ability changes slowly over time (and hence can be partly inferred from past performance), but is not entirely time invariant, because it also depends on the specific challenges that confront the policymaker (eg., a central banker with expertise in financial markets may be very good to deal with a bubble in equity markets, but less so to cope with a surge in unemployment).

Citizens are infinitely lived and care about the policy outcome in each period according to a well behaved utility function, $u_t = U(y_t)$ (since citizens face no intertemporal tradeoff, we don't need to define their rate of time discount). We postpone the possibility of conflict amongst citizens until Section 4.

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

$$\mathrm{R}^J(a_t) - C(a_t) \tag{3}$$

with $C_a>0$, $C_{aa}>0$ and $R^J(a_t)$ to be defined below (subscripts denote partial derivatives).[7]

The timing of events is as follows. Once and for all, at the so called "Constitutional Table", society chooses who has control rights over policy, whether the bureaucrat or the politician. Then, in each period, events unfold as follows. First, the policymaker chooses effort, a_t, before knowing the current realization of his ability, θ_t, but knowing θ_{t-1}. Next, nature chooses θ_t, outcomes are observed and the reward is paid. Irrespective of who has control rights over policy,

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[4] A related and rather large political science literature has also debated the effect of bureaucratic delegation (the so called "bureaucratic drift"), focusing on the US — see Epstein and O' Halloran (1999) for a survey. Some authors argue that delegation is deleterious, an abdication of the legislators' responsibility and a way of favoring special interests (Lowi, 1969; Stigler, 1971). Others (Mc Cubbins et al., 1987, 1989) instead claim that the legislators can, at least up to a point, control the bureaucratic agencies by means of procedural rules. Carpenter (2001) dissents and argues that the rise of the regulatory state has given a large latitude to many bureaucracies to decide in addition to implementing legislation.

[5] This section draws on Alesina and Tabellini (2007). Both papers are based on the same fundamental modelling hypotheses, but here the model is developed more completely, and it is applied to address a different set of issues.

[6] More generally we could allow some decay in ability so that $\eta_t = \theta_t + \rho\theta_{t-1}$ with $\rho<1$. No result would be qualitatively affected.

[7] The model can be restated in terms of rent extraction instead of effort, by defining $a=-r$ where $r>0$ are rents and $V(r)$ (with $V_r>0$ $V_{rr}<0$) is the utility of rents.

only the current outcome y_t and past ability θ_{t-1} are observed in period t by the principals, not the composition between effort a_t and current ability θ_t.[8]

In this environment, an optimal contract with the policymaker based on current performance would achieve the first best level of effort if citizens have linear utility — as shown by Alesina and Tabellini (2007) in a similar but simpler case. But the assumption that policy performance is verifiable and contractible is hard to accept. If society could write unrestricted optimal performance contracts with its policymakers, then the question asked in this paper would be utterly uninteresting: bureaucratic delegation under an optimal contract would always dominate. There would be no need for elections or politicians. This does not come even close to the world we live in. We thus assume that policy performance, y_t, is observable but not contractible, and that current rewards cannot depend on past effort.

2.1. The bureaucrat

The bureaucrat is motivated by "career concerns", as in Holmstrom (1982), namely with the perception of his future ability η_{t+1} in the eyes of those that may offer him alternative job opportunities. Let x_t be the relevant measure of performance (the stated goals of his organization). The bureaucrat's reward is:

$$R^B(a_t) = \alpha \mathsf{E}(E(\eta_{t+1}|x_t)) = \alpha \mathsf{E}(E(\theta_t|x_t)) \tag{4}$$

where α is the market value of talent, E denotes unconditional expectations over the random variable x_t, and E denotes expectations over η_{t+1}, conditional on the realization of x_t; the second equality follows from $\eta_{t+1} = \theta_{t+1} + \theta_t$ and the distributional assumption on θ.

In this basic case used for expositional purposes, it is natural to assume that the relevant measure of bureaucratic performance is what voters unambiguously care about, so that $x_t \equiv y_t$, but this assumption is relaxed below. Denoting the public's perception of a by a^e, recalling the assumption that the bureaucrat past ability, θ_{t-1}, is public knowledge, and using Eq. (2), the bureaucrat's reward function (4) can be written as:

$$R^B(a_t) = \alpha \mathsf{E}(y_t - \theta_{t-1} - a_t^e) = \alpha \mathsf{E}(\theta_t + a_t - a_t^e). \tag{5}$$

To compute the equilibrium level of effort, first take the first order condition with respect to actual effort, a_t, with a_t^e as given; then, impose the equilibrium requirement that $a_t^e = a_t$ (recall that by assumption both the bureaucrat and outside observers ignore the realization of θ_t). By Eqs. (5) and (3), we obtain:

$$\alpha = C_a(a^B) \tag{6}$$

where a^B indicates the equilibrium effort of the bureaucrat.[9]

2.1.1. Discussion

Our model contains two important assumptions. First, the bureaucrat cares about the perception of his future talent by outside observers representing his relevant "labor market". This career concern can be interpreted in more than one way: as future monetary rewards in the private sector, or if his salary as a bureaucrat is tied to his outside career opportunities; but also as something about which the bureaucrat cares as a matter of self-image, pride or legacy, irrespective of the pecuniary implications.

Second, the expectation of talent is formed by conditioning on the bureaucrat's observed performance, and the relevant measure of performance, x, is defined in advance at the constitutional table, and can be interpreted as the stated goals of the organization. If there are multiple tasks, as discussed in the next sections, then this assumption plays an important role: it does not allow the bureaucrat or outside observers to select other measures of performance, for instance by focusing on tasks where the market value of talent is higher. Thus, we rule out the case in which, say, a Central Banker chooses to ignore the problem of controlling inflation and, instead, signals his ability in international

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[8] The assumption that θ_{t-1} is known in period t is equivalent to assuming that the policymaker has been in office for more than one period, and his initial ability θ_0 is known, so that θ_s can be inferred from y_s for any $s > 0$. If θ_{t-1} was unknown, the model would be similar to the case of imperfect monitoring discussed in Alesina and Tabellini (2007).

[9] Thus, the bureaucrat puts in the first best level of effort if $\alpha = 1$, i.e., if the market value of bureaucratic talent coincides with the true value of talent for society. We neglect the bureaucrat's participation constraint, which throughout the paper we assume is always satisfied. See also the discussion in Alesina and Tabellini (2007).

relations by publishing speeches and books on that topic. This second assumption can be defended on several grounds. To begin with, under the broad interpretation, "career concerns" reflect a desire for legacy and good reputation with peer groups, say other Central Bankers. Even under the pecuniary interpretation of "career concerns", future career prospects are uncertain and there is a coordination problem: how does the bureaucrat know which is the relevant measure of performance used by outside observers? The assumption that performance is assessed on the basis of tasks explicitly assigned to the bureaucrat is a natural focal point to select amongst possible multiple equilibria. Finally, as stressed for instance by Wilson (1989), bureaucratic organizations have weak internal incentives. To motivate employees, the mission of the organization must be well defined and pursued by the top bureaucrat. A leader who is perceived as pursuing his own personal ambition, rather than fulfilling the organizational goals, is likely to be resisted by his subordinates and this could undermine the leader's own performance. Moreover, a bureaucrat that pursues his own ambitions rather than fulfilling the organizational goals would damage his integrity, and this would certainly hurt his future career prospects.

2.2. The politician

The politician's goal is to be re-elected. Voters are rational and elections are held every period. The alternative to re-appointing the incumbent is to vote for an opponent who is drawn at random from the same distribution of talents. In this model where performance is additively separable in effort and talent, all politicians behave in the same way irrespective of their ability. Hence, voters compare the talent of the incumbent (inferring it from his performance) with the distribution of talent from which the opponent is drawn, and vote accordingly. The analysis is slightly different depending on whether voters are risk neutral or risk averse, and for simplicity we consider the two cases separately.[10]

2.2.1. Risk neutral voters

Risk neutral voters only care about the expected value of future talent. Hence, they vote for the incumbent if

$$E(\eta_{t+1}|y_t) \geq 0 \tag{7}$$

and otherwise they vote for the opponent. The right hand side of Eq. (7) is the expected future talent of the opponent. The left hand side is the expected future talent of the incumbent, conditional on his current performance, y_t (we implicitly assume that if indifferent voters reappoint the incumbent). Let $\hat{\theta}_t$ denote the incumbent's ability inferred by the voters, given their observation of y_t and their knowledge of θ_{t-1}. Then, the definition of η_{t+1} implies $E(\eta_{t+1}|y_t) = \hat{\theta}_t$, and voters vote for the incumbent if $\hat{\theta}_t \geq 0$.

Repeating the analysis above, Eqs. (4)–(5) imply:

$$\hat{\theta}_t = y_t - \theta_{t-1} - a_t^e = \theta_t + a_t - a_t^e. \tag{8}$$

Thus, the probability of reappointment, as seen by the incumbent, is:

$$P = \Pr(\hat{\theta}_t \geq 0) = 1 - \Pr(\theta_t \leq a_t^e - a_t) \tag{9}$$

Let β be the value of office. The reward function for the politician is:

$$R^P(a_t) = \beta P = \beta[1 - N(a_t^e - a_t)] \tag{10}$$

Like the bureaucrat, the politician chooses effort before observing his current talent, taking the voters' expectations as given. Equilibrium effort by the politician, a^P, is thus defined implicitly by the first order condition:

$$\beta n(0) = C_a(a^P) \tag{11}$$

where $n(0)$ is the density of θ evaluated at its mean.

Finally, by Eq. (9), the equilibrium probability that the incumbent wins is: $P = \Pr(\theta_t \geq 0)$. Since the mean of θ is 0, a symmetric distribution of talent implies $P = 1/2$ in equilibrium.

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[10] The case of risk neutral voters is a version of the model in Persson and Tabellini (2000), chapter 4.

2.2.2. Risk averse voters

Next, consider risk averse voters. If the opponent is elected, the voters' expected utility is:

$$W = E_{\eta_{t+1}} U(a_{t+1}^e + \eta_{t+1}) \tag{12}$$

where $E_{\eta_{t+1}}$ denotes the expectations operator with respect to the random variable $\eta_{t+1} = \theta_{t+1} + \theta_t$. Suppose instead that the incumbent is elected. Since voters observe y_t and they know θ_{t-1}, they can infer $\hat{\theta}_t$, as given by Eq. (8) above. Thus, voters' expected utility under the incumbent is:

$$V(\hat{\theta}_t) = E_{\theta_{t+1}} U(a_{t+1}^e + \theta_{t+1} + \hat{\theta}_t) \tag{13}$$

where $E_{\theta_{t+1}}$ denotes the expectations operator with respect to the random variable θ_{t+1} — since the term $\hat{\theta}_t$ is known by the voters. Hence, by Eq. (8), the probability of reappointment, as seen by the incumbent when he chooses effort in period t, is:

$$P = \Pr[V(\theta_t + a_t - a_t^e) \geq W] \tag{14}$$

where the probability is with respect to the random variable θ_t. Since the function $V(.)$ is strictly increasing, Eq. (14) can also be written as:

$$P = \Pr[\theta_t \geq V^{-1}(W) + a_t^e - a_t]. \tag{15}$$

Thus, the reward function for the politician when he chooses effort is

$$R^P(a_t) = \beta - \beta N[V^{-1}(W) + a_t^e - a_t]$$

where $N(.)$ is the cumulative distribution of the random variable θ_t. Once more, the politician chooses effort taking the voters' expectations as given. Thus, his optimality condition when voters are risk averse and evaluated in equilibrium (i.e. for $a_t^e = a_t$) is:

$$\beta n[V^{-1}(W)] = C_a(a^P) \tag{16}$$

where $n[V^{-1}(W)]$ is the density of θ evaluated at the point $V^{-1}(W)$. And the equilibrium probability that the incumbent wins is $P = \Pr[\theta_t \geq V^{-1}(W)]$.

By definition, $\eta_{t+1} = \theta_{t+1} + \theta_t$ is a mean preserving spread of θ_{+1} (since the mean of θ_t is 0), and this in turn implies that $V^{-1}(W) < 0$.[11] This fact has two intuitive implications about the effect of voters' risk aversion on equilibrium outcomes.

First, the equilibrium probability that the incumbent is re-elected is higher if voters are risk averse than if they are risk neutral (since $\Pr[\theta_t \geq V^{-1}(W)] > \Pr[\theta_t \geq 0] = 1/2$). Thus, voters' risk aversion creates an incumbency bias because the voters know more about the ability of the incumbent than of the opponent, and if they are risk averse this matters.[12]

Second, voters' risk aversion can also influence equilibrium effort, although the specific effects depend on the distribution of talent. If the distribution is unimodal and symmetric, then equilibrium effort is reduced by voters risk aversion — since Eqs. (16) and (11), together with $E(\theta) = 0$, imply $n(0) > n[V^{-1}(W)]$. Intuitively, the incumbent enjoys an advantage and this dampens his incentive to please the voters. With a uniform distribution, effort is the same irrespective of voters' risk aversion, while with other distributional assumptions the effect of voters' risk aversion on equilibrium effort is ambiguous.

Finally, who puts in more effort, the bureaucrat or the politician? Eqs. (6) and (11) or (16) imply that the answer is ambiguous and depends on parameter values. A higher value of office, β, increases the effort of the politician, a higher

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[11] Since $U(.)$ is strictly concave, by Eqs. (13) and (12):

$$V(0) = E_{\theta_{t+1}} U(a_{t+1}^e + \theta_{t+1}) > E_{\eta_{t+1}} U(a_{t+1}^e + \eta_{t+1})] = W$$

— see Rotschild and Stiglitz (1970, 1971). Since $V(.)$ is strictly increasing, this implies $0 > V^{-1}(W)$.

[12] This result is related to Shepsle (1972).

market value for bureaucratic talent, α, increases the effort of the bureaucrat. To simplify the notation, and since no additional result hinges on the value of these two parameters, in the remainder of the paper we set $\alpha = \beta = 1$.[13]

2.2.3. Discussion

The model captures an important difference between political and bureaucratic accountability. The politician is held accountable by the voters who choose whether or not to re-elect him. The bureaucrat is held accountable by his professional peers, (and by the public at large) for how he fulfills the goals of his organization. These different accountability mechanisms induce two behavioral differences between a bureaucrat and a politician. The first one is in the form of the objective function: the politician strives to achieve a threshold level of utility for the voters; instead the bureaucrat wants to maximize his perceived talent. Second, the relevant measure of performance is different: for the politician it is the voters' utility; for the bureaucrat it is whatever goals have been assigned to the bureaucratic organization. In this introductory example, only the first difference plays a role, since both voters' utility and bureaucratic performance are measured by (or are increasing in) the same variable, y. But in later sections this second difference plays an important role.

In practice, the contrast between bureaucrats and politicians is not as sharp as in the model. Consider the idea that the politicians' reward function is based on a threshold, while bureaucrats maximize an increasing function of perceived talent without any low or high threshold. This is of course a simplification and in reality the difference between politicians and bureaucrats is not so stark. On the one hand, top level bureaucrats in charge of important agencies may be preparing a leap into politics, so they may worry about their popularity and not only about their competence per se, and may keep an eye on a certain threshold of popularity. On the other hand, politicians may look ahead to a career in the private sector and worry about maximizing perceived talent above and beyond the threshold needed for re-election. Also we do not consider the possibility of firing the bureaucrats if his talent is below a certain threshold, which may introduce a kink, or lower threshold in his objective function (although in this model firing the bureaucrat would still give him rewards tied to the market value of his talent as perceived by outsiders, as in Eq. (4) above). While these caveats point to a large gray area and intermediate cases between our "politician" and our "bureaucrat", it is useful as a first step to clearly identify how career concerns and electoral incentives lead to different results depending on the nature of the policy.[14]

Finally, as already remarked, we assume that ability is subject to shocks in every period, as the specific policy challenges change over time and they may require different types of talent. If ability were stable, the public would learn the true talent of a bureaucrat and the latter would have no incentive to put effort anymore, a point raised by Holmstrom (1982) in the context of managers. This consideration suggests that the tenure of bureaucrats should be limited, as it usually is. An interesting extension of our model would be to study the optimal length of bureaucratic tenure, focusing on the trade off between independence and the incentive to exercise effort which may be declining over time.

We now examine the allocation of responsibility between politicians and bureaucrats in a variety of different policy environments.

3. Uncertain voters preferences

Consider the case of two policies, so that effort can be devoted to two tasks: $y_{it} = \eta_t + a_{it}$, with $i = 1, 2$.[15] Ability is assumed to be the same in both tasks. The cost function with multiple arguments, in general, is $c = C(a_1, a_2)$. But we simplify to either an additive case ($c_t = C(a_{1t} + a_{2t})$), where effort in the various tasks is perfectly substitutable in the cost function, or to a separable case ($c_t = C(a_{1t}) + C(a_{2t})$), where the marginal cost of effort in one task is totally independent of effort devoted to the other tasks. We choose the simplest formulation that does not produce knife-hedge or "trivial" results.

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[13] Since we are not considering an optimal contract, both the bureaucrat and the politician could be earning rents in equilibrium (i.e., their participation constraint need not bind).

[14] Alesina and Tabellini (2007) briefly discuss a more general formulation, where the politician cares about both re-election and, conditional on losing office, his career prospects outside politics. If the value of political office is sufficiently high compared to the expected benefit of a career outside politics, then the main implication of our model would still hold.

[15] For a general discussion of multi task functions in a principal–agent relationship see Holmstrom and Milgrom (1991).

3.1. Results

We begin in this section by considering additive costs, so that $c_t = C(a_{1t} + a_{2t})$. At the Constitutional Table the (identical) voters are uncertain about their ex post preferences over alternative policies, so that voters utility in each period is now given by the following concave function:

$$U(\lambda_t y_{1t} + (1 - \lambda_t)y_{2t}) \tag{17}$$

In each period we have $\lambda_t = 1$ with probability $q > 1/2$, $\lambda_t = 0$ with probability $(1-q)$, where for simplicity q is time invariant. Thus, society as a whole does not know ex ante what it will like ex post; but there is no disagreement ex post amongst members of society. Disagreement over policy and redistributive policies will be analyzed in the next two sections.

The timing is as follows. First, at the Constitutional Table voters choose once and for all whether to assign this policy to a bureaucrat or to a politician. Then, in each period, nature chooses λ_t, that is social preferences are determined. Having observed λ_t, the policymaker chooses $[a_{it}]$, then nature chooses θ_t, and finally policy outcomes are determined and rewards paid.

Consider bureaucratic delegation first. As discussed in Section 2, if the Constitution assigns control rights over policy to the bureaucrat, it also defines a relevant measure of performance with which his ability is evaluated. In that section, with a single task, y_t was the only sensible measure of performance. But here, at the Constitutional Table, social preferences are not known nor stable, since they depend on the future realizations of the random variable λ_t. If at the Constitutional Tables one could assign a task to a bureaucrat contingent to the realization of λ_t, then the ex ante uncertainty would be irrelevant and the choice between bureaucratic delegation or not would be the same as in the single task discussion above. The only difference would be that which task is performed would be revealed ex post.

Suppose instead that the bureaucrat can only be assigned an unconditional measure of performance, defined as:

$$x_t = \delta y_{1t} + (1 - \delta)y_{2t} \tag{18}$$

where δ is a parameter specified by the Constitution. This formulation entails two assumptions. First, we assume that the relevant measure of performance assigned to a bureaucrat cannot be ex post social welfare, u_t. Social welfare cannot be operationally described ex ante in an unambiguous way. Of course, individual welfare can be observed ex post by polling each individual about the policymaker's performance. But telling a bureaucrat that his performance would be assessed ex post through an opinion poll would transform him into a politician, and the theoretical distinction between political and bureaucratic accountability, that is at the core of this paper, would be lost. The second crucial assumption is that the operational and describable measure of performance that can be assigned to a bureaucrat, and in particular the parameter δ, cannot be contingent on the realization of the random variable λ_t. This element of contract incompleteness is common in the related literature.[16]

Under these assumptions, and adapting Eqs. (4)–(5), the rewards of the bureaucrat are:

$$R^B(a_t) = \mathsf{E}(E(\theta_t|x_t)) = \mathsf{E}(\theta_t + \delta a_{1t} + (1 - \delta)a_{2t} - \delta a_{1t}^e - (1 - \delta)a_{2t}^e). \tag{19}$$

Given additive costs and $q > 1/2$, it is optimal for society to set $\delta = 1$.[17] The first order conditions for the bureaucrat then imply:

$$a_1^B = C_a^{-1}(1), \quad a_2^B = 0. \tag{20}$$

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

$$U^B = q\mathsf{E}U(\eta_t + a_1^B) + (1 - q)\mathsf{E}U(\eta_t). \tag{21}$$

The key here is that by choosing a bureaucrat who is not 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.

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[16] A related structure of contract incompleteness also underlies the models of Constitutional choice by Aghion and Bolton (2003), Aghion, Alesina, and Trebbi (2004) and Trebbi et al. (2005). See Maskin (2001) for a general discussion and critical evaluation of the assumption of contract incompleteness.

[17] If costs were separable, then the optimal δ would be increasing with q, at a rate that is decreasing with the curvature of $U(.)$ for obvious reason having to do with risk aversion. The qualitative nature of our result would not change.

Next, suppose that, at the Constitutional Table, society gave control over policy to a politician. To win re-election, the incumbent needs to show that he is more competent than the opponent, by giving to the voters a sufficiently high utility. Obviously the politician always finds it in his own interest to put effort in the task preferred ex post by the voters. Thus, if $\lambda_t = 1$, then the politician sets $a_{2t} = 0$; and viceversa. Effort in the chosen task is then determined by a first order condition similar to Eq. (11) above.

This is what differentiates the politician from the bureaucrat. The politician's goals always depend on the realization of λ_t (i.e., on the ex post preferences of the voters). The bureaucrat instead must be told what to do and in some cases he will be assigned the wrong mission.

Summarising: The politician, unlike the bureaucrat, always chooses the right task from the voters' perspective. This advantage of the politician is more important the more risk averse are the voters and the more uncertain are their ex post preferences.

3.2. Discussion

Delegation to a bureaucrat is safe when society's preferences are well known and stable. But when they change, the "rigidity" of a bureaucrat's stated goals makes the latter 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. In fact 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.[18] Similar considerations may apply to other policies like environmental policy where it would be difficult to assign in advance precise targets and where citizens' preferences may be changing as a function of new discoveries about, say, global warming. Another example may be immigration policies. As citizens discover the costs and benefits of opening up to a flow of immigrants, their preferences may change.[19]

There is a case in which ex post flexibility is in fact a disadvantage, however. When society's preferences are time inconsistent, the benefit of flexibility associated with political delegation has a cost. Politicians are much more likely to fall in the trap of time inconsistency, compared to bureaucrats, since the goals of a politician are unavoidably linked to the ex post welfare of voters. The rigidity of bureaucratic control, instead, offers protection against time inconsistency. A related issue has to do with the time profile of costs and benefits of policy choices. Bureaucrats tend to care more about the long run consequences of policies, compared to politicians, for two reasons. First, often bureaucrats are appointed for longer than electoral cycles, precisely to avoid short-termist policies. Second, even when bureaucrats have short terms of office, the blame for myopic policies may reach and hurt them later on. The reason is that bureaucrats care about their professional reputation in the eyes of their peers. This gives bureaucrats a strong incentive to focus on the long term goal.[20]

In some situations, a combination of politicians and bureaucrats could be welfare improving. In fact, a natural remedy to the "narrow-mindedness" of bureaucrats pursuing the wrong task is to let the politician decide the mission of the bureaucrat. Specifically, the constitution could prescribe the policy to be delegated to a bureaucrat, but the bureaucrat's mission (the parameter δ in Eq. (18) above) could be chosen by a politician. If the politician observes the contingency λ and if he is held accountable by the voters, as described in the previous section, he would always choose the socially optimal mission for the bureaucrat. We often observe this division of tasks (the politician assigns the bureaucrat some goals and the latter chooses the instruments with which to pursue them).

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[18] Hart, Shleifer and Vishny (1997) and Wilson (1989) make a similar argument to clarify why it would be close to impossible to privatize foreign policy or to delegate it fully to a non-political agency.

[19] Obviously in both cases, environmental policy and immigration policy powerful bureaucratic agencies are involved, but they do not decide the policy direction and goals like in the case of monetary policy.

[20] A previous version of this paper discusses more formally the benefits of bureaucratic delegation in controlling time inconsistency or short-termism in the context of this career-concerns model. A large literature, surveyed in Persson and Tabellini (2000), models myopic electoral cycles in monetary and fiscal policy with rational voters. Besley 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 expense of lower investments, this finding is consistent with the prediction of short-termism by elected (as opposed to appointed) regulators.

Of course, the precision and frequency with which bureaucratic goals are defined can vary from case to case, and determines the extent to which an independent bureaucrat is really in charge of policy decisions (rather than taking orders from the politician). In the limit, however, if the politician can change the goals of the bureaucratic organization at will, then all the benefits of bureaucratic delegation to cope with time-inconsistency or short-termism would be lost.

4. Compensation of losers

A critical task of 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 and the possibility of side payments and of bundling policies with complementarities.

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

$$c_{1t} = y_{1t} + \tau_t, \quad c_{2t} = y_{2t} - \tau_t, \quad y_{2t} \geq \tau_t \geq -y_{1t}. \tag{22}$$

τ is a direct lump sum transfer between voters and the government budget is balanced. Each group benefits from different tasks requiring specific and uncorrelated abilities, $\eta_{it} = \theta_{it} + \theta_{it-1}$, $i=1, 2$. Let the distribution of θ_{it} have the same densities $n(.)$ and cumulative distributions $N(.)$. There are random negative spillovers between the two tasks, such that:

$$y_{1t} = \eta_{1t} + a_{1t} - \lambda_t \kappa a_{2t}, \quad y_{2t} = \eta_{2t} + a_{2t} - (1 - \lambda_t) \kappa a_{1t}. \tag{23}$$

The parameter $0 < \kappa < 1$ denotes the strength of the negative spillover effects. Who is hurt by the spillovers is ex ante uncertain. Thus, λ_t is a random variable that in each period can equal 1 or 0 with equal probabilities. As in Section 3, we assume that λ_t is observable ex post, but it is not describable ex ante, so that the bureaucrat's mission cannot be defined contingent on λ_t. The policymaker maximizes its usual per period payoffs, with different rewards for the two types of policymakers, except that now we assume that the cost function is additive in the two efforts:

$$R^{J}(a_{1t}, a_{2t}) - C(a_{1t}) - C(a_{2t}) \quad J = B, P. \tag{24}$$

Timing has the usual structure. In each period, first nature sets λ_t and this determines which group is hurt by the spillover effect. Then everyone observes the realization of λ_t, the policymaker chooses a_{it} and τ_t, nature picks θ_{it} and rewards are paid. Citizens observe their own consumption as well as λ_t and know the policymaker's past abilities, θ_{1t-1} and θ_{2t-1}, but they don't separately observe effort, ability or transfers. They also do not observe the consumption of the other group.

4.1. The politician

Consider the politician first. He maximizes re-election 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 re-election requires pleasing all voters).

To pin down the re-election probability, we have to spell out how voters expect compensating transfers to be set in the current and in the future period by the incumbent, and in the future period by opponent. We assume that voters expect all politicians to enact full insurance. In other words, they expect τ_s to be such that $E(c_{1s}|\theta_{1s-1}, \theta_{2s-1}) = E(c_{2s}|\theta_{1s-1}, \theta_{2s-1})$, for $s=t$, $t+1$ irrespective of who wins the current election. As we shall see below, this expectation is rational since it is consistent with equilibrium behavior of the politician. It implies that voters strive to select the most talented politician, because the incumbent and opponent enact similar redistributive policies. This need not be the only equilibrium, however, and other hypotheses about voters' expectations might select different equilibria. But this assumption supports the best equilibrium from a utilitarian perspective, and thus corresponds to the maximum expected utility that can be achieved in equilibrium under political delegation.

Given this full insurance assumption, if the opponent is elected, then both groups of voters, $i=1, 2$, have the same future expected utility, given by

$$W = E_{\eta_{t+1}} U\left[\frac{1}{2}\left(y_{1t+1} + y_{2t+1}\right)\right] = E_{\eta_{t+1}} U\left[\frac{1}{2}\left(\eta_{t+1} + a_{t+1}^e\right)\right] \tag{25}$$

where $E\eta_{t+1}$ denotes the expectations operator with respect to the random variable $\eta_{t+1}=\eta_{1t+1}+\eta_{2t+1}$. The second equality follows from Eqs. (22)–(23) and by noting that, by the symmetry of the model, the future realization of λ_{t+1} is irrelevant. Thus, a_{t+1}^e denotes total expected effort, defined as $a_{t+1}^e=a_{1t+1}^e+(1-k)\,a_{2t+1}^e$ if $\lambda_{t+1}=1$, and $a_{t+1}^e=a_{2t+1}^e+(1-k)a_{1t+1}^e$ if $\lambda_{t+1}=0$.

Next suppose that the incumbent is elected, and let $\hat{\theta}_t^i$ denote his average current ability in both tasks as inferred by voters of group i, given what they observe. In other words:

$$\hat{\theta}_t^i = E\left(\frac{\theta_{1t} + \theta_{2t}}{2}|c_{it}, \lambda_t, \theta_{1t-1}, \theta_{2t-1}\right), \quad i = 1, 2. \tag{26}$$

Then, using Eqs. (22)–(23) and the expectation of future full insurance, we can write group i's future expected utility under the incumbent as:

$$V(\hat{\theta}_t^i) = E_{\theta_{t+1}} U\left[\frac{1}{2}\left(\theta_{1t+1} + a_{t+1}^e\right) + \hat{\theta}_t^i\right], \quad i = 1, 2 \tag{27}$$

where $E_{\theta_{t+1}}$ denotes the expectations operator with respect to the random variable $\theta_{t+1}=\theta_{1t+1}+\theta_{2t+1}$ and a_{t+1}^e is defined as above.

The incumbent wins the election if it pleases both groups, namely if $V(\hat{\theta}_t^i) \geq W$ for $i=1, 2$. Hence, since the function $V(.)$ is strictly increasing, the reward function for the incumbent politician can be written as:

$$R^P(a_{1t}, a_{2t}) = \Pr[\hat{\theta}_t^1 \geq V^{-1}(W)] * \Pr[\hat{\theta}_t^2 \geq V^{-1}(W)]. \tag{28}$$

Section 1 of the Appendix computes the expression for $\hat{\theta}_t^i$, the voters' inferences of the incumbent average ability in both tasks, and proves:

Lemma 1. *The politician sets transfers τ_t so as to achieve*:

$$\frac{n(z_{1t})}{1 - N(z_{1t})} = \frac{n(z_{2t})}{1 - N(z_{2t})} \tag{29}$$

where $z_{1t} = V^{-1}(W) - \tau_t - a_{1t} + \kappa a_{2t} + \frac{1}{2}[\theta_{2t-1} - \theta_{1t-1}] + \Delta_t$, $z_{2t} = V^{-1}(W) + \tau_t - a_{2t} + \frac{1}{2}[\theta_{1t-1} - \theta_{2t-1}] + \Delta_t$, and $\Delta_t = \frac{1}{2}[a_{1t}^e + (1 - \kappa)a_{2t}^e]$.

Recall that $N(.)$ and $n()$ are the cumulative distribution and the density function of the random variable θ_{it} respectively. Thus, 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. It is easy to verify that Eq. (29) implies:

Lemma 2. *If the hazard rate $n(z)/[1 - N(z)]$ is monotonically increasing in z, then the politician sets τ_t so as to achieve* $E(c_{1t}|\theta_{1t-1}, \theta_{2t-1}, a_{1t}, a_{2t}, \tau_t) = E(c_{2t}|\theta_{1t-1}, \theta_{2t-1}, a_{1t}, a_{2t}, \tau_t)$

where the expectation is with respect to the random variable $\theta_t=\theta_{1t}+\theta_{2t}$. That is, the politician implements full insurance, fully compensating the losers from the negative externality.[21]

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

Finally, Section 1 of the Appendix also proves:

Lemma 3. *If $\lambda_t = 1$, the politician allocates effort to the two tasks so that*

$$n(z_{1t})(1 - N(z_{2t})) = C_a(a_{1t}^P) \tag{30}$$
$$n(z_{2t})(1 - N(z_{1t}))(1 - \kappa) = C_a(a_{2t}^P)$$

For $\lambda_t = 0$, the statement changes symmetrically. Thus, the politician allocates effort "correctly", in the sense of devoting more effort to the task that does not have negative spillovers: $a_{1t}^P >$ if $a_{2t}^P \lambda = 1$. Comparing Eq. (30) with Eq. (11) in Section 2, however, we see that the politician is induced to put less effort in both tasks, including the one without a negative externality (task 1), relative to the simple case of only one task. The reason is that bundling two tasks requiring different abilities weakens his incentives. His likelihood of re-election now depends on his success in both tasks. Even if he puts a lot of effort in task 1, he could still loose the election because he happens to be unable in task 2. His awareness of this risk (captured by the term $(1 - N(z)) < 1$ on the left hand side of Eq. (30)), dilutes his incentives.[22]

4.2. The bureaucrat

Let's now turn to the bureaucrat. As in Section 3, we assume that the measure of performance that he is assigned at the Constitutional Table cannot be contingent on λ and cannot be formulated in terms of social welfare ($U(c_{1t}) + U(c_{2t})$) because it is too vague a concept, or cannot be observed by outsiders to infer the bureaucrats' talent. With this restriction, the natural measure of performance in this context is total output, $x_t = (y_{1t} + y_{2t})$. If given this goal, the bureaucrat allocates effort efficiently, taking the negative externality into account:

$$1 = C_a(a_1^B) \tag{31}$$
$$1 - \kappa = C_a(a_2^B).$$

Comparing Eq. (31) with Eq. (30), we see that the bureaucrat tends to put in more effort than the politician, since his incentives are not diluted by the risk of losing the election (the terms $(1 - N(z))$ are missing from Eq. (31)). Nevertheless, compensating transfers are set to zero.

Comparing the politician and the bureaucrat, and given our assumption that the market value of bureaucratic talent coincides with the social value ($\alpha = 1$), we thus have:

Proposition 4. *The politician provides side payments to compensate losers, whereas the bureaucrat does not. Effort by the bureaucrat coincides with the first best. Effort by the politician is strictly smaller than with a single task, even in the task that does not induce any negative externality.*

The intuition is clear. Imagine a policy that favors a large majority, say a badly needed highway, but that creates losers, say the property owners near the highway. With some voting systems, 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 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 does not have the ability, interest or authority to provide compensation to the local owners.

5. Lobbying and bribing

In this section, we consider the case of lobbies that influence policy choice with bribes or campaign contributions. Both the politician and the bureaucrat can be captured by the interest group, but with different mechanisms.

As in Section 3, there are two tasks, $y_{it} = \eta_t + a_{it}$, $i = 1, 2$, $\eta_t = \theta_t + \theta_{t-1}$, and the cost of effort is non-separable: $c_t = C(a_{1t} + a_{2t})$. Here ability is assumed to be the same for both tasks. Since in this section voters are risk neutral and we don't need to refer to future periods, we omit time indexes to simplify the notation and refer to current ability, θ_t, with the understanding that lagged ability, θ_{t-1}, is known.

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[22] Persson and Tabellini (2000) and Seabright (1996) make a similar point in comparing centralized vs decentralized arrangements, in a different set up.

Task 1 benefits voters at large, while task 2 only benefits a small but organized interest group. Voters influence policy only through elections. The organized interest group is small and its vote is irrelevant; but he can influence policy through bribes, b, or campaign contributions, f. Thus, voters' preferences are just y_1, while the interest group maximizes:

$$(1 + \gamma)y_2 - b - f \tag{32}$$

where γ is a parameter capturing the intensity of the group's preferences for task 2. Voters and the public at large only observe performance in task 1, y_1, whereas the interest group observes performance in both tasks, y_1 and y_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 but can only be offered to the politician. The effect of campaign contributions is to increase the incumbent's chances of winning the elections, in a way that will be spelled out below.

At the Constitutional Table the lobby has no influence, so if the bureaucrat is given control rights over policy, his assigned measure of performance coincides with the task that benefits voters at large ($x = y_1$). Under these assumptions, we can write the policymaker's preferences as:

$$R^{J}(y_1, y_2) - C(a_1 + a_2) + b - qZ \tag{33}$$

where $R^{J}(y_1, y_2)$ is the policymaker's reward, where J = P or J = B depending on who is the policymaker. These reward functions are defined below, in context

The timing of events is as follows. First the Constitution allocates control rights over policies, and this defines the policymakers' reward function. Then the organized group commits to bribes and/or campaign contributions, as a function of observed performance in tasks 1 and 2. Next, the policymaker allocates effort between the two tasks. Nature then chooses a realization of θ. Finally, rewards are paid. 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.

5.1. Bribing the bureaucrat

Suppose that the constitution gave control rights to the bureaucrat. Repeating the analysis in Section 2, the bureaucrat's reward function is: $R^{B}(y_1, y_2) = \hat{\theta}$, where $\hat{\theta}$ denotes the inference about the policymaker's ability by the public at large, conditional on the observation of y_1 (and implicitly of past ability, θ_{t-1}, as in Section 1). Hence,

$$\hat{\theta} = \theta + a_1 - a_1^{e} \tag{34}$$

With a single active lobby and risk neutrality for both the bureaucrat and the organized interest, the equilibrium is easy to compute. If bribes are positive, then the equilibrium must be jointly optimal for the organized group and the bureaucrat. This immediately implies:

$$a_1^{B} = 0, \quad a_2^{B} = C_a^{-1}(1 + \gamma) \tag{35}$$

Moreover, restricting attention to truthful contribution (here bribing) schedules, the equilibrium bribing schedule has the following simple form:[23]

$$B(y_2) = \overline{B} + (1 + \gamma)y_2 \tag{36}$$

where the constant $\overline{B}$ is chosen by the organized group so as to leave the bureaucrat ex ante indifferent between accepting or rejecting the bribe. Given the bureaucrat's preferences and the assumption that the mean of θ is zero, this implies:

$$\overline{B} = C(a_2^{B}) - C(\hat{a}_1^{B}) + \hat{a}_1^{B} - (1 + \gamma)a_2^{B} + qZ \tag{37}$$

where $\hat{a}_1^{B} = C_a^{-1}(1)$ denotes the equilibrium policy if no bribe is accepted.

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[23] See Grossman and Helpman (2001).

Finally, the organized group must also prefer ex ante 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 Eq. (37), an equilibrium with positive bribes exists only if the following condition is satisfied:

$$(1 + \gamma)a_2^B - [C(a_2^B) - C(a_1^B) + a_1^B] \geq qZ. \tag{38}$$

Clearly an equilibrium with bribes is more likely if the stakes for the organized group are high (γ is large), or if the legal system works poorly (qZ is small).

5.2. Lobbying the politicians

Next, suppose that the politician is in charge of policy, and let $\hat{\theta}$ denote the voters' inference about the incumbent's ability. Since voters only observe y_1, $\hat{\theta}$ is still defined by Eq. (34). Repeating the steps in Section 2, the politicians' reward function is: $R^P(y_1,y_2) = \Pr(\hat{\theta} \geq W)$ where W denotes the re-election threshold. If campaign contributions are absent, rational and risk neutral voters would impose $W=0$ (recall that the mean of θ is zero), as in Section 2. To model the effect of campaign contributions, we assume that voters' reservation utility is a decreasing function of the campaign contributions collected by the incumbent:

$$W = -H(f) \tag{39}$$

where the function $H(.)$ ($H(0)=0$, $H_f>0$, $H_{ff}<0$) captures the effect of campaign contributions. Thus, combining Eqs. (39) and (34), the politician's reward function is:

$$R^P(y_1,y_2) = \Pr[\theta \geq a_1^e - a_1 - H(f)]. \tag{40}$$

A condition similar to Eq. (38) above determines the existence of an equilibrium with bribes (the expression is not identical because the politician's reward occurs through reappointment). In particular, it remains true that bribes would be zero if the legal system were strong, so that the probability of being caught is high.

But now, besides bribes, the organized interest group can also resort to campaign contributions. He chooses to do so if campaign contributions are sufficiently effective in swaying the voters. To show this, we first characterize the equilibrium in which the lobby is fully informed about the policymaker effort, and then show that, under a wide range of parameter values, it remains an equilibrium even if the interest group observes y_1 and y_2, but not effort and ability separately.

In an equilibrium with campaign contributions and where effort is observed by the lobby, the allocation of effort must be jointly optimal for the politician and the organized group, given voters' expectations. In particular, the outcome must be optimal for the lobby, subject to the constraint of leaving the politician indifferent between accepting the campaign contribution and pleasing the lobby, or refusing the campaign contribution and allocating effort as optimal for the politician, given voters' expectations. Let $\bar{V}(a_1^e)$ denote the politician's utility if he refuses the campaign contributions, given voters' expectations — see Section 2 of the Appendix for a precise definition. Then 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:

$$\text{Max}\{(1 + \gamma)a_2 - f\} \tag{41}$$

$$\text{s.to} : \Pr[\theta \geq a_1^e - a_1 - H(f)] - C(a_1 + a_2) \geq \bar{V}(a_1^e). \tag{42}$$

Section 2 of the Appendix derives the equilibrium and shows that its properties depend on how effective campaign contributions are in swaying the voters — i.e. on the slope of the function $H(f)$. We consider two ranges of parameter values.

If $H_f(0)(1+\gamma)<1$, 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 it would have to pay into the electoral campaign of the politician. Relaxing the assumption that the lobby observes effort can only decrease the lobby's utility, and hence would not change the equilibrium in this range of parameter values.

The opposite extreme occurs if $H_f(f)(1+\gamma)>1$ for all $f\in[0,f^*]$, where $f^*>0$ denotes equilibrium campaign contributions and is characterized in the appendix. In this case, campaign contributions are very effective at the margin. Effort is allocated entirely to please the organized group only ($a_1=0$), and it is determined jointly with equilibrium campaign contributions, by the requirement that the politician is indifferent between accepting the contributions or not, given that voters expect no effort in task 1, and by the following optimality condition:

$$n(-H(f^*))\cdot H_f(f^*)(1+\gamma) = C_a(a_2^P) \tag{43}$$

where $n(z)$ is the density of θ evaluated at the point z. For this to be an equilibrium, the organized group must benefit relative to the option of not lobbying at all, and this also requires: $(1+\gamma)a_2^P\geq f^*$. The appendix provides a full characterization and shows that this equilibrium outcome can be implemented by the lobby even if it does not observe effort a_2 directly. The reason is that, by observing y_1 and y_2, the interest group observes $a_1-a_2=y_1-y_2$. Given that a_1 and a_2 are perfect substitutes in the cost function, this is enough for the interest group to implement the full information equilibrium in this range of parameter values.

In the intermediate case, in which $H_f(0)>1/(1+\gamma)$ but the returns to campaign contributions fall rapidly, we cannot rule out equilibria in which the politician devotes positive effort to both tasks, but we do not pursue this case further.

We summarize this discussion in the following:

Proposition 5. *Suppose that $H_f(f)(1+\gamma)>1$ for all $f\in[0,f^*]$, but that inequality Eq. (38) is violated. Then in equilibrium: (i) the politician receives campaign contributions and devotes all his effort to task 2 that pleases the organized interest group; (ii) the bureaucrat is not bribed and devotes all his effort to task 1 that pleases the voters.*

Clearly, the conditions in this Proposition are more likely to be fulfilled if campaign contributions are very effective in influencing the voters, but the legal system is strong and effective in discouraging bribes. Thus, in advanced democracies with a well functioning legal system, politically appointed policymakers may be more easily captured by organized interests compared to bureaucrats. The reason is that, to influence a bureaucrat, the organized group needs to engage in illegal activities and fight against possibly deeply entrenched professional goals and standards of a technical bureaucracy. To influence a politician, instead, the interest group has an additional instrument: he needs to convince the voters that the politician is doing a good job and deserves to be re-elected. The politician will then automatically respond with policy favors to the interest group, since this helps his chances of re-election. Thus, 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, are more safely left in the hands of the bureaucrat. The regulation of public utilities is a typical example: the interests of consumers are easy to identify and protect through regulation, while the stakes for utility suppliers are very high and a politician may be easily captured.[24]

This result also points to an important difference between advanced and less advanced societies. In advanced democracies with a well functioning judicial system, it is relatively easy to enforce the no bribe equilibrium, but campaign contributions may still be very effective at buying policies; hence, bureaucratic delegation works well. In developing countries, instead, stopping bribes might be close to impossible and politicians are likely to do as good a job as bureaucrats.[25]

6. Positive analysis

So far we asked what is the optimal task allocation from the voters' point of view. Bureaucratic institutions, although stable over time, are not typically spelled out in the constitution. They are chosen in the course of the regular legislative process by the politicians in office. Thus, we now let the politicians choose what to delegate and what not.[26]

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[24] This normative argument in favor of bureaucrats is mitigated if they are easier to bribe than the politician, however. And bureaucrats with technical expertise may be more easily bribed than politicians through a "revolving door policy"— i.e. at the end of their public services policymakers are offered lucrative jobs in the private sector.

[25] Glaeser and Shleifer (2003) reach a similar conclusion, using a different analytical framework.

[26] In reality, bureaucracies themselves "fight" for more and more autonomy, and sometimes are successful even against the will of politicians. (Carpenter, 2001).

6.1. When do politicians delegate? The basic model

We start by asking what are the general criteria that induce politicians to delegate tasks to independent agencies. Suppose that there are two tasks, $i = 1, 2$, requiring task specific abilities (η_i) and efforts (a_i):

$$y_{it} = \eta_{it} + a_{it}, \quad \text{with } \eta_{it} = \theta_{it} + \theta_{it-1}$$

The two shocks to task-specific abilities, (θ_{1t}, θ_{2t}), are independently and identically distributed. For concreteness, throughout this section we assume a normal distribution, with mean 0 and variance σ_θ^2. The costs of effort are additively separable ($C(a_{1t}) + C(a_{2t})$) and there are no spillover effects, so that voters' utility is $U(y_{1t} + y_{2t})$. We start with the simpler case of risk neutral voters: $U(y_{1t} + y_{2t}) = y_{1t} + y_{2t}$ — this assumption is relaxed below. Remember that we can interpret the effort costs identically as the utility of rents with a simple redefinition of variables.

In each period, the timing of events is as follows: first tasks are allocated at a constitutional stage, then the policymaker in charge chooses effort (without knowing his own abilities), then performance is observed, rewards are paid and elections take place. There are two differences relative to previous sections. Task allocation is chosen by the politician himself, rather than by a benevolent planner, and this choice is made at the beginning of each period, rather than once and for all. Thus, in line with the observation that bureaucratic institutions can be changed through ordinary legislation, we assume no constitutional commitment: the constitution in place today could be changed after the election. The term "constitutional stage" is not quite appropriate, but we retain it for the sake of comparison with the normative analysis. For simplicity, and without loss of generality, we assume that the politician faces a binary choice: either he delegates task 2 to an independent bureaucrat, or he keeps it for himself; task 1 cannot be delegated.[27]

Voters observe the constitution and fully understand its implications (alternative assumptions are discussed below). Thus, constitutional choice is equivalent to a choice amongst equilibria, except that the perspective is that of the politician rather than the voters. An equilibrium constitution is defined as a task allocation that meets two requirements: first, it is optimal for the incumbent politician at the constitutional stage, given the voters' expectation of the constitution in place after the elections. Second, the voters' expectations are fulfilled.

Section 3 of the Appendix proves that:

Proposition 6. *If voters are risk neutral, then in equilibrium the probability of re-electing the incumbent politician is always 1/2, irrespective of the constitutional choice. Hence, the politician chooses the constitution that minimizes his equilibrium costs — or, more generally, that maximizes the equilibrium rents from being in office.*

This Proposition makes clear that electoral concerns do not drive constitutional choice in this framework with risk neutral voters. The reason is that voters condition re-election on policy performance, but not on constitution design. Given that the probability of re-election is always 1/2 irrespective of the constitutional arrangement, the only criteria governing constitutional choice by the politician concern the costs of effort (or more generally the rents associated with each task). Specifically, if performing task 2 according to the voters' expectations is costly, then the politician prefers to delegate it away. If instead retaining control of task 2 allows the politician to grab political rents in equilibrium, then he prefers to retain it under his control.

6.1.1. Discussion

This general insight (that tasks entailing costly effort are delegated away, while tasks entailing rent extraction are retained) can be further refined on the basis of more specific details. First, it is possible to show that the politician has generally weaker incentives to please the voters if he retains two tasks rather than a single one. Thus, equilibrium effort by the politician in each task is lower (rents are higher) if he retains two tasks. The intuitive reason is that the politician is less accountable if he holds both tasks: as discussed in Section 4, with two tasks there is a "bundling" problem, and voters cannot punish poor performance in only one of the two tasks. Since ex ante the politician is uncertain about his abilities in both tasks, his incentives to please the voters are weaker than if he has control of only one task. This creates

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[27] The assumption that the politician can delegate at most one task and not both is made to simplify the exposition, and nothing of substance hinges on this.

a general political bias against delegation: for instance, the politician may refrain to delegate task 2, even if it is costly to perform, so as to get away with less effort (or more rents) in task 1.[28]

Second, this bias against delegation is stronger if the two tasks require similar abilities. Specifically, suppose that, if the politician retains both tasks, the random abilities that determine his performance, θ_{1t} and θ_{2t}, are positively correlated. Then the greater is the correlation between these two random variables, the more the re-election prospect is uncertain. More uncertainty dilutes the politicians' incentives, and this increases his willingness to retain both tasks. Thus, coeteris paribus the politician is more willing to retain a bundle of similar tasks.[29]

Third, in his choice of whether or not to delegate, the politician will also pay attention to the presence of positive or negative externalities in performing both tasks. Specifically, suppose that performance in task 2 is also affected by effort devoted in task 1, as follows:

$$y_{2t} = \eta_{2t} + a_{2t} + \gamma a_{1t}$$

where $\gamma > 0$ (<0) denotes the presence of a positive (negative) externality. If the politician retains both tasks, then his choice of effort in task 1 will reflect the presence of the externality. Accordingly, effort in task 1 will be greater with a positive externality ($\gamma > 0$), smaller with a negative externality ($\gamma < 0$).[30] Delegation induces the politician to neglect the externality (positive or negative), since his re-election will now depend on his performance in task 1 only. This in turn implies that the politician is more willing to delegate task 2 in the presence of positive externalities ($\gamma > 0$), and less likely to delegate it in the presence of negative externalities ($\gamma < 0$). Intuitively, positive externalities increase equilibrium effort, and this is precisely what the politician dislikes. This is exactly the reverse of what would be socially optimal from the voters' perspective!

6.2. Redistribution and lobbying

Suppose that task 1 gives all voters the same utility: $y_{1t} = \eta_{1t} + a_{1t}$. Task 2 also gives the policymaker the ability to choose the allocation of benefits amongst three groups of voters indexed by J. Thus voter J utility from this task is c_{Jt}, and the policymaker is constrained to set $\Sigma_J c_{Jt} = \eta_{2t} + a_{2t}$. As before, $\eta_{it} = \theta_{it} + \theta_{it-1}$. Alesina and Tabellini (2007) show that redistributive tasks generally entail low effort and an incumbency advantage (i.e. in equilibrium the incumbent is re-elected with a probability greater than 1/2). The reason is that the incumbent's redistributive choices allow him to build winning coalitions of voters and it is enough for the politicians to produce enough cake to please two out of three voters, completely ignoring the third one. Hence, the politician will never delegate redistribution, since it entails both an incumbency advantage and lower equilibrium effort. This squares well with what we observe. Unlike monetary policy or aspects of regulatory policies, where bureaucratic delegation is often exploited, fiscal policy is always under the direct control of political representatives. While both monetary policy and regulatory policy entail redistribution, fiscal policy is eminently more redistributive than any other policy task.

What about tasks that touch the interests of organized groups, such as those discussed in Section 5? Whether the politician wants to delegate these tasks or not depends on the bargaining power of the lobby vs the politician. In Section 5 we assumed that there was only one lobby and that it had all the bargaining power. Hence, in equilibrium the politician was left indifferent in its allocation of effort between the two tasks. Here, this would also imply that the politician has nothing to gain in retaining control of the policy tasks that are relevant for the lobby, and that he might be willing to delegate such tasks to an independent bureaucrat. If instead the policymaker in charge has bargaining power against the lobby (for instance because there are several lobbies competing against each other), then delegation is less likely, since the politician can grab rents for himself. The general prediction, therefore, is that we are likely to see delegation of policies towards special interest when the lobby is very strong, and instead we are likely to see political control when the organized interests fight against each other to obtain policy favors. Trade policy is a good example of

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[28] When the politician retains both tasks, the optimality condition for effort in task i can still be written as in Eq. (11), for $i=1, 2$, except that now the density $n(.)$ on the left hand side of Eq. (11) refers to the distribution of $\theta_{1t} + \theta_{2t}$, evaluated at its mean. If θ_{it} are jointly normally distributed, then $n(0) = 1/(2\sigma_\theta\sqrt{\pi})$, which is strictly smaller than the corresponding density with just a single task ($\sigma_\theta\sqrt{2\pi}$). By the optimality condition (11), lower equilibrium densities imply lower effort (or larger rents).

[29] If tasks 1 and 2 require correlated abilities, then the density $n(.)$ on the left hand side of Eq. (11) evaluated at the mean is $n(0) = 1/[2\sigma_\theta\sqrt{\pi(1+\rho)}]$, where ρ is the correlation coefficient. Hence, a larger ρ reduces the density and weakens incentives.

[30] This result follows easily from adapting the politician's optimization problem described in Section 4 to this richer set up.

a policy area that is often very politicized (i.e. not delegated), because it can generate massive campaign contributions from competing industries that demand protection. Regulation of a single industry, instead, is more likely to give rise to bureaucratic delegation, since here the special interests do not fight each other but all demand the same policy, and thus are more likely to have strong bargaining power against the policymaker in charge.

6.3. Risk

We now investigate whether the politician is more keen to delegate "risky" or "safe" tasks. The former is one in which the outcome is determined not only by talent and effort deterministically, but also by random elements, force of nature, luck, etc. In order to make this issue interesting we need to have risk averse voters, thus we now assume that in each period voters' preferences are:

$$u_t = U(y_{1t}) + U(y_{2t})$$

where $U(.)$ is strictly concave. Task 1 is "safe" and its outcome is determined as before by talent and effort only: $y_{1t} = \eta_t + a_t$. Task 2 is "risky", in that performance (and thus voters' utility) also depends on a random exogenous component:

$$y_{2t} = \eta_t + a_t + \varepsilon_t \tag{44}$$

where ε is an i.i.d. random variable with mean zero and variance σ_ε. For simplicity, ability is the same in both tasks, $\eta_t = \theta_t + \theta_{t-1}$. Voters only observe y_{1t} and y_{2t}, but do not observe ε_t. To simplify the exposition, we assume that the politician has to delegate one task away, but he chooses which one.

Suppose that the politician retains the safe task and delegates the risky one. His current ability θ_t is then fully revealed to the voters when they observe y_{1t}. Suppose further that voters expect that, after the election, whoever wins retains this same task allocation — as discussed below, the conclusion remains unchanged under the alternative assumption that voters expect the opposite task allocation after the election. As in Section 2, the equilibrium probability of re-appointment is then:

$$P_1 = \Pr[V(\theta_t) \geq W] \tag{45}$$

where $V(\theta_t) = E(U(\theta_{t+1} + \theta_t + a_{t+1}^e)| \theta_t)$, $W = EU(\theta_{t+1} + \theta_t + a_{t+1}^e)$, and where the probability refers to the random variable θ_t (since the incumbent still ignores his own ability when setting policy and when choosing the task allocation). As shown in Section 2, since voters are risk averse, the incumbent enjoys an electoral advantage: $P > 1/2$.

The size of the incumbency advantage depends on which tasks are retained by the politician, however. Specifically, suppose that the politician delegates the safe task and retains the risky one. Suppose that voters continue to expect that, after the election, whoever wins continues to retain the safe task for himself — in other words, the task allocation chosen by the incumbent does not change the voters' expectations about the constitution that will be in place after the elections. Now, voters can no longer infer the incumbent ability from their observation of y_2. Reappointing the incumbent thus gives the voters an expected utility of $E(U(\theta_{t_{+1}} + \theta_t + a_{t+1}^e)|\theta_t + \varepsilon_t)$, where the expectations operator refers to the expectation over $\theta_{t+1} + \theta_t$, conditional upon observing $\theta_t + \varepsilon_t$. The expected utility of voting for the opponent, instead, is unchanged (by the assumption that there is no commitment and after the election the politician retains the safe task for himself). Hence, the equilibrium probability of reappointment is:

$$P_2 = \Pr[V(\theta_t + \varepsilon_t) \geq W] \tag{46}$$

where $V(\theta_t + \varepsilon_t) = E(U(\theta_{t+1} + \theta_t + a_{t+1}^e)|\theta_t + \varepsilon_t)$, W is as above, and where now the probability refers to the random variable $\theta_t + \varepsilon_t$. Since the random variable $\theta_t + \varepsilon_t$ is a mean preserving spread of θ_t, we have $V(\theta_t) > V(\theta_t + \varepsilon_t)$. Thus, $P_1 > P_2$: the incumbency advantage is smaller if the politician retains the risky task rather than the safe one. Clearly, all the arguments remain unchanged under the alternative assumption that, whatever task allocation is chosen by the incumbent, voters expect that after the election whoever wins will retain the risky task for himself.

We cannot conclude from this comparison that the politician prefers to retain the safe task, however. The reason is that equilibrium effort is generally higher under the safe task: since the politician faces less uncertainty, he finds it optimal to put more effort into the safe task than in the risky one (this result is proved formally in Alesina and Tabellini, 2007). The idea is that, with imperfect monitoring, equilibrium effort is lower since voters are less sure of how much

the final outcome can be explained by effort, ability or luck. Hence, effort has a smaller impact on the probability of winning, and this dampens the politician's incentives. We summarize the foregoing discussion in the following:

Proposition 7. *The choice between the safe and the risky task entails a trade-off between votes and rents (or effort). By keeping the safe task and delegating the risky one, the politician increases his incumbency advantage but decreases equilibrium rents (increases equilibrium effort).*

Thus, the benefit for the politician of leaving the more risky task to the bureaucrat is that the latter acts as a "scapegoat", or to be more precise as a risk taker for the politician (see also Fiorina, 1977). This incentive is tempered by the opposite considerations concerning rents (or effort), however, since more risky tasks are also associated with greater rents or less effort.

This result is also relevant for other institutional choices besides delegation, and in particular for the design of more or less transparent procedures for policy formation. Transparency of public policy is an important dimension of institutions and it is ultimately a choice variable. Politicians can make a policy process more or less transparent, and in this choice they face a trade-off similar to that summarized in the Proposition above. More transparency has the benefit of increasing the incumbency advantage, because the voters are better able to assess the qualities of the incumbent, while they know less about the opponent. But more transparency is also likely to reduce equilibrium rents, because the punishment for rent extraction is more severe. Depending on which incentives are likely to prevail, politicians will choose more or less transparent procedures. An interesting application of this idea is in the budget process. In many countries the government budget is very non-transparent and this is considered a "problem" from the point of view of optimality of institutions. But the degree of budget transparency is entirely endogenous and it is the result of politicians' strategic choices.

In fact the government budget is the primary source of rents broadly defined for politicians. Otherwise there would be no reason not to simplify the budget documents and the budget process.[31]

7. Conclusions

Which policy tasks should be left in the hands of politicians, which ones should be delegated to independent agencies? Consider first policies with few redistributive implications, such as monetary policy or foreign policy. Bureaucrats are likely to be better than politicians if the criteria for good performance can be easily described ex ante and are stable over time, and if political incentives are distorted by time inconsistency or short-termism. Monetary policy indeed fulfills many of these conditions, and the practice of delegating it to an independent agency accords well with some of these normative results. Foreign policy does not, because the criteria for good performance are unstable and more vague, and the benefit of insulating policy from the political process are smaller.

Next, consider policies that have redistributive implications, such as trade policy, regulation, or fiscal policy. Here, bureaucrats perform well if the policy consequences touch narrowly defined interest groups, if criteria of good performance can be easily formulated and assessed in terms of efficiency, and if the legal system is strong. Politicians instead are better if the policy has far reaching redistributive implications so that compensation of losers is important, if criteria of aggregate efficiency do not easily pin down the optimal policy, and if there are interactions across different policy domains (so that a single measure of performance is affected by several policy instruments and policy packaging or evaluating controversial trade-offs is required to build consensus or achieve efficiency). Regulation of public utilities or of specific industries are examples of policies that lend themselves to bureaucratic delegation, since they pit special interests against those of consumers as a whole, do not have large spillover effects, and policy performance can be evaluated on the basis of efficiency or other semi-technical criteria. Trade policy might fall in this category too, although here the redistributive implications are more pronounced. There are other specific aspects of fiscal policy that would certainly meet our normative criteria for bureaucratic delegation: for instance, detailed tax policy provisions, or intertemporal fiscal policy choices where time inconsistency or political myopia is an obvious issue, as suggested by Blinder (1997). Overall, the normative analysis suggests that there is ample scope for bureaucratic delegation to improve over political delegation, particularly if politicians remain in charge of defining and correcting the general mission of independent agencies.

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[31] See Alesina and Perotti (1999) for a survey of the literature on budget institution and of transparency. Alesina and Cukierman (1990) discuss a different model in which also the degree of transparency can be chosen endogenously by politicians who would not always choose the maximum level of this variable.

Are these normative conclusions likely to be reflected in observed institutional arrangements? As discussed in the last section of this paper, opportunistic politicians do not internalize these normative criteria. Actual institutions are more likely to be designed so as to deliver maximal rents at the lowest risk for the incumbent politician. For this reason politicians will choose to retain policy tools that are useful to build winning coalitions or to generate campaign contributions by several competing lobbies, such as trade policy or much of fiscal policy. It also means that politicians might want to get rid of tasks that expose them to risk.

Appendix A

A.1. Proof of Lemma 1 and Lemma 3

We start by providing an expression for the voters' inferences of the incumbent average ability in both tasks, $\hat{\theta}_t^i$. Suppose that $\lambda_t = 1$ and consider $i = 1$. By Eqs. (22)–(23):

$$\hat{\theta}_t^1 = \frac{1}{2}[c_{1t} - \theta_{1t-1} - \theta_{2t-1} - a_{1t}^e - (1 - \kappa)a_{2t}^e + c_{2t}^e]$$

where c_{2t}^e denotes group 1 voters' expectation of c_{2t}. Under the assumption that voters expect full insurance, $c_{2t}^e = c_{1t}$, so that

$$\hat{\theta}_t^1 = c_{1t} - \frac{1}{2}[\theta_{1t-1} + \theta_{2t-1} + a_{1t}^e + (1 - \kappa)a_{2t}^e]. \tag{47}$$

Replacing c_{1t} in Eq. (47) from Eqs. (22)–(23) yields:

$$\hat{\theta}_t^1 = \theta_{1t} + a_{1t} - \kappa a_{2t} + \tau_t - \frac{1}{2}[\theta_{2t-1} - \theta_{1t-1} + a_{1t}^e + (1 - \kappa)a_{2t}^e]. \tag{48}$$

Repeating the same steps for $i = 2$ yields:

$$\hat{\theta}_t^2 = \theta_{2t} + a_{2t} - \tau_t - \frac{1}{2}[\theta_{1t-1} - \theta_{2t-1} + a_{1t}^e + (1 - \kappa)a_{2t}^e]. \tag{49}$$

For $\lambda_t = 0$ the result changes symmetrically.

Thus, the incumbent maximizes Eq. (24), subject to Eqs. (28), (48), (49), (27) and (25), where the probabilities in Eq. (28) are with respect to θ_{1t} and θ_{2t} respectively. Taking the first order condition of this problem with respect to τ_t yields Eq. (29) in Lemma 1. Taking the first order conditions with respect to a_{1t} and a_{2t} and exploiting Eq. (29) (with $\lambda_t = 1$) yields Eq. (30) in Lemma 3. $\square$

A.2. Lobbying

Suppose that the interest group observes effort in task 2, a_2. As stated in the text, the equilibrium with campaign contributions 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.

$$\text{Max}[(1 + \gamma)a_2 - f] \tag{50}$$

$$\text{s. to } \Pr(\theta \geq a_1^e - a_1 - H(f)) - C(a_1 + a_2) \geq \bar{V}(a_1^e) \tag{51}$$

where $\bar{V}(a_1^e) = \Pr(\theta \geq a_1^e - \hat{a}_1) - C(\hat{a}_1)$ is the politician's utility if he refuses the campaign contributions and unexpectedly devotes effort to please the voters (given that voters' expectations a_1^e are consistent with the equilibrium outcome). The out-of-equilibrium level of effort $\hat{a}_1$ is defined implicitly by the optimality condition: $C_a(\hat{a}_1) = n(a_1^e - \hat{a}_1)$, and also depends on voters expectations of the equilibrium outcome. In equilibrium, voters expectations must be consistent with the task allocation chosen by the politician.

Letting μ denote the Lagrange multiplier of the constraint that the politician is indifferent between accepting or refusing the campaign contributions, the optimality condition of the lobby's optimization problem imply:

$$n(-H(f)) - C_a(a_1 + a_2) \leq 0 \tag{52}$$

$$1 + \gamma - \mu\,C_a(a_1 + a_2) \leq 0 \tag{53}$$

$$\mu\,n(-H(f))H_f(f) - 1 \leq 0 \tag{54}$$

where a strict inequality implies respectively: $a_1 = 0$, $a_2 = 0$, $f = 0$. Consider first the case $H_f(0) < 1/(1+\gamma)$. Since $H_{ff} < 0$, 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 $n(0) - C_a(a_1) = 0$. If the interest group observes y_2 rather then a_2, his utility cannot improve, and so this remains an equilibrium in this range of parameter values.

Next, consider the case $H_f(f) > 1/(1+\gamma)$ for $f \in [0, f^*]$, where $f^* > 0$ is defined below. 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 jointly by

$$C_a(a_2^P) = (1+\gamma)H_f(f^*)n(-H(f^*)) \tag{55}$$

and by the politician's indifference condition (with $\bar{V}(a_1^e)$ evaluated at the point $a_1^e = 0$), namely:

$$\Pr[\theta \geq -H(f^*)] - C(a_2^P) = \bar{V}(0). \tag{56}$$

Now, suppose that the interest group observes y_1 and y_2, and hence $a_1 - a_2 = y_1 - y_2$, but not the allocation of effort. The interest group can implement Eqs. (55) and (56) by offering the politician the amount f^* if it observes $y_1 - y_2 = a_2^P$ and 0 otherwise. Given this offer, the politician can only deviate from the equilibrium by increasing both a_1 and a_2 by the same amount (since $a_1 = 0$ in equilibrium, it cannot be decreased further). But in this equilibrium, Eqs. (52)–(54) imply that $C_a > n(.)$, and thus the politician would not gain anything by increasing a_1 above 0. □

A.3. Proof of Proposition 4

Consider four cases: delegation vs no-delegation today, given that the voters expect no-delegation after the elections; and delegation vs no-delegation today, given that voters expect delegation after the elections.

Suppose that the voters expect that, after the election, the politician will retain both tasks. Consider each of the two possible constitutional arrangements for the current period. As above, let $\hat{\theta}_{it}$ denote the voters' inference about the incumbent's ability in task i, given what they observe and their knowledge of θ_{it-1}. Under bureaucratic delegation (i.e.. the politician is in charge of task 1 while the bureaucrat is in charge of task 2), the probability of reappointment is: $\Pr(\hat{\theta}_{1t} \geq 0)$ (since the ability of the incumbent politician in the second task is unknown, it cannot influence the election outcome). The equilibrium is then exactly as in Section 2 above. In particular, repeating the steps in Section 2, the probability of reappointment is: $\Pr(\theta_{1t} \geq a_{1t}^e - a_{1t}^P) = 1/2$. If instead the politician keeps the second task for himself, and given that the voters understand it, the probability of reappointment is: $\Pr(\hat{\theta}_{1t} + \hat{\theta}_{2t} \geq 0) = \Pr(\theta_{1t} + \theta_{2t} \geq a_{1t}^e + a_{2t}^e - a_{2t}^P)$. In equilibrium (i.e., with $a_{it}^P = a_{it}^e$, $i = 1, 2$), the probability of reappointment is thus: $\Pr(\theta_{1t} + \theta_{2t} \geq 0) = 1/2$.

Now suppose that the voters expect that, after the election, the politician will delegate task 2 and only retain task 1. Here, the relevant reservation threshold imposed by rational voters is that $\hat{\theta}_{1t} \geq 0$, since voters know that task 2 will not be controlled by the politician after the elections. Hence, the equilibrium probability of reappointment is $\Pr(\hat{\theta}_{1t} \geq 0) = \Pr(\theta_{1t} \geq a_{1t}^e - a_{1t}^P) = 1/2$, irrespective of whether the politician delegates or not before the elections.[32] □

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[32] Note that we have implicitly assumed that voters separately observe y_1 and y_2; but this does not matter. If this was not the case, and in the case of no-delegation voters only observed $y_1 + y_2$, then the equilibrium probability of reappointment under no-delegation would be $\Pr(\frac{\theta_1 + \theta_2}{2} \geq 0)$, which is still equal to 1/2.

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