



ELSEVIER

Journal of Public Economics 88 (2004) 759–782

JOURNAL OF
PUBLIC
ECONOMICS

www.elsevier.com/locate/econbase

Bad politicians

Francesco Caselli^{a,*}, Massimo Morelli^b

^aHarvard University, CEPR and NBER, Cambridge, MA 02138, USA

^bOhio State University, Columbus, OH 432, USA

Received 25 May 2002; received in revised form 16 January 2003; accepted 2 February 2003

Abstract

We present a simple theory of the quality (competence and honesty) of elected officials. Our theory offers three main insights. Low-quality citizens have a ‘comparative advantage’ in pursuing elective office, because their market wages are lower than those of high-quality citizens (competence), and/or because they reap higher returns from holding office (honesty). Hence, voters may find themselves supply constrained of high-quality candidates. Second, bad politicians generate negative externalities for good ones, making their rewards from office increasing in the average quality of office holders. This leads to multiple equilibria in quality. Third, incumbent policymakers can influence the rewards of future policymakers, leading to path dependence in quality: bad governments sow the seeds for more bad governments.

© 2003 Published by Elsevier B.V.

Keywords: Citizen-candidates; Competence; Elected officials’ corruption

The truth is that the city where those who rule are least eager to do so will be the best governed. Plato.

1. Introduction

The quality of public officials has at least two dimensions: competence and honesty. Competence is the skill to identify the appropriate policy objectives and achieving them at minimum social cost. Honesty is the character trait that leads an official to perform his duties without harassing private citizens for bribes or other kickbacks.

* Corresponding author. Tel.: +1-617-496-7081.

E-mail addresses: caselli@harvard.edu (F. Caselli), morelli.10@osu.edu (M. Morelli).

We take it as self-evident that both dimensions of quality vary enormously across countries, and that indeed in some countries quality is dismally low. For example, the recent empirical growth literature has uncovered and emphasized wide disparities in both the quality of economic policy and in levels of corruption across countries. While bad policies and corruption have multiple causes, anyone who pays even intermittent attention to the political news from the worst performing and most corrupt countries, cannot fail to perceive that the low quality of the political class is one of them.

Why are some countries' politicians so much better than those of other countries? And, in particular, how can it be that democracy—a system that allows citizens maximum choice and control over their public decision makers—sometimes generates such bad politicians? In this paper, we use a simple model of democratic political representation to illustrate three ideas that we hope may shed light on these questions. The first idea is that low-quality citizens have a *comparative advantage* in seeking office. Under the reasonable assumption that policy-making competence is correlated with market skills, incompetent citizens have a lower opportunity cost of choosing a life in politics. Dishonest citizens will steal more, so they extract greater rewards from public office. Conversely, candidates of higher quality are the ones who have more to lose from giving up private life and/or less to gain from holding office. This comparative advantage tends to lower the quality of the pool of candidates from which voters can choose.

Low-quality citizens' comparative advantage for politics is partially counter-balanced, however, by the fact that voters prefer good and clean policies, so that candidates of higher quality have higher chances of election than candidates of lower quality. The quality of elected politicians will then depend on the relative strength of these two effects. In particular, when the (legitimate) returns from holding office are sufficiently large, the comparative-advantage effect is weak, and high-quality citizens run for, and tend to win, office. However, when these returns are low, high-quality citizens choose to lead private lives, and voters are forced to make do with low-quality candidates. In other words, bad politicians win because rewards from office are too low to induce potentially good politicians to run.

But where do the rewards from elective office come from? An important source is undoubtedly constituted by so-called 'ego rents', psychological rewards associated with social status and power. This observation leads us to advance our second idea: there can be *multiple equilibria* in the quality of the governing class. This is because low-quality office holders generate a negative externality for high-quality ones. For example, the social status enjoyed by politicians is influenced by the perceived quality of the political class as a whole, so individual ego rents are negatively affected by a preponderance of low-quality office holders. Because of this externality, there can be 'good' equilibria in which—many office holders being of high quality—it pays for high-quality citizens to stand for election; and 'bad' equilibria in which—many office holders being of low-quality—high-quality citizens are discouraged from running for office. Besides social status, we discuss additional sources of multiplicity-inducing externalities, such as opportunities for financial gain after leaving office, which may depend on the expected (and hence average) quality of the office holders who are stepping down, and the collegial nature of policy making, which implies that bad politicians reduce the effectiveness of good ones.

Endogenizing the rewards from office also leads to our third idea: there can be *path dependence* in the quality of elected office holders. Here the key observation is that today's

politicians can manipulate the rewards of tomorrow's ones. Most simply, the current elected body may determine the compensation package received by the next. More importantly, they can take policy actions, such as hiring more or less able bureaucrats, that will affect the performance, and hence, possibly, the ego rents, of future office holders. High-quality office holders will generally vote for policies that maximize the effectiveness and the rewards of future policy makers, but low-quality office holders are concerned with the effect such policies will have on their future chances of re-election. Relatively low rewards from holding office will discourage high-quality citizens from seeking office, thereby making it easier for low-quality ones to be elected. If this incentive is sufficiently strong, low-quality office-holders will keep future political payoffs low. Hence path dependence: if historical accident delivers an initial high-quality majority, the high-quality will tend to persist, but if initially low-quality citizens are in a majority in the elective body, this low-quality will also tend to persist.

Since the rewards from elective office play a key role in the paper, it is important to be clear about the nature of such rewards. These are both psychological and financial. There can be little doubt of the importance of psychological gratification in motivating individuals to seek public office, but political careers also afford several sources of financial reward, whether in the form of official compensation, or in the form of improved earning opportunities after leaving office (lobbying, public speaking, teaching, diplomacy, etc.). When we talk about the (legitimate) rewards from office, therefore, we have in mind the combined utility value of all these gains, psychological and financial¹. We stress, however, that *none of the results in the paper depends on whether the former or the latter is the main motivation for seeking office*. To be clear: all our results go through even if ego rents are the *only* motivation for seeking office.

There is extremely little previous work that applies formal economic methods to investigating the determinants of the quality of the political elite. Exceptions are represented by Myerson (1993), for corruption, and Besley and Coate (1997, 1998), for competence. In these contributions low-quality candidates can be elected if those voters who share their preferences cannot concentrate their votes on a higher-quality candidate, either because of coordination failures (band-wagon effect), or because preferences and ability are perfectly correlated. These arguments, therefore, focus on voting behavior. In our model, instead, no coordination failures or heterogeneity of preferences among voters need to be invoked: all voters prefer high-quality candidates, *and yet* low-quality candidates can be elected, simply because high-quality citizens choose to stay out of politics². Rather than voting behavior, our focus is on the self-selection of individuals of different quality into the pool of candidates³.

For the same reason, *low-quality equilibria may exist even if voters have perfect information on the candidates' types*. Voters have no illusion as to the intrinsic qualities of

¹ Adam Smith thought that men seeking public 'distinction' were driven by a combination of 'avarice' and 'ambition'. Max Weber spoke of politicians living 'off politics' as well as 'for politics'. Diermeier et al. (2002) attempt to estimate the two components for US congressmen.

² Heterogeneous policy preferences are perfectly admissible, though, as we discuss below.

³ Dal Bó et al. (2002) have extended our analysis to give a role to pressure groups in determining politicians' rewards, through the threat of physical punishment, judicial persecution, or other forms of harassment. See also Dal Bó and Di Tella (1999). Messner and Polborn (2001) have been independently working on versions of our Result 1 below, as well as possible pathologies.

the candidates, but may elect bad candidates because they are ‘rationed’ in high-quality ones. In this sense, our paper offers a rebuttal to Wittman (1989), who states that ‘behind every model of government failure is an assumption of extreme voter stupidity, serious lack of competition, or excessively high negotiation/transfer costs’ (p. 1421), and argues that none of these assumptions is more likely to apply to democratic governments than to markets. Our model shows, in sharp contrast, that lack of competition can arise in the political arena in a way that it does not in the market—namely, rewards do not adjust to elicit an increased supply of the scarce resource (high-quality politicians). Quite the contrary: rewards may be manipulated by bad politicians exactly with the purpose of keeping good citizens out of politics⁴.

Section 2 presents a citizen-candidate model with heterogeneity in competence, and Section 3 formalizes our three insights. In Section 4 we revisit in greater depth the key assumptions of the model, and comment on empirical relevance. Section 5 concludes. The formal analysis here focuses on competence, but the working-paper version of this article (Caselli and Morelli, 2001) shows how to reinterpret the model as one where the quality dimension is honesty. It also presents a model with heterogeneity in both competence and honesty⁵.

2. The model

The population is constituted by a continuum of individuals of measure $1 + p$. A measure p of the population holds public office, while the rest (of measure 1) are private citizens. Citizens in this economy play a citizen-candidate game, as in Osborne and Slivinski (1996) and Besley and Coate (1997). The game has three stages. In the first stage, each citizen decides whether or not to run for public office. If yes, her candidacy is publicly known. Running for office requires the expenditure of a utility cost, ϕ . In the second stage all citizens vote. Each citizen can vote for at most one candidate, and the votes to non-candidates are void. The measure p of candidates receiving the most votes are elected to office. When necessary, ties are broken with a random draw. In the third stage

⁴ Our paper is also related to Besley and McLaren (1993), who, like us, examine the selection effect of rewards on quality in the public sector. In their model, a benevolent politician who sets public-sector wages, trades off reduced corruption in the bureaucracy with the budgetary costs of increased wages. If the pool of applicants is bad enough, the principal may offer a ‘capitulation wage’. Hence, theirs is a ‘bad bureaucrat’ result. Clearly, we study a completely different problem. Namely, we ask how do you get the politicians (the principal in Besley and McLaren) to be benevolent in the first place. The key point is that when it comes to politicians there is no benevolent wage setter to solve the second-best problem (and if anything, the wage setter is as likely to be ‘malevolent’ as to be benevolent).

⁵ This enables us to add a fourth insight to the three we get out of the one-dimensional model. Namely that, under certain circumstances, increases in average honesty may require declines in average competence (and vice versa), so that it may be possible to observe a *negative correlation* between honesty and competence. In particular, if rewards for office are low enough, citizens who are both competent and honest—the ones who need the greatest inducement to embrace a life of public service—will all shun politics, and voters must choose between candidates who are honest but incompetent or competent but dishonest. Local increases in rewards may help achieving a better balance between these two groups, but they do imply that, as one desirable quality increases, the other must fall.

elected office holders and private citizens (i.e., the non-candidates as well as the candidates who fail to win the election) collect payoffs, to be specified below.

For most people ϕ is a finite constant. However, in order to eliminate a trivial equilibrium where the entire population runs for office, we assume that there is a measure v ($v \in [p, 1]$) of citizens who have an infinite cost of candidacy. Similarly, to eliminate equilibria in which some offices go unfilled, we assume that ϕ is paid by a candidate only if the measure of candidates is greater than p (otherwise there is no competition, and hence no point in campaigning).

Citizens possess rational expectations at all times. Individuals take candidacy and policy making decisions so as to maximize their own expected utility. For voting behavior we adopt Alesina and Rosenthal's (1995) notion of conditional sincerity: in an equilibrium there must be no voter who would be better off if the measure of votes obtained by the candidate he has voted for declined. In other words voters vote as if they were pivotal. If a voter is indifferent among candidates in this conditionally-sincere sense, we assume that she randomizes among them⁶. The equilibrium is computed by backward induction, so that it is subgame perfect⁷.

The population is heterogeneous in ability. A fraction s of the population is of type s , or high ability, while a fraction $(1 - s)$ is of type \bar{s} , or low ability. The fraction of office holders who have high ability is p_s . The role of office holders is to provide an indispensable public good, without which society could not function (say, the rule of law). The key assumption is that, once in office, high-ability citizens are more competent than low-ability ones, in the sense that they are able to provide the indispensable public good at lower tax costs. In particular, we assume that the amount of taxes that need to be raised to finance the public good is decreasing in the percentage of high-ability office-holders, p_s . Denoting by t the per-capita tax burden, we have $t = t(p_s)$, where $\partial t / \partial p_s < 0$. Our goal is a theory of the determination of p_s ⁸.

A private citizen's utility is his consumption. Consumption is market income less taxes, if the citizen has not run for election, and the same, less campaigning costs, if he run for office but lost. Market income depends on the citizen's type: high ability citizens receive income $y^s = \lambda$, while low-ability citizens receive income $y^{\bar{s}} = 1$, where

⁶ The assumption of conditional sincerity gets us around the well-known problem that, because of the large number of voters, each citizen has no chance of individually affecting the electoral outcome, and should therefore be indifferent as to whether and for which type she votes. Solving the long-standing puzzle of why people bother to vote is beyond the scope of this paper.

⁷ The formal definition of a political equilibrium is as follows. Denote by d_i (equal to r (run) or n (don't run)) the decision of citizen i at the candidacy stage and denote by d the profile of candidacy decisions. Let $C(d)$ be the set of candidates given the candidacy profile d . Let $\Omega_i(d) \subseteq C(d)$ denote the subset of the candidates within which player i picks the candidate she will vote for (with a uniform draw). A political equilibrium is a profile $\{d^*, \Omega^*(\cdot)\}$ such that

1. $\Omega_i^*(d)$ is a 'conditionally sincere' best response to $\Omega_{-i}^*(d)$, $\forall d, \forall i$;
2. d^* is Nash given $\Omega^*(\cdot)$;
3. Weakly dominated strategies are eliminated.

⁸ Our notion of elected officials' competence is reminiscent of the one used in opportunistic models of the political cycle, such as Cukierman and Meltzer (1986), Rogoff and Sibert (1988), Rogoff (1990), and Persson and Tabellini (1990). However, these studies focus on a very different set of questions.

$\lambda > 1$ ⁹. To simplify matters we also assume that taxes are lump-sum, so that each citizen's tax burden is $t(p_s)$. Hence a private citizen of type i 's utility is $y^i - t(p_s)$ if he did not run for office, and $y^i - t(p_s) - \phi$ if he did but lost. It is clear, then, that private citizens always prefer more high-ability office holders.

A citizen who holds public office receives a payoff of π , which summarizes the utility value of all rewards from public office, both financial and psychological. Hence, an office-holding citizen's utility is $\pi - t(p_s) - \phi$ ¹⁰. In order to insure that office holders always choose to provide the public good (and collect the corresponding taxes) we assume that collection of the payoff π is contingent on such provision, and that office holders' utilities are 0 if they don't provide the good. The reader can think of the consequences of not enforcing the rule of law as so severe that it is impossible for office holders to collect any payoff, material or moral. In order to simplify things, without loss of generality, we assume that $\pi - \phi \geq 1$ always.

Voters have incomplete information on the types of the various candidates. They observe a signal, s or \bar{s} , for each of the candidates. The unconditional probability that the signal is 'correct' is $\sigma > 0.5$, i.e., a fraction σ of the citizens of type i will emit signal i if they run for office. All citizens observe the same signal about each of the candidates. Candidates have no control over the signal they emit, but know in advance what it will be if they run for office. The interpretation is that it is difficult, but not impossible, to use the electoral campaign to 'fool' voters. In particular, a fraction $(1 - \sigma)$ of type- \bar{s} citizens have the ability to convince the electorate that they are, in fact, type s ¹¹. Candidates know in advance their own campaigning skills. In order to avoid trivial results we assume, realistically, that for either type and for any σ the measure of potential candidates whose signal reveals the true type is greater than the measure of offices. Defining $\mu = (1 + p - v)$, this can be insured by requiring that $s\mu > 2p$ and $(1 - s)\mu > 2p$ ¹². For brevity, in what follows we will occasionally refer to candidates who emit signal- s (\bar{s}) as high-signal (low-signal) candidates.

3. The results

Under the assumptions stated above we obtain

Result 1. The competence of the elected body p_s is (weakly)

- (i) increasing in the political rewards π ,
- (ii) decreasing in the opportunity cost λ ,

⁹ Hence we assume perfect correlation between market income and policymaking skills. We argue in Section 4 that all the results go through if the correlation is imperfect, as long as it is positive.

¹⁰ We treat π as independent of the office holder's type, but we should point out that all our results still go through if π is type dependent, as long as $\pi_s - \pi_{\bar{s}} < \lambda - 1$, which seems entirely realistic. Also, none of the substantive results in the paper is altered if we assume that office holders do not pay taxes.

¹¹ Conversely, a fraction $(1 - \sigma)$ of type- s citizens are such lousy campaigners that they are mistakenly taken to be type \bar{s} . σ could differ among the two types with no change in results.

¹² Implicit in this statement is the further assumption that the measure v of citizens who never run for office is representative of the population.

- (iii) decreasing in the cost of campaigning ϕ ,
- (iv) increasing in the information content of the signal σ ,
- (v) increasing in the quality of the population s ,
- (vi) increasing in the size of the elective body p .

The formal proof is in Appendix A. Here we provide an informal overview.

As discussed in the Introduction, there are two key forces. Voters prefer high-ability politicians, and in this economy they manifest this preference by always voting for candidates who emit a high signal, since these are the ones who are more likely to be of type s . One implication is that, whenever the measure of high-signal candidates exceeds the number of offices p , low-signal candidates have no chances of being elected. Another implication is that, since some low-ability candidates emit signal s , there is a group of low-ability citizens who enjoy the same probability of election as the citizens who are of high-ability (and emit a high signal). Define P_s such a probability, and consider now the candidacy decision. A high-signal individual of type s will stand for office if and only if

$$P_s[\pi - t(p_s) - \phi] + (1 - P_s)[\lambda - t(p_s) - \phi] \geq \lambda - t(p_s) \quad (1)$$

The left-hand side is the expected return from running for office, which takes into account the possibility of losing and having to return to private life. The right-hand side is the (certain) return from not running. This equation can be rearranged to yield

$$P_s[\pi - \lambda] \geq \phi, \quad (2)$$

which says that the (probability-weighted) premium from public life over private life must at least pay for the cost of campaigning. A low-quality individual with a high-quality signal shares the same probability of election P_s , but has a lower opportunity cost (1 instead of λ). This is the comparative advantage we referred to. Hence, a key observation is that whenever high-quality individuals (weakly) prefer to run for office, all the members of the low-quality, high-signal group strictly prefer to do so as well.

Result 1 can then be illustrated with the help of Fig. 1, which plots the equilibrium value of p_s against the quantity $\theta = (\pi - \lambda)/\phi$. The ‘running condition’ is then $P_s\theta \geq 1$. The flat portion of p_s to the right corresponds to values of the premium from politics so high that all citizens who have a high signal—and hence a non-zero chance of election—decide to run. When this happens the fraction of skilled citizens in the elected body is at its maximum, $p_s^{\max} \equiv \mu_s/(\mu_s + \mu_{\bar{s}})$, where μ_i denotes the measure of high-signal citizens of type i in the population. At the same time, the probability of election is at its minimum value, $P_s^{\min} \equiv p/(\mu_s + \mu_{\bar{s}})$ ¹³.

Moving to the left, there is an intermediate set of values of θ that are not high enough to induce all high-ability, high-signal citizens to simultaneously run for office— $P_s^{\min}\theta < 1$ —but high enough that they are willing to run if there is a reasonable chance P_s of being elected. Clearly this implies that in equilibrium high-ability, high-signal citizens are indifferent between running and not running, or $P_s\theta = 1$. It also implies that low-quality,

¹³ $\mu_s = \sigma s \mu$ and $\mu_{\bar{s}} = (1 - \sigma)(1 - s)\mu$.

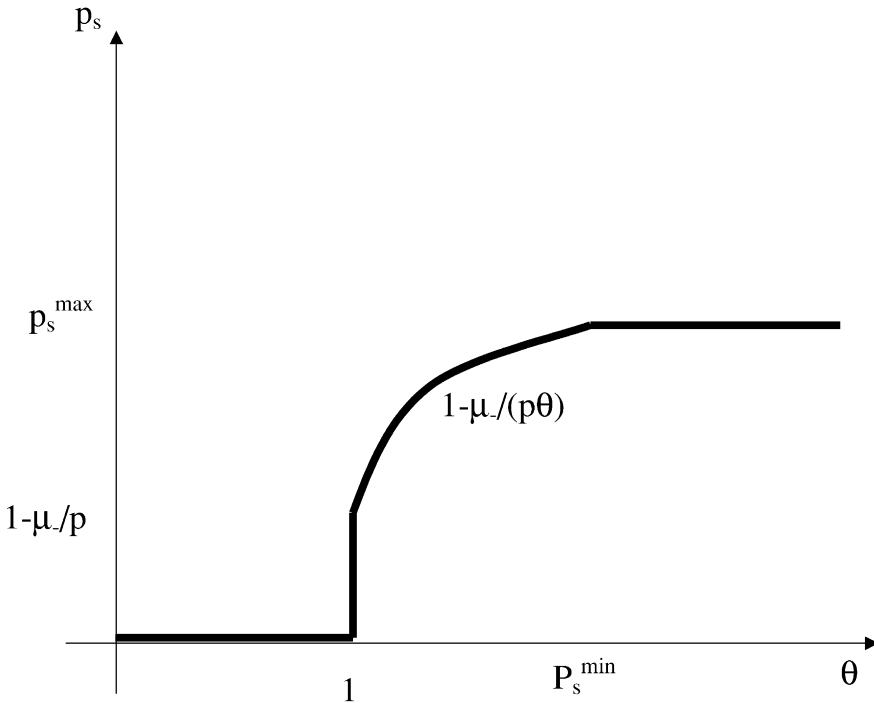


Fig. 1. Quality and rewards.

high-signal citizens all run. Defining C_s as the measure of high-quality candidates we therefore have $P_s = p / (C_s + \mu_s)$, and C_s must fall with θ . Declines in the relative rewards from office are therefore compensated by increases in the probability of winning office brought about by declines in the number of (high-quality) candidates. Hence, $p_s = C_s / (C_s + \mu_s)$ also falls as θ falls.

For $\theta = 1$ high-ability, high-signal citizens can be induced to run as long as $P_s = 1$, i.e., as long as there are fewer high-signal candidates than offices. In that case μ_s offices are ‘taken’ by low-ability, high-signal candidates, and high-ability candidates will be certain of election as long as their measure C_s is less than $p - \mu_s$. We therefore have a continuum of equilibria, one for every measure of type- s candidates C_s in this range. Finally, for $\theta < 1$ no high-quality candidate can be induced to run for office, and $p_s = 0$ ¹⁴.

The above discussion illustrates parts (i)–(iii) of Result 1, but Fig. 1 can also be used to comment on parts (iv)–(vi). An increase in the informativeness of the signal, σ , shifts up the flat portion as well as the upward sloping part of the p_s curve. The first effect captures the fact that, with larger σ , when all high-signal candidates run for office the proportion of truly good types in the candidate pool increases (μ_s falls so p_s^{\max} increases).

¹⁴ Fig. 1, and the associated commentary, change somewhat if $\mu_s > p$, instead of $<$, as here we implicitly assume. See Appendix A.

The second effect is because a larger σ implies that there are fewer low-ability candidates ‘stealing’ votes, so that the probability of election for a high-quality candidate increases. For any given θ , this encourages high-quality candidates to run for office in greater numbers. In the limit case $\sigma = 1$ the upward sloping part of the p_s function becomes vertical through $\theta = 1$, i.e., we have $p_s = 0$ if $\theta < 1$ and $p_s = 1$ if $\theta > 1$ (and a continuum between 0 and 1 if $\theta = 1$).

An increase in the quality of the population, s , is formally, graphically and intuitively isomorphic to an increase in σ . An increase in p shifts up the sloping part of p_s , and shifts to the left the value of θ such that p_s takes its maximum value. The intuition is that—given the size of the pool of low-ability citizens who take away votes from the high-ability ones—a larger p allows to better dilute them, and increases the chance of election for high-ability types.

A very important **corollary** is that parts (i)–(iii) of Result 1 still apply if there is perfect information, or $\sigma = 1$. Bad politicians do not win only because voters cannot tell them from good ones, but also and principally because the latter do not compete.

3.1. Multiple equilibria

If we stopped at Result 1 we would be attributing differences in policy-making quality among countries to exogenous differences in parameters. Countries with high-quality policy makers are countries that have ‘better’ parameters, in the sense of Result 1. We think these results are interesting in their own right, but they naturally beg the question of why these parameters vary across countries. In particular, one suspects that the rewards from office, π , are themselves endogenous to the political process. In the remainder of this section, therefore, we explore this question, and show that when π is endogenous there can be multiple equilibrium levels of p_s , as well as path dependence in the equilibrium value of p_s . Hence, countries that are identical in all respects may experience different levels of policy making competence if they are at different equilibria or if they had different initial conditions¹⁵.

In this sub-section we argue that the rewards from office depend positively on the average quality of the policy-making class. Formally, we make the case that π is an increasing function of p_s . Given this, we show that there are multiple equilibria in the quality of elective-office holders, p_s .

There are many reasons why π is increasing in p_s . First, suppose that people derive utility from their social status. A person’s social standing depends on other people’s assessment of their quality. In the context of the present model, a politician’s social prestige clearly depends on the public’s assessment of the probability that she is of type s . How do members of the public assess this probability? Simple: the higher is p_s , the higher the probability that a member of the political class is of type s ¹⁶.

¹⁵ Technically, for $\theta = 1$ we have multiple equilibria even with exogenous π , but with exogenous parameters, this is a ‘measure zero’ case.

¹⁶ Formally, if the political class is constituted exclusively by high-signal people, then the probability that an elected officer is of type s is exactly p_s . If there are low-signal citizens in office, then the probability that a politician with a high-signal is of type s is $pp_s/[pp_s + \mu_s]$.

Second, there are production externalities. Checks and balances, and the need for compromise on everything, imply an unusually high degree of collegiality in the political decision-making process. A large number of incompetent members in the policy-making body greatly impair its effectiveness. If competent politicians derive ego rents from the gratification of serving one's country, and from the satisfaction for doing a good job at it, being part of an incompetent policy-making body is a source of frustration and must lead one to feel that one's talents are not well spent. Third, there are consumption externalities. In highly collaborative activities—such as policy making—there is a utility value to interacting with high quality colleagues. This also tends to confer a positive slope to the relationship between π and p_s . Note that these production and consumption externalities do not depend on the existence of uncertainty about each particular politician's true ability.

Fourth, after-office earnings opportunities are likely to depend on the average quality of the political class. Politicians have to worry about their sources of income after their political career ends. Expected rewards from office are obviously higher if they can count on being hired as partners, directors, public speakers, public-policy school professors, etc. With uncertainty, their chances of obtaining such appointments obviously depend on prospective employers' assessment of their likely abilities, and hence once again on p_s . Even without uncertainty, after-office rewards may be increasing in quality if there are fixed costs associated with setting up channels for the re-entry of ex-politicians into private life. For example, a public-policy school that wants to set up a professorship for ex-politicians needs to go through several administrative hurdles, and find the money to endow the chair. It is then more likely to pay this initial fixed cost if it perceives that there is a steady stream of high-quality people who will leave office, and will honorably fill these positions. In other words, there may be increasing returns to the technology of recycling high-quality politicians, leading to an increasing relation between quality and after-office rewards even when quality is perfectly observable¹⁷.

We summarize the discussion above by stating that π is an increasing function of p_s , $\pi(p_s)$. Then, the analysis of the previous section readily implies

Result 2. There can be multiple equilibrium values of the competence of the elected body, p_s .

To see this, simply notice that we can plot the (inverted) function $\theta(p_s) = [\pi(p_s) - \lambda]/\phi$ in Fig. 1. Essentially, there is an equilibrium for each intersection of the $\theta(p_s)$ function with the curve describing p_s as a function of θ , which we derived in the previous subsection. Fig. 2 provides a set of examples, all of which assume, probably realistically,

¹⁷ There may be countervailing effects, in that some people may prefer to feel that they are the only high-quality fish in the low-quality pond; or that their marginal impact on policy outcomes would be enhanced when there are few other high-quality policymakers around. The first effect is hard to detect in academia, or in the world of sports. In soccer, for example, most players seem to prefer playing in good teams than in bad ones, and indeed they seem to be willing to take pay cuts to move from the latter to the former (Roberto Baggio may be the lone exception). It is difficult to see why it would be more prevalent in politics. The second effect is harder to dismiss, but it also seems difficult to reconcile with the realities of collegial policymaking: when everyone else is incompetent or corrupt, the marginal effect of one competent or honest politician is probably very close to zero.

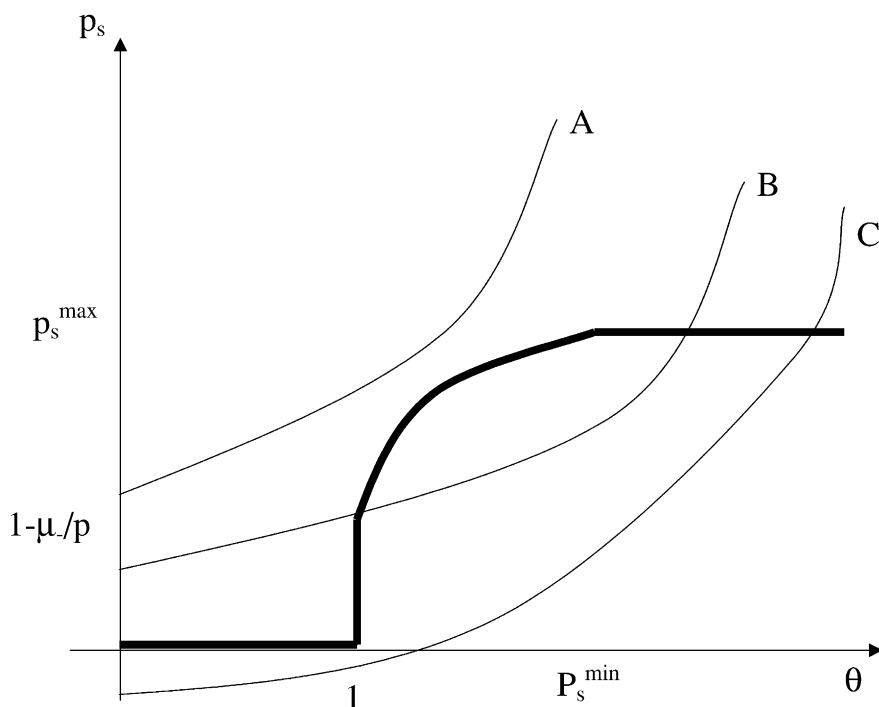


Fig. 2. Multiple equilibria.

that $\theta(p_s)$ satisfies the Inada conditions $\theta'(0) = \infty$, $\theta'(1) = 0$, and $\theta''(p_s) < 0$. In the example corresponding to curve A, $\theta(p_s)$ is always quite low, and the unique equilibrium has $p_s = 0$. Curve C shows a case in which public office is always quite rewarding. The only equilibrium features p_s at its maximum possible value. The most interesting case is the intermediate one corresponding to curve B, where there are three equilibria, with $p_s = 0$, p_s at its maximum, and an interior one. It should be clear that, depending on how one draws the curves, interior equilibria can lie both on the vertical and on the upward sloping part of p_s , and that there can be more than one interior equilibrium. Finally, it should be clear that, as long as $\pi(p_s)$ is upward sloping, there can be multiple equilibria even if there is certainty.

3.2. Path dependence

The current policy-making class has the power to affect the rewards of future office holders, i.e., π is in part determined by decisions taken by the elective body in office in the previous term. Since p_s depends, in turn, on π , this gives the initial policy making body influence over the composition of subsequent elective assemblies. Since policy makers of different types have different preferences over the composition of future elective bodies, we reach a path-dependence result whereby p_s today depends on p_s yesterday.

There are several ways in which current office holders affect future office holders' utilities. The obvious way is that they set their financial compensation. Assuming that wages, pensions, and perks for a newly elected political body are set by the outgoing chamber before it leaves office, and before elections take place, seems to broadly reflect standard practice around the World. More subtly, but probably also more importantly, the outgoing elective body can influence the incoming one's performance, thereby affecting the utility they derive from their achievements (or lack thereof) while in office. Ways in which the current government affects the future government's performance are countless. Examples include the quality of the bureaucracy it bequeaths to its successors; the size of the public debt; the constraints imposed on the government's actions inscribed in the laws and in the constitution, etc.

To formalize these dynamic interactions we add one stage at the beginning of the citizen-candidate game we have studied so far. In this initial stage, the outgoing assembly sets (by majority rule) the incoming ones' payoff, π . It should be clear that the results carry over to the case in which they influence π indirectly, for example by hiring more or less able bureaucrats. The composition of the outgoing chamber is exogenously given and determined by historical accident. We denote the proportion of competent officials in this body as p_{s0} . Once the outgoing body has set π , the rest of the game is played exactly as before, with the three remaining stages of candidacy, voting, and policy-making. We are interested in the dependence of the quality of the newly-elected body—which we continue to label p_s —on the quality of the outgoing body, p_{s0} .

The subgame comprising the three stages after the choice of π is clearly identical to the game analyzed in the previous sections. In particular, the equilibrium level of p_s as a function of $\theta = (\pi - \lambda)/\phi$ can still be read from Fig. 1. We treat λ and ϕ as constants, so choosing π is equivalent to choosing θ . Since θ is set by majority rule it will reflect the preferences of the median voter in the initial policy-making body. That body is constituted by (at most) four groups of citizens, depending on signal and type. Officials of the same group have identical payoff functions and will, therefore, all vote for the same level of θ . Furthermore, since tenure in office for those voting on θ is at an end, the payoff function that an office-holder seeks to maximize coincides with the payoff function of any citizen who shares the same characteristics of type and signal¹⁸. The preferred choice of θ could differ, however, among the various groups.

Denote by $\bar{\theta}$ the highest feasible level of θ ¹⁹. In Appendix B we construct an example in which all high-competence members of the initial elective body, as well as all low-signal, low-competence members, prefer to set $\theta = \bar{\theta}$, while high-signal, low-competence members prefer $\theta < \bar{\theta}$. It follows that, if the initial policy making body has a majority of high-signal, low-competence citizens, the median voter chooses $\theta < \bar{\theta}$, while if these citizens are a minority we will have $\theta = \bar{\theta}$. Because p_s is increasing in θ , it follows that p_s is

¹⁸ It is also possible to enrich the model to provide an incumbency advantage to the members of the outgoing chamber, in running for re-election. Examples (available upon request) can still be constructed that feature path dependence in p_s . However, the model becomes much more complicated.

¹⁹ For example, the rewards from office when one inherits an efficient bureaucracy, low public debt, ample scope to legislate without too many checks and balances, a generous compensation package, etc.

lower if low-type citizens were in a majority in the previous period's assembly than if they were in a minority²⁰. This is our

Result 3. The competence of the elected body, p_s , can be increasing in the competence of the outgoing body, p_{s0} .

Hence, when historical accident determines that a country's initial political leadership is composed of high-ability citizens, this 'luck' tends to persist, as the initial policy makers (and all their successors) set rewards so as to insure that subsequent participants in the political process continue to be of high quality. Instead, if initially policy makers are of low quality, then this bad luck tends to persist, as low-quality policy makers set rewards so as to discourage competition for office from high-quality ones.

4. Discussion

In this section we provide a more in depth discussion of our key assumptions, as well as comment on the empirical applicability and robustness of our ideas.

4.1. Short-run rigidity of π

In deriving our Result 1 we have implicitly assumed that the rewards from office are set beforehand, and that there is nothing elected politicians can do to modify them once in office. For Result 2, rewards π are determined ex-post through the externality effect, but again there is no sense in which they are a choice variable for the newly elected politicians. In Result 3 π is a choice variable, but with a lag: current politicians determine future π s, but take theirs as given. Hence, we have implicitly assumed that there is a short-run rigidity in the determination of payoffs: whatever action office holders may take to affect them, it will only have its effects at best with a lag, i.e., in the next electoral cycle. This assumption is not innocuous. In a *static* framework, if we allowed policy-makers to set their rewards π *after* they have been elected, we would always have a unique 'good politicians' equilibrium. This is because all politicians—whether good or bad—would vote to maximize their payoffs. Foreseeing this, high-quality citizens would happily run in large numbers.

In this sub-section, we offer four observations on short-run rigidity that shed light on the robustness of our results. First, we argue that, for the ego-related component of π , short-run rigidity is the a priori plausible assumption. Second, for the financial component, we present some *prima facie* evidence that politicians' salaries are indeed quite rigid. Third, we argue that even if rewards are ex-post flexible, there is good reason to believe that—in some countries—the maximum feasible value is still too low for good citizens to

²⁰ This is not the only admissible scenario with path dependence. As we show in the Appendix, in another scenario low-skill, low-signal members also prefer to set $\theta < \bar{\theta}$, though typically not at the same level as the low-skill, high-signal members. In particular, they may choose $\theta = 1 - \varepsilon$, in which case $p_s = 0$. Hence, if these low-skill, low-signal members are in a majority, again we have that a low-quality majority is followed by a low-quality assembly.

be lured into politics. Fourth, and perhaps most important, we show that in a *dynamic* framework the bad-politicians result can emerge even if π is fully flexible.

Consider again the list of ‘state variables’ that a newly-elected politician inherits from the past: a more or less competent, more or less honest bureaucracy, a certain level of the public debt, a set of laws and regulations that constrain his or her scope of action, and gives veto power to a number of other actors, vested interests intent on defending rents created by previous legislations, good or bad foreign relations, etc. None of these can realistically be improved in the short run (though most can easily be made worse in no time), and indeed pathologies in these areas typically take several subsequent cohorts of high-quality leaders to eliminate. As we argued, however, it must be the case that these rigid constraints have a powerful effect on the rewards from office. Would you rather be a politician in a country with a sclerotic, corrupt, and ineffective bureaucracy, or in one with a meritocratic public service?

Casual observation suggests that financial rewards are also somewhat inflexible: changes to politicians’ salaries do not occur often. For example, we have looked at data on wage changes in US state legislatures. Between 1980 and 1998 we find changes in *nominal* salaries in only 41% of the state-year observations. This implies that in most years real salaries are actually falling. Furthermore, we find nominal wage changes larger than 5% only in 31% of state-year observations. Hence, legislatures experience meaningful real wage increases less than once every three years. More to the point for our model, note that the typical state legislature’s term is two years, implying that *a majority of legislatures experience no wage adjustments whatever*. Also, we find that *83% of nominal wage changes (and 86% of nominal wage changes in excess of 5%) occur in election years*. Hence, salary increases, when they occur, take place at the end of the legislature. Politicians do not seem to come into power and immediately raise their own wages²¹.

Even if the financial component of π was fully flexible, and politicians had the leeway to modify it once elected, there is reason to believe that they face upper bounds in doing so, and that these upper bounds, at least in some countries, are pretty low. A particularly stark source for this upper bound is identified by Dal Bó et al. (2002), who argue that pressure groups may target good politicians with violence, or other forms of punishment, and in some cases even death. Clearly, when death is part of the reward from politics, there is no amount of wage flexibility that will induce a good citizen to run for office. Other sources of upper bounds may be budget constraints, deep inequality aversion, or—as we explain more fully in the next sub-section—vetoes from other elective bodies who are on a different electoral cycle.

Finally, and most importantly, in a dynamic setting the bad-politician result is robust to making π a choice variable for the newly-elected political body. To see this, consider a version of the model in which citizens are infinitely lived, and maximize a present-discounted value of expected payoffs. Legislatures last one period. For simplicity, assume that there is no uncertainty ($\sigma = 1$), and that there are only two possible choices for the net rewards from office, $\bar{\pi}$ and $\underline{\pi}$. $\bar{\pi}$ is ‘high’, in the sense that all citizens, talented or not, find it

²¹ Data on legislatures’ salaries are taken from *The Book of The States*. The calculations are limited to those state-year observations where the legislators’ salaries exceed 20 000 US dollars—which we take as indicating that these legislators are in politics as an occupational choice. Wage changes are marginally more frequent in the full sample. Governors’ wages change even less often. See Di Tella and Fisman (2002) for a study of the determinants of governor wages.

optimal to run for office when they expect $\bar{\pi}$. $\underline{\pi}$, instead, is low, in the sense that only low-ability citizens desire to run for office when they expect $\underline{\pi}$. Each legislature determines its own net reward, π_t . Candidacy decisions within each period are made with rational expectations about the level of π_t that will prevail. Finally, assume that a majority of elected officials at time 0 is of low quality. Then we have the following

Result 3’. There can exist a Subgame Perfect Equilibrium where $\pi_t = \underline{\pi}$, and $p_{st} = 0$, for all t .

This equilibrium features the following Markov strategies: ‘run at time t if and only if $\pi_{t-1} = \bar{\pi}$; if elected, vote for $\pi_t = \bar{\pi}$ ’, for a high-quality type; and ‘run at time t if and only if $\pi_{t-1} = \underline{\pi}$; if elected, vote for $\pi_t = \underline{\pi}$ ’, for a low-quality type. To see that this can be an equilibrium, the relevant deviation to consider is the one where the current low-quality majority votes itself the high compensation, $\pi_t = \bar{\pi}$, instead of the low one. The trade-off they face is similar to the one we have seen in Section 3.2: the deviation affords them an immediate gain $\bar{\pi} - \underline{\pi}$, and—given the strategy followed by high-quality citizens—it also leads to a future gain in terms of better policies, $[t(0) - t(1)]\delta/(1 - \delta)$, where δ is the discount rate. However, it also means that starting next period they are forever precluded from public office. The corresponding loss is $P_{\underline{c}}(\underline{\pi} - 1 - \phi)\delta/(1 - \delta)$, where $P_{\underline{c}}$ is the probability that a low-quality candidate will be elected when only low-quality citizens are candidates, and δ is the time-discount rate. Under the appropriate assumptions on all the parameters, the costs outweigh the benefits, and there is no deviation. Given this strategy played by low-quality politicians, high-quality politicians never run²².

4.2. Coordination failures

As all multiple-equilibria results, our Result 2 is built around a coordination failure: if high-quality types could coordinate on running, the bad-politician equilibrium would disappear. Result 3’, which we have just established, is also based on a coordination failure: if competent citizens all simultaneously decided to deviate from their strategy, they could break the bad citizens’ monopoly of power. In general, every time π is endogenous to the current level of p_s , a coordination failure is required to support a bad-politician equilibrium.

Coordination failures in politics seem highly plausible. Each elective body is part and parcel of a complex web of interacting elective offices: (usually) two national chambers, a vast list of local legislatures, and an even longer list of other elective judicial and executive positions. The effectiveness of one of these bodies depends on the effectiveness of all the others, and moving any one of these offices individually from the bad to the good camp

²² The exact conditions under which the strategy profile described is an equilibrium are: $(p/\mu_s)(\bar{\pi} - \lambda) > \phi$ (ensuring that all high-quality citizens run when $\pi_t = \bar{\pi}$); $(p/\mu_s)(\underline{\pi} - 1) > \phi$ (all low-quality citizens run when $\pi_t = \underline{\pi}$); and

$$\bar{\pi} - \underline{\pi} + \left[t(0) - t(1) - \frac{p}{\mu_s}(\underline{\pi} - 1) - \phi \right] \frac{\delta}{(1 - \delta)} \leq 0$$

(rationality of setting a low compensation).

will do little to move the country as a whole from a bad to a good equilibrium. The coordination problem is not so much to find a few good men and women to run for a specific office, but to find an enormous number of them to run for the galaxy of elective positions that need to be ‘freed’, before the rewards to any particular political job become large. To us, the coordination costs involved appear prohibitive.

Aside from the numbers involved, coordination problems in politics are made even more severe by the staggered nature of many electoral cycles. First, many elective bodies only renew a fraction (say, a third) of their members at each election. Second, and perhaps more importantly, different elective offices are filled at different times. Some are for life. Clearly both these features of the political system make it impossible to jump from a bad equilibrium to a good one at a stroke, even if coordination is costless. This is even more so if political bodies not subject to re-election in the current cycle have the power to make life miserable for newly-elected high-quality citizens. For example, even with costless coordination, it may be impossible to elect good representatives if the judiciary is intent on pursuing frivolous but highly damaging investigations against competent or honest lawmakers. Or, to return to the discussion of the previous subsection, if the appropriate commissions refuse to endorse a salary increase.

One interesting question is whether political parties could act as coordination devices: could someone not form a ‘party of the competent’ (or of the honest), recruit a large number of candidates, and lead them to electoral victory? One problem is uncertainty. In our model, a considerable amount of information on the candidates (the signal s or \bar{s}) is revealed to voters during the electoral campaign, but the initial recruitment of candidates by the would-be ‘party of good politicians’ would have to take place prior to the campaign, and hence, in conditions of profound uncertainty about potential candidates’ true types. Considering that mostly low-quality citizens would try to gain the ‘stamp of approval’ of the good-politician party, whoever took the initiative of constituting it would face enormous screening costs. Add a little uncertainty on the final outcome of the whole enterprise, and we do not find it too surprising that only rarely do high opportunity-cost individuals take the initiative to form new parties to displace incumbent bad politicians. Furthermore, the costs of campaigning are undoubtedly lower for already well-established parties.

Another difficulty with the ‘party of good politicians’ is that, at least until recently, political parties in most countries have coalesced around ideological agendas. In a world of strong ideologies, the left–right direction of policy—rather than its quality—is the voters’ key consideration²³. When candidates are organized in rival ideological parties, however, coordination problems among high-quality citizens may become more, not less, severe. This is because now the coordination game is played within each of the ideologies: it is not enough to find a group of good men and women to run for office. It is necessary to find a group of good leftist men and women, *and* a group of good right-wing men and women (and a group of good greens, etc.)²⁴. Hence, political parties might increase the total

²³ For example, throughout the cold war, in countries with strong communist parties, corrupt and incompetent politicians have been able to remain in power because of the electorate’s fear of a communist takeover—even though local communist administrations were plainly relatively more efficient and more honest than the national non-communist government (though this is not saying much).

²⁴ See also Myerson (1993), for a similar coordination problem.

number of high-quality citizens required to implement the coordination scheme, thereby making coordination costs higher.

4.3. Correlation between competence and ability

We have assumed in the paper that there is a perfect correlation between a citizen's productivity in the market, y^j , and his competence in office. What if the correlation is imperfect, and some low opportunity-cost citizens are potentially good politicians, capable of delivering low taxes despite their modest market potential? The following reinterpretation of the model allows for such imperfect correlation, showing that the results do not depend at all on our simplifying assumption. Reinterpret what we have called a citizen's true type as his competence as a policy maker. Further, reinterpret what we have called the signal as the citizen's market income. Then, most high-income citizens would make good politicians, and most low-income ones would make bad ones, but there are minorities in the two groups who would perform relatively worse (better) in politics than in the market. Finally, suppose that market incomes are observable by everyone. This reproduces the basic tension that drives the model: high-income individuals, a majority of which has high competence, have an electoral advantage, as voters use their market incomes as a signal of their competence, but low-income citizens, a majority of which has low competence, have greater incentives to seek office. While the details change, all our results follow.

4.4. Quality: people or institutions?

We have conceived of quality in terms of the characteristics of the individuals who run the polity. Alternative approaches to explain cross-country differences in outcomes might focus on differences in institutions (e.g., La Porta et al., 1998). There are two possible versions of this argument. One is that the intrinsic quality of office holders is the same across countries, but different institutions lead to different constraints and incentives in the policy making process, and this in turn generates different outcomes. The other is that the quality of office holders itself varies because institutions, such as the electoral system, vary. We prefer our approach because the rules of the game are themselves endogenous and the political elite has the power to set or modify them. We think that bad rules are as likely to be the consequence, as the cause, of bad politicians. In a country in which a majority of office holders is of high-quality, we would expect institutions leading to bad policies, or to bad future quality, to be removed. As we have shown here, however, low-quality majorities might have incentives to keep 'bad institutions' in place.

4.5. Do financial rewards matter?

Are salaries and other financial incentives important in a citizen's choice to join the political arena? For the purposes of this paper this question is not crucial, as all of our results apply even if ego rents are the only (legal) motivation to seek office. However, since the question keeps coming up, here is a review of some empirical evidence. To anticipate, the answer is: yes.

The relative importance of ego rents and financial incentives may well change depending on the level of government. One would probably expect financial incentives to play their smallest relative role at the national-government level—which undoubtedly provides very large ego rents—and a larger relative role at the local level. However, the evidence is that compensation is quite important a determinant of candidacy even in the US congress, probably one of the places in the World where one would less expect it to matter, so it should a fortiori be important at all other levels of government as well.

There is of course no systematic citizen-level evidence on the determinants of candidacy decisions, but direct evidence on the role of the prospects for financial gain can be gleaned at the level of the elected officials from the decision that is exactly symmetric to the decision of running for office, namely the decision to retire. [Groselose and Krehbiel \(1994\)](#) and [Hall and Van Houweling \(1995\)](#) do just that, exploiting two natural experiments that occurred in the 1992 congressional election. First, in 1990, the outgoing congress approved a 35% pay increase to be phased in over the next three years (38% over five years). Because of the mechanism that determines congressmen's pension benefits, this provision implied a median 45% increase in the present value of pensions, but only for those members who were still in office at the end of 1992²⁵. Hall and Houweling estimate that a significant number of congressmen who would otherwise have retired in 1990 decided instead to re-run for office (and postpone their retirement to 1992) in order to make themselves eligible for the pension windfall. This shows that salaries and pensions are an important determinant of candidacy decisions.

Second, 1992 was the last year in which congressmen were allowed to convert campaign war chests into personal wealth upon retirement, implying that a congressman who run for re-election in 1992 would face a substantial financial loss (some of these war chests run in the millions of dollars). Groselose and Krehbiel estimate that this opportunity cost of seeking re-election accounts for more than one third of retirements from congress in 1992²⁶. This shows that the opportunity cost of candidacy (λ) is also an important determinant of candidacy decisions. Finally, both sets of authors provide ample evidence that the decision to re-run was affected by the probability of election, as our model implies, and of course by indicators of the power and prestige congressmen were likely to enjoy if re-elected. [Diermeier et al. \(2002\)](#) have greatly extended these previous works by exploiting long panel data on congressmen careers, and by using a much richer model of the congressman maximization problem. Additional evidence on the role of compensation and opportunity cost in the candidacy decision at the level of US state lower houses is provided by [Fiorina \(1994\)](#).

Less systematic but more direct evidence comes from [Fowler and McClure \(1989\)](#) gripping tale of the candidacy game that took place in New York state's 30th congressional district upon the announcement of long-standing incumbent Barber Conable's retirement in 1984. Fowler and McClure identify a large cast of individuals (state legislators, local administrators, party officials, businesspeople and professionals) who could credibly have

²⁵ This is because congressmen pensions depend on a member's three highest annual salaries, so it is necessary to be in office for at least three years after 1990 in order to collect the full present value of benefits from the pay increase.

²⁶ This might be somewhat overstated, though, since these authors do not control for the role of the pay/pension increase. On this episode, see also [Groselose and Milyo \(1999\)](#).

mounted a run for the vacant seat. One by one, however, these mainstream ‘invisible candidates’ decided to forgo a run, leaving the seat wide open to an extremist candidate whom they would probably have beaten, had they decided to run. Fowler’s and McClure interviews uncover a wide range of reasons why these high-quality might-have-beens renounced congressional office, and in some of the cases the low levels of congressional salaries (relative of course to opportunity cost), combined with the high costs of life in Washington, seem to have played a significant role. This study is especially notable for our purposes because it shows not only specific cases of individuals who decide to forego a run to congress based on a comparison of rewards from office and market opportunities, but also because this self-selection out of the race seems to have led to a relatively ‘low-quality’ outcome²⁷.

4.6. Is this empirically relevant?

Some of the evidence reviewed in the previous sub-section can definitely be read as indirectly supportive of our Result 1—or at least of some of their building blocks—in that it shows candidacy decisions responding to material and immaterial rewards, π , and opportunity costs, λ , as well as at least one anecdote where such considerations seem to have led to the election of a low-quality politician. More systematic testing of Result 1 faces at least one very serious hurdle, i.e., coming up with a comprehensive measure of π , which is a composite of material and immaterial benefits. One can in principle measure current compensation and the present value of pensions; much harder is to measure other financial rewards, such as those the politician has access to, *quo* former office holder, after leaving office; hardest of all is to measure psychological rewards and ego rents. A second major hurdle is to find an instrument for such rewards: a simple regression of p_s on π would suffer from glaring identification problems. We are currently pursuing these goals, but they are sufficiently challenging to remain outside of the scope of the present paper²⁸.

Result 2 proposes a simple answer to the question ‘why are some countries’ political elites so much better than others?’ the answer being that some countries are stuck at bad equilibria where—politics being crowded with bad politicians—potentially good candidates stay away from public life. As all explanations based on multiple-equilibria, this idea is hard to test. Nevertheless, we obviously think that the idea has enormous empirical appeal. Consider, for example, the countries that form the European Union. From within this set of relatively homogeneous countries the lowest values of the *International Country Risk Guide’s* corruption index are *below the World average*, while of course the highest values are the highest values in the World. Anecdotally, of course, the prestige of the political class follows these rankings closely, and plummets to dismal levels in some of the

²⁷ In subsequent writings Fowler (1993) muses that ‘For too long, we have taken ambition as a given in American politics and encouraged citizens to do likewise. It is time to recognize that candidates are a precious resource that our democracy cannot afford to take for granted or squander’ (p. 187). Our feelings exactly.

²⁸ A third challenge is to find meaningful measures of quality. For competence, one could look at measures of education. For example, compare average education of law-makers across countries, or across US states, or over time. For some countries or states, measures of education can potentially be enriched by information on the quality of the college attended. Another potentially useful measure is a policy maker’s income before entry into politics, although for this to be meaningful it would be essential to control for occupation and age.

very corrupt countries, where politicians are positively reviled. In these countries it is obvious that a young man or woman of talent and integrity who contemplates a life in politics can look forward to ego rents that are meager indeed, and it is equally obvious that many choose alternative paths in order to avoid contact (and being confused) with the unsavory and mediocre characters that populate the corridors of political power.

Result 3 suggests that some of these mechanisms are indeed consciously exploited by low-quality politicians in order to discourage entry by high-quality ones. One seemingly puzzling fact that is consistent with this idea is that the (legitimate) compensation of elected officials is often quite low, and adjusts sluggishly. More generally, this mechanism might explain, in part, why elective bodies are often so reluctant to introduce reforms whose goal is to expedite and make more effective the operation of future governments. Only time series evidence, however, could provide a formal empirical check.

We have modelled the elective body as encompassing all elective offices in the polity, including all levels (local, state, and national) and functions (judiciary, executive, and legislative) of government. Hence, our view is that bad-politician equilibria are systemic, country-wide problems. In the countries that motivate this study the rot is at all levels: from the office of the prime minister down to hospital administrators. In these countries, stuck as they are in self-sustaining bad steady states, the hospital administrator is corrupt and incompetent *because* so are the prime minister and his cabinet; and the prime minister and his cabinet are corrupt and incompetent because they are nothing but the tip of the iceberg of a system where corruption and incompetence are prerequisites for success. Happily, there are plenty of countries in the world that are not stuck in such bad equilibria, and where indeed politicians are among the best and brightest that society can offer. In these countries, rewards from politics are high, especially at the national level. There may be the occasional local legislature where low salaries are insufficient to attract the best, but none of the system-wide failures that make for truly adverse selection of citizens into politics are severe enough to cause massive damage.

5. Conclusions

We have investigated the mechanisms that lead to the selection of citizens of varying quality into political life. Low-quality citizens have a comparative advantage in holding office. Countries may find themselves stuck in bad equilibria such that high-quality citizens avoid public office because so do other high-quality citizens. Also, countries may experience persistent low quality of the policy making class, whereby low-quality policy makers in one period set up next period's incentives so as to keep high-quality ones from seeking office. As a result, otherwise identical countries can experience different average levels of competence and/or honesty of the political class.

Acknowledgements

We thank Alberto Alesina, Jim Alt, Scott Ashworth, Abhijit Banerjee, Marco Bassetto, Jeff Campbell, Andrew Ching, Steve Coate, Harold Cole, Rafael Di Tella, Sven Feldmann,

Giunia Gatta, Joao Gomes, Tim Groseclose, Catherine Hafer, Robert Inman, Pat Kehoe, Michael Kremer, Laurent Ledoux, Antonio Merlo, Rebecca Morton, Casey Mulligan, Canice Prendergast, Antonio Rangel, Ken Shepsle, Enrico Spolaore, Silvana Tenreyro, Michele Tertilt, Mariano Tommasi, Alwyn Young, and two referees for comments. We thank David Hine and Tariq Yasin for research assistance. Support from NSF for this project is gratefully acknowledged.

Appendix A. Proof of Result 1

It is obvious that each candidate votes for himself. It is also obvious that non-candidates can only condition their vote on the signal the candidates emit. Hence, a candidate’s probability of election depends only on his signal. Call P_i the probability of election of a candidate who emits signal $i = s, \bar{s}$. A candidate of type j and signal i will run for office if and only if

$$P_i[\pi - y^j] - \phi \geq 0.$$

Observe that whenever a type- s , signal- s citizen (weakly) prefers to run for office, then a type- \bar{s} , signal- s citizen strictly prefers to run for office. Similarly, whenever a type- s , signal- \bar{s} citizen (weakly) prefers to run for office, then a type- \bar{s} , signal- \bar{s} citizen strictly prefers to run for office.

Call \tilde{C}_i the measure of candidates with signal $i = s, \bar{s}$. If \tilde{C}_s is non-empty, a voter who is not a candidate always votes for a (uniformly drawn) element of \tilde{C}_s over an element of $\tilde{C}_{\bar{s}}$. If voters believe that the ratio of s to \bar{s} types is (weakly) higher in \tilde{C}_i than in \tilde{C}_j , then voting for a member of \tilde{C}_i is weakly dominant, but voters cannot believe that the ratio of s to \bar{s} types is higher in $\tilde{C}_{\bar{s}}$, for, if they do, it means that some s -type, \bar{s} -signal citizens are candidates, and, therefore, all low-ability, low-signal citizens are candidates. Given the assumption $(1 - s)\mu > 2p$, we then have $\tilde{C}_{\bar{s}} > p$. If voters vote according to their beliefs, this further implies that $P_s = 0$, so \tilde{C}_s is empty: a contradiction. When \tilde{C}_s is empty non-candidates vote for a random member of $\tilde{C}_{\bar{s}}$.

Given this voting behavior it follows that if $\tilde{C}_s \leq p$, then $P_s = 1$ and $P_{\bar{s}} = (p - \tilde{C}_s) / \tilde{C}_{\bar{s}}$; while if $\tilde{C}_s > p$, then $P_s = p / \tilde{C}_s$ and $P_{\bar{s}} = 0$.

Define $\mu_s = \sigma s \mu$, and $\mu_{\bar{s}} = (1 - \sigma)(1 - s)\mu$. Further, define C_i the measure of candidates of true type $i = s, \bar{s}$. Finally, define the following objects:

$$P_s^{\min} = \frac{p}{\mu_s + \mu_{\bar{s}}}$$

$$P_s^{\max} = \frac{\mu_s}{\mu_s + \mu_{\bar{s}}}.$$

P_s^{\min} is the probability that a signal- s candidate will be elected when all signal- s candidates run for office. It is the minimum value P_s can take. P_s^{\max} is the value taken by P_s when all signal- s candidates run for office, and the maximum value that P_s can take. We now argue

that if $P_s^{\min}(\pi - \lambda) - \phi \geq 0$, then $C_s = \mu_s$ and $C_{\bar{s}} = \mu_{\bar{s}}$, so that $p_s = p_s^{\max}$. Suppose not. Then, there are some s -type, s -signal citizens who are not candidates. If these non-candidates deviated and run for office their probability of election would be $\min[1, p/\tilde{C}_s]$, which is strictly greater than P_s^{\min} , but then, these citizens would strictly prefer to run for office, which is a contradiction.

The rest of the analysis depends on the relative size of $\mu_{\bar{s}}$ and p . Suppose first $\mu_{\bar{s}} \leq p$. Then, consider parameter values such that $P_s^{\min}(\pi - \lambda) - \phi < 0$, but $\pi - \lambda - \phi > 0$. In this region type- s , signal- s citizens must be indifferent between running and not running. If they strictly preferred running, they would all run; but then $P_s = P_s^{\min}$, which leads to a contradiction. If they all preferred not running, then we would have $P_s = 1$, which also leads to a contradiction. We must therefore have

$$\frac{p}{C_s + \mu_{\bar{s}}}[\pi - \lambda] - \phi = 0. \quad (\text{A.1})$$

This condition determines C_s . Note that C_s falls from μ_s when $P_s^{\min}(\pi - \lambda) - \phi = 0$ to $p - \mu_{\bar{s}}$ when $\pi - \lambda - \phi = 0$. In this interval we also have $\tilde{C}_s \geq p$, so $p_s = C_s/\tilde{C}_s$, or

$$p_s = 1 - \frac{\mu_{\bar{s}}}{\theta p}. \quad (\text{A.2})$$

For $\pi - \lambda - \phi = 0$ C_s can take any value in the interval $[0, p - \mu_{\bar{s}}]$. For any value of C_s in this interval we have $P_s = 1$. Correspondingly, there is a continuum of equilibria in p_s , $p_s \in [0, 1 - \mu_{\bar{s}}/p]$.

For $\pi - \lambda - \phi < 0$ running for office is not worth the cost for a type- s person even if $P_s = 1$, so we have $C_s = 0$. As long as $\pi - 1 - \phi > 0$, however, we have $C_{\bar{s}} \geq p$. Hence, $p_s = 0$. These observations allow one to draw Fig. 1 and verify the claims in Result 1 for the $\mu_{\bar{s}} \leq p$ case.

Suppose instead that $\mu_{\bar{s}} > p$. Then Eqs. (A.1) and (A.2) determine C_s and p_s in the region defined by $P_s^{\min}(\pi - \lambda) - \phi < 0$ and $p/\mu_{\bar{s}}(\pi - \lambda) - \phi > 0$. For expected net rewards below this value we have $p_s = 0$. Graphically the upward sloping curve hits the horizontal axis at $\mu_{\bar{s}}/p$, and there no longer is a value of $\pi - \lambda - \phi$ such that there are multiple equilibria. All the claims in Result 1 still follow, though.

Appendix B. Proof of Result 3

Note first that for $\theta < 1$ all high-ability citizens choose private life so their utility is $\lambda - t(0)$. For $1 \leq \theta \leq (\mu_s + \mu_{\bar{s}})/p$ low-signal, high-ability citizens still prefer private life, while high-signal, high-ability citizens are indifferent between private and public life. Hence, they all enjoy utility $\lambda - t(p_s)$. Since in this range p_s is increasing in π , it is clear that the utility of all high-ability members of the initial assembly is increasing in θ . If $\bar{\theta}$ is in this range this completes the argument. If $\bar{\theta}$ is above $(\mu_s + \mu_{\bar{s}})/p$ the utility of signal- s , type- s citizens continues to be strictly increasing for θ between $(\mu_s + \mu_{\bar{s}})/p$ and $\bar{\theta}$, while the utility of signal- \bar{s} , type- s citizens is constant, leading them to side with the signal- s , type- s citizens and go along with $\bar{\theta}$.

Next, we turn to the preferred choice by signal- s , type- \bar{s} citizens. Clearly they will never prefer $\theta < 1$. For $\theta = 1$ these citizens all run for election and are assured of winning a seat, so their utility is $\pi - t(p_s) - \phi = \lambda - t(p_s)$, which—since p_s is indeterminate—varies between $\pi - t(1 - \mu_{\bar{s}}/p) - \phi$ and $\pi - t(0) - \phi$. Hence, they receive *at least* $\lambda - t(0)$. For $\theta > 1$ their utility is

$$P_s \pi + (1 - P_s) - t(p_s) - \phi = P_s(\pi - 1) + 1 - t(p_s) - \phi$$

where p_s is (weakly) increasing in θ , and P_s is determined by the condition

$$P_s \theta = 1.$$

Hence, in this interval high-signal, low-competence citizens receive utility

$$\frac{(\lambda - 1)}{\theta} + 1 - t[p_s(\theta)] \quad (\text{B.1})$$

Depending on the function t , it is completely possible for the value of θ that maximizes this function to be strictly less than $\bar{\theta}$. Furthermore, whatever the value of θ that maximizes (B.1), it may still very well be the case that the maximized value is less than $\lambda - t(0)$, in which case low-signal, low-competence citizens' preferred choice for θ is $\theta = 1$.

Finally, we have to discuss the preferred value of θ for low-signal, low-competence citizens. Suppose that there are no values of θ such that the entire signal- \bar{s} , type- \bar{s} population runs for office. Then these citizens' utility is always $1 - t(p_s)$ so they clearly prefer $\theta = \bar{\theta}$. The case mentioned in footnote 20 arises, instead, if there are values of θ such that the entire low-signal, low-ability population runs for office. The maximum number of candidates with low-signal and low-ability occurs when $p_s = 0$ and $\theta = 1$. If they all run they get

$$\left(1 - \frac{p}{\mu_{\bar{s}}}\right)(\lambda + \phi) + \frac{p}{\mu_{\bar{s}}}\lambda - t(0) - \phi = \lambda - \frac{p}{\mu_{\bar{s}}}\phi - t(0).$$

If one of them deviates then he receives $1 - t(0)$, which may well be less. Assume this is the case. These citizens' utility when $\theta = \bar{\theta}$ is $1 - t[p_s(\bar{\theta})]$. Again, this could easily be less than the utility at $\theta = 1$.

References

- Alesina, A., Rosenthal, H., 1995. *Partisan Politics, Divided Government, and the Economy*. Cambridge University Press, Cambridge.
- Besley, T.J., Coate, S., 1997. An economic model of representative democracy. *Quarterly Journal of Economics* CXII, 85–114.
- Besley, T.J., Coate, S., 1998. Sources of inefficiency in a representative democracy: a dynamic analysis. *American Economic Review* 88, 139–156.
- Besley, T.J., McLaren, J., 1993. Taxes and bribery: the role of wage incentives. *Economic Journal* 103, 119–141.
- Caselli, F., Morelli, M., 2001. *Bad Politicians*. NBER Working Paper 8532.
- Cukierman, A., Meltzer, A., 1986. A positive theory of discretionary policy, the cost of democratic government, and the benefits of a constitution. *Economic Inquiry* 24, 367–388.

- Dal Bó, E., Dal Bó, P., Di Tella, R., 2002. *Plata or Plomo? Bribe and Punishment in a Theory of Bad Politicians*, unpublished, Harvard University.
- Dal Bó, E., Di Tella, R., 1999. *Democracy under Pressure: Political Parties vs. ‘Nasty’ Interest Groups*, unpublished, Harvard University.
- Di Tella, R., Fisman, R., 2002. *Are Politicians Really Paid Like Bureaucrats?* NBER Working Paper 9165.
- Diermeier, D., Keane, M., Merlo, M., 2002. *A Political Economy Model of Congressional Careers*, unpublished, Northwestern University.
- Fiorina, M., 1994. *Divided Government in American States: Byproduct of Legislation Professionalism?* *American Political Science Review* 88, 304–316.
- Fowler, L.L., McClure, R.D., 1989. *Political Ambition. Who Decides to Run for Congress*. Yale University Press.
- Fowler, L.L., 1993. *Candidates, Congress, and the American Democracy*. The University of Michigan Press.
- Groseclose, T., Milyo, J., 1999. *Buying the Bums Out: What’s the Dollar Value of a Seat in Congress?* Research Paper No. 1601, July, Graduate School of Business, Stanford University.
- Groseclose, T., Krehbiel, K., 1994. *Golden Parachutes, Rubber Checks, and Strategic Retirements from the 102d House*. *American Journal of Political Science* 38 (1), 75–99.
- Hall, R.L., Van Houweling, R.P., 1995. *Avarice and Ambition in Congress: Representatives’ Decisions to Run or Retire from the US House*. *American Political Science Review* 89 (1), 121–136.
- La Porta, R., Lopez-De-Silanes, F., Shleifer, A., Vishny, R., 1998. *The Quality of Government*. NBER Working Paper 6727.
- Messner, M., Polborn, M., 2001. *Paying Politicians*, unpublished, University Pompeu Fabra.
- Myerson, R.B., 1993. *Effectiveness of electoral systems for reducing government corruption, a game-theoretic analysis*. *Games and Economic Behavior* 5, 118–132.
- Osborne, M.J., Slivinski, A., 1996. *A model of political competition with citizen candidates*. *Quarterly Journal of Economics* CXI, 65–96.
- Persson, T., Tabellini, G., 1990. *Macroeconomic Policy, Credibility, and Politics*. Harwood Academic Publishers.
- Rogoff, K., Sibert, A., 1988. *Elections and macroeconomic policy cycles*. *Review of Economic Studies* 55, 1–16.
- Rogoff, K., 1990. *Equilibrium political budget cycles*. *American Economic Review* 80, 21–36.
- Wittman, D., 1989. *Why democracies produce efficient results*. *Journal of Political Economy* 97 (6), 1395–1424.