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"Political Careers or Career Politicians"

by

Andrea Mattozzi amd Antonio Merlo

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Political Careers or Career Politicians?[*]

Andrea Mattozzi[†]   Antonio Merlo[‡]

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ABSTRACT

Two main career paths are prevalent among politicians in modern democracies: there are *career politicians* (i.e., politicians who work in the political sector until retirement), and *political careers* (i.e., there are politicians who leave politics before retirement and work in the private sector). In this paper, we propose a dynamic equilibrium model of the careers of politicians in a political economy with a private sector and a political sector, where individuals are heterogeneous with respect to their market ability and political skills. We characterize the conditions under which the two career paths emerge in equilibrium, and investigate the effects of monetary incentives and other features of the political-economic environment on the quality of politicians and their careers. Our analysis also provides a rationale for the existence and the survival of political parties.

1   Introduction

The very existence and functioning of representative democracy, where citizens delegate policy-making to elected representatives, hinge on the presence of politicians. In his famous 1918 lecture entitled *Politics as a Vocation*, Max Weber writes:

> "Politics, just as economic pursuits, may be a man's avocation or his vocation. [...] There are two ways of making politics one's vocation: Either one lives 'for' politics or one lives 'off' politics. [...] He who lives 'for' politics makes politics his life [...] He who strives to make politics a permanent source of income lives 'off' politics as a vocation." [from Gerth and Mills (1946; pp. 83-84)]

The view expressed by Weber highlights the importance of analyzing the motivations of politicians in the context of their career decisions over the life-cycle.

A recent article by Diermeier, Keane and Merlo (2005) studies the career decisions of politicians who served in the U.S. Congress in the post-war period. Several interesting observations emerge from the data. A significant fraction of the members of the U.S. Congress leave office voluntarily and become employed in the private sector. At the same time, many senators and representatives remain in Congress until retirement. Out of all the politicians who entered Congress after 1945 and left by 1994, 47% left voluntarily. Of those, 42% took a job in the private sector, while the remaining 58% either moved to a different political office (35%), or retired (23%).[1] Furthermore, the politicians who exit Congress voluntarily and leave politics altogether for another occupation tend to have successful careers in the private sector. In fact, one of the key findings of Diermeier, Keane and Merlo (2005) is that congressional experience significantly increases post-congressional wages in the private sector.[2]

These observations are not unique to Congress or the United States. While data on the wages of former politicians who work in the private sector are in general not available, by and large, there are two main career paths that are prevalent among politicians in modern democracies. There are *career politicians* (i.e., politicians who work in the political sector until retirement), and *political careers* (i.e., there are politicians who leave politics before retirement and work in the private sector).[3]

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[1] Of the 53% who left Congress because of electoral defeat, 61% took a job in the private sector, 35% took another political job, and 4% retired.

[2] For example, average annual earnings of the politicians who left Congress voluntarily and became employed in the private sector are equal to $254,207 (in 1995 constant dollars). Moreover, holding everything else constant, winning reelection in the House (Senate) for the first time increases post-congressional wages in the private sector by 4.4% (16.7%).

[3] For a description of the careers of politicians in several countries, see, e.g., Best and Cotta (2000), Cotta (1979), Jones et al. (2000), and Samuels (1999). A third possible career path is to achieve success in the private sector and then move into politics. While there are several recent examples of this phenomenon (e.g., Silvio Berlusconi in Italy or Michael Bloomberg in the United States), this is still a relatively rare occurrence.

These considerations raise the following important questions: Who wants to be a politician? What is the role played by parties and by voters in the selection of politicians? How do monetary incentives and other features of the political-economic environment affect the quality of politicians and their career paths?

In order to address these issues, we propose a dynamic equilibrium model of the careers of politicians in a political economy with two sectors: the private (or market) sector, and the political sector. In our model, individuals are heterogeneous with respect to their market ability as well as their political skills, and individual skill-endowments are positively correlated (e.g., better politicians may be more likely to be better managers). Each individual lives for two periods, and in each period can either work in the perfectly competitive market sector or be a politician.

We consider a situation where, whenever a public office is vacant, an infinitely-lived party may nominate a candidate subject to the voters' approval, and information about political skills is asymmetric. Since a party may have several opportunities to interact with individuals with political aspirations before they run for office, we assume that the party can observe the political skills of potential politicians, while voters can only observe the political skills of politicians after they are in office.

Politicians are typically "under the spotlight," receiving the attention of the media and a variety of citizens' organizations. Hence, they may have relatively better chances to reveal their sector-specific skills than people working in other sectors. For this reason, we model politics as a "showcase," where politicians in office display their political skills, while the market ability of an individual working in the market sector may not be revealed.[4]

While in office politicians perform a public service which benefits the voters, and receive a salary. At the same time, experienced politicians also engage in activities that generate private benefits to their party. The party may therefore offer rewards to its politicians in order to induce them to stay in politics, provided they are confirmed in office by the voters.[5] We assume that the more skilled the politicians, the higher the benefits they generate to the voters as well as the party. The difference between the private benefit a politician generates to the party and the transfer paid by the party to the politician represents the rent that is appropriated by the party.

The main results of our analysis can be summarized as follows. In equilibrium, either there are both career politicians and individuals with political careers, or there are only career politicians, depending on the environment. In either case, not everybody who would want to become a politician does so. In particular, the party prevents individuals with low political skills from becoming politicians. When there are both political careers and career

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[4] For example, many young lawyers join a law-firm, and competition for emerging within the firm, and then more broadly the legal profession, is fierce. Typically, it takes a relatively long time before a lawyer has a chance of displaying his talent, as many of them have to simultaneously share the same spotlight.

[5] For example, politicians engage in fund-raising activities on behalf of their party, which may reward them with a variety of valuable posts within its organization (e.g., committee membership, group leadership, etc.).

politicians, individuals with relatively better political skills have political careers (i.e., they serve in office for one term and then work in the market sector in the second period), although the political skills of career politicians are still better than average.

An increase in the salary a politician receives while in office decreases the average quality of individuals who become politicians, decreases turnover in office (i.e., the proportion of politicians who have political careers), and may either decrease or increase the average quality of career politicians. Conversely, an increase in the market wage rate increases the average quality of individuals who become politicians, increases turnover in office, and may either increase or decrease the average quality of career politicians. Finally, the more "transparent" the market sector (i.e., the higher the likelihood that market ability is revealed in the market sector), the higher the turnover in the political sector, and the higher the average quality of all politicians.

The intuition for these results is as follows. Since political skills are positively correlated with market ability, and politics is a showcase, incumbent politicians have the opportunity to work in the market sector at a higher wage than the one they would have received prior to entering the political sector. This generates the possibility of political careers.

Voters want politicians in office who are as skilled as possible. The party wants politicians who generate rents, and since politicians with better political skills have better employment prospects in the market sector, they are relatively expensive for the party to keep in the political sector. In equilibrium, the party and the voters compromise. The party only nominates individuals whose political skills are above a certain threshold. In particular, it discards individuals with low political skills who would want to become politicians and would generate rents for the party. In exchange, the voters always approve the party's nominees and confirm in office incumbent politicians who, although relatively mediocre from the point of view of the voters, generate rents for the party. By preventing individuals with low political skills from becoming politicians, the party fulfills a screening function that is valuable to the voters. Hence, the voters are willing to trust the party in selecting politicians.

The fact that relatively better politicians may leave politics to work in the market sector is not a concern for the voters, since they at least get high quality politicians in office for some time. Although these politicians do not generate rents for the party, the fact that they may leave politics is also not an issue for the party, since they too serve a valuable purpose for maintaining the reputation of the party. When they voluntarily leave politics, given the party's track record, the voters are willing to replace them with other partisan nominees, thus allowing the party to maintain control of the public office, which generates (expected) rents in the future. This provides a rationale for the existence of political parties and their survival through time.

An increase in the salary in the political sector makes politics a relatively more attractive option for all levels of political skills, thus lowering the quality of the worst politician. At the same time, the party can afford to retain better incumbent politicians, since the additional amount it has to pay to keep them in the political sector is lower for each level of political

skills. An increase in the market wage rate also has two effects. It makes employment in the market sector relatively more appealing for all levels of political skills. At the same time, it makes it more valuable for individuals with higher levels of political skills to reveal them by becoming politicians, but also more difficult for the party to retain these politicians. Hence, an increase in the salary in the political sector or a decrease in the market wage rate decreases the average quality of entering politicians as well as turnover in office. The overall impact on the average quality of career politicians, however, depends on which of the two effects (the entry or the retention effect) dominates.

The effect of the transparency of the market sector on the quality of politicians also depends on the terms of the trade-off between employment in the market sector and a career in the political sector. The cost for an individual of becoming a politician is equal to the difference between the salary in the political sector and the first-period market wage that is forgone by not working in the market sector. The return to becoming a politician is equal to the (possibly) higher earnings in the second period after political skills are revealed, regardless of whether the higher earnings are realized by staying in politics or working in the market sector. An increase in the transparency of the market sector reduces the return to becoming a politician relative to the cost, so that only individuals with higher political skills would find it optimal to become politicians rather than work in the market sector. At the same time, the transparency of the market sector does not affect the second-period earnings of politicians. Overall, an increase in transparency increases turnover in office and the average quality of all politicians, regardless of whether they are career politicians or have political careers.

The remainder of the paper is organized as follows. In section 2, we discuss the relationship of our work to the existing literature. In Section 3, we describe the model. Section 4 contains the results of the analysis. In Section 5, we consider several extensions of the model. We conclude with Section 6.

2   Related Literature

Early research in political economy approached the study of politicians by taking their existence as given.[6] A major turning point in the literature occurred when researchers started to challenge the basic assumption that the set of political candidates competing for public office is exogenous. This challenge defines most of the current political economy research on this topic and has generated a useful approach to the study of politicians known as the "citizen-candidate" framework (e.g., Besley and Coate (1997) and Osborne and Slivinski (1996)). This framework removes the artificial distinction between citizens and politicians, by recognizing that public officials are selected by the citizenry from those citizens who choose to become politicians and stand as candidates in an election in the first place. Our paper continues in this tradition.

By treating electoral candidates as endogenous equilibrium objects, the citizen-candidate

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[6]For an excellent overview of this literature see, e.g., chapters 3 and 5 in Persson and Tabellini (2000).

approach provides important foundations for addressing the question of who becomes a politician. In particular, the "type" of citizens who choose to run for public office in equilibrium, and hence the characteristics of elected representatives, are a function of the relative costs and benefits of becoming a politician, as well as the preferences and characteristics of the citizenry. While in the original specification proposed by Besley and Coate (1997) and Osborne and Slivinski (1996) citizens only differ with respect to their policy preferences, the basic structure has also been extended to richer environments which encompass additional dimensions of heterogeneity.[7]

Our analysis abstracts from heterogeneity in policy preferences and the implementation of public policy. However, our results on the selection of politicians and the effects of market wages and political salaries on their career decisions are related to this literature. In particular, Caselli and Morelli (2004) and Messner and Polborn (2004) consider citizen-candidate models where individuals differ with respect to their quality as politicians, and evaluate the effect of the relative wage of elected officials on their average quality. In the model of Caselli and Morelli (2004), individuals with relatively low quality have a comparative advantage in running for public office. This constrains the options that are available to the voters and generates the possibility of equilibria where only bad politicians are elected. In their framework, increasing the salary of elected officials relative to the market wage increases the average quality of politicians.[8] Similarly, in the model of Messner and Polborn (2004), it is also the case that in equilibrium bad candidates are more likely to run than good ones. The equilibrium mechanism is, however, different, and relies on the fact that as long as the salary of elected officials is relatively low, high-quality individuals free-ride on low-quality ones by not running and letting them run instead. This implies a non-monotonic, U-shaped relationship between the salary of elected officials and their average quality.[9] In contrast to our analysis, these papers only consider one dimension of heterogeneity in individual skills, and abstract from the role of parties in the selection of politicians. Moreover, they are not interested in explaining their career paths, and hence do not distinguish between career politicians and political careers.

Our paper is also related to the work by Diermeier, Keane and Merlo (2005). They specify a dynamic model of career decisions of a member of the U.S. Congress, and estimate it using a newly collected data set that contains information on post-congressional employment of the members of Congress in the post-war period. Their analysis, however, focuses on the

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[7]Another literature that addresses the issue of endogenous selection of politicians focuses on the extent to which voters can discipline elected representatives with career concerns. Important contributions to this literature, which builds on agency-theoretic frameworks with moral hazard and/or adverse selection, include Banks and Sundaram (1993, 1998), Barro (1973), Ferejohn (1986) and Persson, Roland and Tabellini (1997). For an excellent survey of the literature on political selection see Besley (2005).

[8]Besley (2004) obtains a similar result in the context of a political agency model with moral hazard and adverse selection.

[9]Poutvaara and Takalo (2003) obtain a similar result in the context of a citizen-candidate model with primaries.

estimation of the private returns to political experience of elected politicians, and abstracts from the selection of individuals who become politicians in the first place as well as from equilibrium considerations.

Our work also relates to the literature on endogenous parties. Several authors have emphasized that parties play an important role in the selection of candidates for a variety of public offices, and this role may provide a rationale for the existence of parties (e.g., Caillaud and Tirole (2002), Carrillo and Mariotti (2001), and Snyder and Ting (2002)).[10] In particular, like in our analysis, Caillaud and Tirole (2002) also view parties as providing a service to voters by selecting high-quality candidates, and highlight the importance for a party of maintaining its reputation vis-a-vis the voters. However, the focus of their analysis is on the effects of intra-party competition on party image and the choice of party governance, and abstracts from the careers of politicians.

Finally, there is a recent literature that studies the effects of transparency in a variety of political institutions, like for example elections, committees, legislatures, lobbying, etc. (e.g., Dal Bo (2005), Gavazza and Lizzeri (2005), Mattozzi and Merlo (2005), and Prat (2005)). By and large, these papers find that increasing the transparency of the political system does not necessarily lead to better outcomes.

3   The Model

We consider a political economy where there are two sectors: the market sector and the political sector. In every period $t = 0, 1, ...$ a large, finite number of individuals is born, which, for convenience of exposition, can be approximated by a continuum of measure one. Each individual lives for two periods and we let $a \in \{1, 2\}$ denote an individual's age.

Individuals are heterogeneous with respect to their market ability m and their political skills p. We let $m \in \{l, h\}$, where $m = l$ $(m = h)$ denotes an individual with low (high) market ability. A measure $1 - \phi$ of the population is high market ability with probability $\alpha \in (0, 1)$ and has no political skills, that is $p = 0$. A measure $\phi \in (0, 1)$ of the population is heterogeneous with respect to their political skills $p \in [0, 1]$, which are distributed according to a uniform distribution. The probability of being high market ability $\pi(p)$ is positively correlated with political skills and we let $\pi(p)$ be a linear function of p:

$$\pi(p) = \alpha + \lambda p, \tag{1}$$

where $\lambda \in (0, 1 - \alpha)$ implies that $\pi(p) \in [\alpha, 1)$ for all $p \in [0, 1]$.[11] We assume that each

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[10]Other functions performed by parties that have been studied in the literature include the organization and coordination of electoral campaigns (e.g., Osborne and Tourky (2004)); the formation of bargaining coalitions in the legislature (e.g., Jackson and Moselle (2002); the mobilization of voters ((e.g., Herrera and Martinelli (2004) and Shachar and Nalebuff (1999)); the choice of policy platforms (e.g., Levy (2004), Morelli (2004) and Testa (2004)); and disciplining the behavior of elected representatives (e.g., Alesina and Spear (1988) and Harrington (1992)).

[11]Hence, the fraction of individuals with high market ability conditional on having political skills is equal

individual only knows his own political skills, and does not know his market ability.[12] Also, ϕ, α, and λ are common knowledge.

In the first period of life, an individual can either work in the market sector or be a politician. If an individual becomes a politician, his political skills become publicly observable. Politicians may also remain in the political sector during their second (and last) period of life, or work in the market sector. If an individual works in the market sector, during his first period of employment his market ability is revealed with probability $\theta \in (0, 1)$, while with probability $1 - \theta$ it remains unknown. Individuals make their career decisions to maximize their earnings.[13]

We assume that the market sector is perfectly competitive, and let w_m, $m \in \{l, h\}$, denote the competitive market wage rate associated with each ability level. We normalize $w_l = 0$, and let $w_h = w > 0$. The political sector is characterized by a single political office that pays a politician a per-period salary s, where $w_l \leq s < w_h$ (that is, $0 \leq s < w$).[14]

Since within the political sector there is very little inter-party mobility (i.e., the overwhelming majority of politicians maintains the same party affiliation over time), given that the goal of the paper is to study the careers of politicians, we ignore inter-party competition and consider an environment where there is only one infinitely-lived political party.[15]

In each period when the political office is vacant, the party can nominate a candidate. While in office, a "partisan" politician (that is, a politician nominated by the political party),

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$$\int_0^1 \pi(p)\, dF(p) = \alpha + \frac{\lambda}{2},$$

while the fraction of individuals with high market ability in the overall population is

$$(1 - \phi)\, \alpha + \phi \left(\alpha + \frac{\lambda}{2} \right) = \alpha + \frac{\phi \lambda}{2}.$$

[12]We may think of political skills as "people skills," which are detectable by an individual fairly early in his life. On the other hand, it may take some work experience for an individual to realize how productive he is in the market sector.

[13]The assumption that individuals can enter the political sector only in their first period of life is without loss of generality, and is made here to simplify the equilibrium characterization. In particular, it rules out a situation where individuals work in the market sector for one period, realize their market ability, and then individuals with low market ability try to enter the political sector. While this situation does not affect the equilibrium, dealing with it introduces additional complications that do not add anything to the analysis.

[14]The analysis easily extends to the case where there is a countable number of independent political offices. In section 5, we consider the case where politicians also derive non-pecuniary benefits from being in office.

[15]For example, less than 0.5% of all politicians who served in the U.S. Congress in the post-war period switched party during their career in the political sector (see, Diermeier, Keane and Merlo (2005)). In general, inter-party competition for potential politicians is likely to be of secondary importance, as ideological preferences are more likely to draw individuals toward specific parties. In fact, the lack of within-sector competition for sector-specific skills is a striking feature of the political sector, which differentiates it from other economic sectors. We discuss some of the issues that arise when there is more than one party in Section 6 below.

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generates private benefits to the party. We let these benefits depend on the politician's political skills and political experience and be denoted by

$$y^P(p, e) = \begin{cases} 0 & \text{if } e = 1 \\ f(p) & \text{if } e = 2 \end{cases} \tag{2}$$

where e denotes a politician's number of terms in office, or political experience, and $f(p)$ is strictly increasing and strictly concave, with $f(0) \geq 0$.[16]

Since, when an individual nominated by the party serves in the political office, he becomes a partisan politician, we assume that the benefit $y^P(p, e)$ is shared between the party and the politician. Hence, if in any given period a partisan politician is in office, the party's payoff is $y^P(p^o, e^o) - r^P$, where p^o and e^o denote the political skills and experience of the politician in office, respectively, and $r^P \geq 0$ denotes the transfer the politician receives from the party in that period. Otherwise, the party's payoff in that period is equal to zero. Let $\delta \in (0, 1)$ be the party's discount factor.[17]

An individual may also become a politician and serve in the political office without being nominated by the party (that is, an individual may become an "independent" politician). While in office, an independent politician generates private benefits for himself denoted by $y^I(p, e) = y^P(p, e)$.[18]

There is no borrowing or saving. If in any given period a politician with skills p^o is in office, his earnings in that period are equal to $s + r^P$ if he is a partisan, where the no borrowing constraint implies that $r^P \leq y^P(p^o, e^o)$, and $s + y^I(p^o, e^o)$ if he is an independent. Since $y^P(p^o, 1) = 0$, it follows immediately that a first-term partisan politician receives no transfer from the party. If a partisan politician remains in office for a second term, we assume that his share of the benefit he generates to the party, $y^P(p^o, 2)$, is equal to the minimum between his potential wage in the market sector net of the political salary and the entire benefit.[19]

If an individual works in the market sector, his first-period wage is based on the expected market ability in the population, since neither his market ability nor his political skills are observable. In the second period of employment, on the other hand, an individual's expected

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[16]This specification is motivated by the fact that a politician may need time to establish himself and become known, or there may be learning-by-doing. Obviously, the more skilled the politician the higher the benefits he generates for his party. The assumption that $y^P(p, 1) = 0$ is made here for expositional convenience, and may be relaxed as long as $y^P(p, 1)$ is relatively small.

[17]Since individuals only live for two periods, we normalize their discount factor to 1.

[18]Like a partisan politician, an independent politician may have access to opportunities to raise money in a variety of ways, but may need time to establish himself. More generally, we may assume that $y^I(p, e) \leq y^P(p, e)$, to capture the fact that the political party is more likely to have an established network of contacts and hence a superior "fund-raising" technology. This feature can easily be incorporated into our analysis. However, it introduces additional notation without affecting any of our results.

[19]This assumption corresponds to a situation where the party and the politician bargain over $y^P(p^o, 2)$ and the party has all the bargaining power. While this assumption simplifies notation (by eliminating additional parameters), it is without loss of generality, since our results hold for any sharing rule.

wage depends on his expected market ability, since his market ability, which is correlated with his (privately known) political skills, is revealed with some probability.

If, instead, an individual is a politician in his first period of life, his potential second-period wage in the market sector depends on his expected market ability conditional on his political skills (which, because of his experience in the political sector, are publicly known). Hence, political experience has an indirect effect on market wages, due to the positive correlation between political skills and market ability.[20]

While in office, a politician performs a public service. We let $b(p) = p$ denote the public benefit generated by a politician with political skills p, to indicate that politicians with higher political skills generate higher benefits, and are thus more desirable from the point of view of the voters.[21] If in a period the political office remains vacant, then no benefit is generated that period. The public benefit generated by a politician in office does not affect the career decisions of individuals, but only affects the behavior of voters.[22] Also, we assume that individuals vote only in their second period of life.[23]

We now describe the political mechanism that determines the appointment (and possible re-appointment) of an individual to the political office, and the timing of the game implied by this mechanism. It is important to stress that the specific mechanism we consider here for the selection of politicians is not meant to mimic any particular electoral or appointment rule observed in a specific democracy. Rather, we intend to capture some general features of such rules, and consider a situation where the party may nominate a candidate for public office subject to the voters' approval.[24]

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[20] In Section 5, we consider an extension of the model where political experience is also directly productive in the market sector (for example, because of the connections politicians establish during their tenure in office, which may be valuable to potential employers).

[21] The assumption that the benefit function $b(p)$ is linear is inconsequential. Since it simplifies notation, it is made here for expositional convenience.

[22] In other words, we assume that the public benefit generated by a politician is of second order when compared with an individual's earnings. The main role of this assumption is to rule out situations where individuals may choose not to become politicians simply because they may compromise the chances of better politicians, or politicians may choose to remain in office simply because they worry that if they were to leave they may be replaced by worse politicians. While potentially interesting, we believe these considerations are of secondary importance for the career choices of politicians. For models where individuals take into account the "external" effects of their decisions to run for public office, see, e.g., Caselli and Morelli (2004) and Messner and Polborn (2004).

[23] The assumption that individuals vote only in their second period of life is without loss of generality, and greatly simplifies the equilibrium characterization. In particular, as it will become clear later, if all individuals who are alive in a period could vote, the equilibrium would remain the same, but the out-of-equilibrium behavior of voters would differ depending on their age, thus requiring a more elaborate specification of the out-of-equilibrium beliefs of the voters.

[24] For example, in many democracies representatives are elected according to closed-list PR, where individuals vote for a party and not an individual candidate. Even in political systems where politicians are elected according to plurality rule in uninominal districts (like, for example, the U.S.), some seats are often "safe" for a political party regardless of the identity of the candidate, and elections are uncontested. Also,

At the beginning of each period $t = 0, 1, ...,$ a generation of individuals is born and each individual privately observes his political skills. At the end of each period, for those individuals working in the market sector, ability m is revealed with probability θ. At the beginning of each period t the game can be either in a state where the political office is vacant (state 1), or in a state where an incumbent is in office (state 2). Let $z = \{1, 2\}$ denote the political state.

Consider first the situation where the game is in political state $z = 1$. The timing of the game is as follows:

1. All individuals with age $a = 1$ decide whether or not to apply to become a partisan politician.

2. If at least one individual applies, the party observes the political skills of a random draw from the pool of applicants and decides whether to nominate that individual for the political office or reject the selected applicant and forgo the opportunity of nominating somebody for the political office for that period.[25]

3. If the party nominates a politician, then he is either approved or not approved by the voters by majority rule.

4. If the partisan politician receives the voters' approval, he is then in office for that period, while all other individuals become employed in the market sector. If the politician does not receive the voters' approval (or the political party does not propose a nomination), then all other individuals with age $a = 1$ decide whether or not to run for the political office as independents. If at least one individual runs, a random draw then determines who will be in office for that period, while all other individuals become employed in the market sector.[26]

5. After all individuals are allocated to an occupation, the political skills of the politician in office become publicly observable. Payoffs are then realized and consumption takes place. The game then moves to the next period and the political state becomes $z = 2$.

several political offices are filled by appointment (e.g., state supreme court judges in sixteen U.S. states), where a party's nomination can either be confirmed or rejected by the voters. For a description of alternative electoral rules used in modern democracies see, e.g., Lijphart (1994). For an overview of the different rules for the appointment of judges in the U.S., see, e.g., Council of State Governments (2003).

[25] This assumption captures the idea that there may be frictions in the process through which a party selects a nominee for a public office. While a particular individual may be the ideal nominee for a particular position, such individual may not be immediately available. Although the assumption that the party only observes one random draw from the pool of applicants could be weakened, it is made here to simplify the analysis.

[26] Note that since political skills are private information, all individuals running as independents are *ex ante* identical from the point of view of the voters.

6. If nobody runs as independent, then the political office remains vacant for one period and everybody works in the market sector. The game then moves to the next period and the political state remains $z = 1$.

The timing of the game in political state $z = 2$ is as follows:

1. The voters decide by majority rule whether or not to confirm the incumbent politician for a second term in office, and the politician receives an offer of employment from the market sector at a competitive wage conditional on his political skills.

2. If the incumbent politician is confirmed by the voters, he then decides whether to remain in the political office or accept employment in the market sector.

3. If a confirmed politician chooses to remain in office for a second term, all other individuals work in the market sector. After all individuals are allocated to an occupation, payoffs are realized and consumption takes place. The game then moves to the next period and the political state becomes $z = 1$.

4. If a confirmed politician chooses to leave the political office and accept employment in the market sector, the game remains in the same period but moves to political state $z = 1$.

5. If the incumbent politician is not confirmed by the voters, he accepts employment in the market sector and all individuals with age $a = 1$ decide whether or not to run for the political office as independents. If the set of candidates running as independents is non empty, a random draw then determines who will be in office for that period, while all other individuals become employed in the market sector. After all individuals are allocated to an occupation, the political skills of the politician in office become publicly observable. Payoffs are then realized and consumption takes place. The game then moves to the next period and the political state remains $z = 2$.

6. If nobody runs as independent, then the political office remains vacant for a period and everybody works in the market sector. The game then moves to the next period and the political state becomes $z = 1$.

The extensive form of the game in political state $z = 1$ and $z = 2$ is summarized in Figure 1 and 2, respectively.[27]

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[27]In Section 5, we consider an alternative specification of the game where partisan and independent candidates compete in elections.

4 Results

The equilibrium concept is Markov Perfect Equilibrium. The players are the individuals and the party.[28] As indicated above, at the beginning of each period $t = 0, 1, ...,$ the game can be in one of two possible political states, $z \in \{1, 2\}$. We let X_z denote the vector of aggregate state variables that are relevant to the decisions of the players in political state z. Since within the same period the political state can change from $z = 2$ to $z = 1$, we use a compact notation and let $X_1 = X_2 = X \in \{\varnothing, (p^o, P^o)\}$, where $\varnothing$ denotes that the political office is vacant at the beginning of the period, while if a politician is in office at the beginning of the period, $p^o \in [0, 1]$ denotes his political skills and $P^o \in \{0, 1\}$ is an indicator equal to one if he is a partisan and zero if he is an independent.[29]

The vector of state variables that are relevant to the decisions of the party, x_z^P, differs from X_z only in political state $z = 1$, where the party also observes the political skills of an applicant, p^P. Hence, we let $x_1^P = (p^P, X)$ and $x_2^P = X$. For a generic individual i, the vector of state variables that are relevant to his decisions in political state z is $x_z^i = (a^i, p^i, X)$.[30] Here, a^i and p^i are the age and political skills of individual i, respectively. Note that the voting decisions of individuals also depend on their beliefs about the political skills of potential party's nominees. We let $\beta \in [0, 1]$ denote the beliefs of all voters about the political skills of a first-term party's nominee.

Consistent with the specification of the game above, we separately describe the players' strategies in each political state. Throughout, we follow convention and only specify a strategy when a particular decision is available to a player.

In political state $z = 1$, $\sigma_P^i(x_1^i) \in \{0, 1\}$ is the application strategy of an individual i with $a^i = 1$, where $\sigma_P^i(x_1^i) = 1$ denotes the decision to apply to become a partisan politician; $\sigma^P(x_1^P) \in \{0, 1\}$ is the party's nomination strategy, where $\sigma^P(x_1^P) = 1$ denotes the decision to nominate an applicant; $\sigma_V^i(x_1^i, \beta) \in \{1, 0\}$ is the voting strategy of an individual i with $a^i = 2$, where $\sigma_V^i(x_1^i, \beta) = 1$ denotes the decision to vote in favor of the party's nominee; and $\sigma_I^i(x_1^i) \in \{0, 1\}$ is the running strategy of an individual i with $a^i = 1$, where $\sigma_I^i(x_1^i) = 1$ denotes the decision to run for the political office as an independent.

In political state $z = 2$, $\widetilde{\sigma}_V^i(x_2^i) \in \{1, 0\}$ is the voting strategy of an individual i with $a^i = 2$, where $\widetilde{\sigma}_V^i(x_2^i) = 1$ denotes the decision to confirm the incumbent politician; $\widetilde{\sigma}_P^o(x_2^o) \in \{1, 0\}$ and $\widetilde{\sigma}_I^o(x_2^o) \in \{1, 0\}$ are the career strategies of incumbent politicians, where $\widetilde{\sigma}_P^o(x_2^o) = 1$ ($\widetilde{\sigma}_I^o(x_2^o) = 1$) denotes the decision of a partisan (independent) incumbent to remain in office; and $\widetilde{\sigma}_I^i(x_2^i) \in \{0, 1\}$ is the running strategy of an individual i with $a^i = 1$, where $\widetilde{\sigma}_I^i(x_2^i) = 1$

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[28]Note that the market sector is competitive and hence it is not a strategic player: given its information, the market sector always offers an individual a wage based on his expected market ability.

[29]Note that the experience of the incumbent politician e^o should also be part of X_2, but since individuals can enter in politics only in their first period of life, in $z = 2$ we have that $e^o = 2$ always.

[30]Note that the vector of state variables should also include an indicator for whether the market ability of an individual is revealed in the second period of employment in the market sector. However, since individuals can enter in politics only in their first period of life, this variable does not play any significant role in the equilibrium characterization and is therefore omitted.

denotes the decision to run for the political office as an independent.

To guarantee existence of an equilibrium, we require the function $f(p)$ and the parameters α, λ, θ, s and w to satisfy the following restrictions.

Assumption A1: $s \in [\underline{\alpha}w, \alpha w]$, *where* $\underline{\alpha} \equiv \alpha - \frac{\lambda}{2}((1-\theta)-(2-\theta)\phi)$; $\phi < \frac{1-\theta}{2-\theta}$; *and* $f(p)-(\pi(p)w-s) > 0$, *for* $p \in (1/2, 3/4)$.

Assumption A1 implies that partisan politicians with relatively high levels of political skills would generate positive rents for the party during a second term in office.[31] Also, we impose a weak monotonicity restriction on the out-of-equilibrium beliefs of voters: if the observed level of political skills of an incumbent partisan politician at time t is weakly larger than the voters believed possible at t, their belief about the expected level of political skills of a party's nominee at time $t+1$ cannot be smaller.[32] We can now state our main results.

Proposition 1: *Suppose Assumption A1 is satisfied and out-of-equilibrium beliefs are weakly monotone. Let*

$$p^* = \frac{2\alpha w + (2-\theta)\phi\lambda w - 2s}{2\lambda(1-\theta)w},$$

and

$$\widetilde{p} = \frac{1+p^*}{2}.$$

There exists a $\overline{\delta} < 1$ *such that, for all* $\delta > \overline{\delta}$, *the following set of strategies and beliefs characterizes the unique Markov Perfect Equilibrium of the game in pure strategies. When the political state is* $z = 1$:

$$\sigma_P^i(x_1^i) = \begin{cases} 1 & \text{if } p^i \geq \widetilde{p} \\ 0 & \text{otherwise} \end{cases}$$

$$\sigma^P(x_1^P) = \begin{cases} 1 & \text{if } p^P \geq \widetilde{p} \\ 0 & \text{otherwise} \end{cases}$$

$$\sigma_V^i(x_1^i, \beta) = \begin{cases} 1 & \text{if } \beta \geq \widetilde{p} \\ 0 & \text{otherwise} \end{cases}$$

$$\sigma_I^i(x_1^i) = \begin{cases} 1 & \text{if } p^i \geq p^* \\ 0 & \text{otherwise} \end{cases}$$

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[31] Note that, strict concavity of $f(p)$ implies that the equation $f(p) = \pi(p)w - s$ has at most two solutions in $[0,1]$. In particular, in the case where the equation has exactly two solutions, the last condition in A1 guarantees that the largest solution is greater than $3/4$, and the smallest solution is smaller than $1/2$. This condition is only sufficient for the existence of an equilibrium, and can be weakened considerably as discussed in the Appendix. The formulation of Assumption A1 considered here, however, greatly simplifies the specification of the restrictions on the parameters of the models that guarantee existence of the equilibrium.

[32] For a formal definition of weak monotonicity of beliefs in a different context see, e.g., Echenique and Edlin (2004).

When the political state is $z = 2$:

$$\widetilde{\sigma}^i_V\left(x^i_2\right) = \begin{cases} 1 & \text{if } p^o \geq \widetilde{p} \\ 0 & \text{otherwise} \end{cases}$$

$$\widetilde{\sigma}^o_P\left(x^o_2\right) = \begin{cases} 1 & \text{if } f\left(p^o\right) \geq w\pi\left(p^o\right) - s \\ 0 & \text{otherwise} \end{cases}$$

$$\widetilde{\sigma}^o_I\left(x^o_2\right) = \begin{cases} 1 & \text{if } f\left(p^o\right) \geq w\pi\left(p^o\right) - s \\ 0 & \text{otherwise} \end{cases}$$

$$\widetilde{\sigma}^i_I\left(x^i_2\right) = \begin{cases} 1 & \text{if } p^i \geq p^* \\ 0 & \text{otherwise.} \end{cases}$$

The proof of Proposition 1 is contained in the Appendix. In equilibrium, only individuals with political skills $p \in [\widetilde{p}, 1]$ apply to become partisan politicians, and the party always nominates an applicant for the political office. If given an opportunity, all individuals with political skills $p \geq p^*$ would run for office as independents. Partisan nominees are always approved by the voters to a first term in office and confirmed to a second term. Politicians may either serve two terms in office, or leave the political sector after one period to work in the market sector. In the next proposition, we provide sufficient conditions on the primitives of the model that fully characterize the equilibrium careers of politicians.

Proposition 2: *Suppose that Assumption A1 is satisfied, and consider the equilibrium described in Proposition 1.*
(i) If

$$f\left(1\right) < \lambda w,$$

then there exists a p'' that solves $f\left(p''\right) = \pi\left(p''\right)w - s$, $p'' \in (\widetilde{p}, 1)$, such that in equilibrium politicians with political skills $p \in [\widetilde{p}, p'']$ are career politicians (that is, they spend both periods in the political sector), while politicians with political skills $p \in (p'', 1]$ have political careers (that is, they spend their second period working in the market sector).
(ii) If, instead,

$$f\left(1\right) > \lambda w + \left(\alpha - \underline{\alpha}\right)w,$$

then in equilibrium all politicians are career politicians.
(iii) Finally, if

$$f\left(1\right) \in \left[\lambda w, \lambda w + \left(\alpha - \underline{\alpha}\right)w\right],$$

then there exists an $s^* = f\left(1\right) - \pi\left(1\right)w$, $s^* \in \left[\underline{\alpha}w, \alpha w\right]$, such that the equilibrium careers of politicians are as described in case (i) if $s < s^*$, or as in case (ii) if $s \geq s^*$.

The proof of Proposition 2 follows immediately from the proof of Proposition 1 and is therefore omitted. In the unique Markov Perfect Equilibrium of our model, either there are both career politicians and individuals with political careers, or all politicians are career

politicians, depending on parameter values. When there are both political careers and career politicians, individuals with relatively better political skills (i.e., $p \in (p'', 1]$) have political careers and career politicians are relatively worse (i.e., $p \in [\widetilde{p}, p'']$), although their political skills are better than average. An illustration of the equilibrium in the two possible situations is depicted in Figures 3 and 4, where CP denotes career politicians and PC political careers.

A few remarks about the interpretation of the equilibrium are in order. In our model, the cost for an individual of becoming a politician is equal to the difference between the first-period market wage that is forgone by not working in the market sector and the political salary, $(\alpha + \phi\lambda/2)\, w - s$. Since politics is a "showcase" (where individuals can reveal their political skills and hence, indirectly, their market ability), the return to becoming a politician is equal to the (possibly) higher earnings in the second period after political skills are revealed (regardless of whether the higher earnings are realized by staying in politics or working in the market sector), $(\alpha + \lambda p)\, w - ((1 - \theta)(\alpha + \phi\lambda/2) + \theta(\alpha + \lambda p))\, w$. While the cost does not depend on an individual's political skills, the return is increasing in his political skills. Hence, for individuals with relatively low political skills (i.e., $p < p^*$), the cost of becoming a politician is higher than the return, so that they prefer to work in the market sector. On the other hand, individuals with higher political skills would find it worthwhile to become politicians.

Since p^* represents the lower bound on the political skills of individuals who would want to become politicians, it pins down the "outside option" available to the voters if they choose not to approve a partisan nominee and appoint an independent politician instead. In particular, it implies that the voters never confirm an incumbent with political skills below $(1 + p^*)/2$. Since politicians are valuable to the party only if they are approved and confirmed by the voters, it follows that the party is only willing to nominate individuals with political skills greater than or equal to $\widetilde{p} = (1 + p^*)/2$.

When both career politicians and political careers occur in equilibrium, partisan nominees with political skills between $\widetilde{p}$ and p'' are valuable to the party because in their second term in office they generate rents for the party. If their political skills are above p'', they are valuable because they allow the party to maintain control of the political office in spite of the fact that they do not generate any rents for the party. Hence, individuals with relatively high political skills use the party to reveal them and obtain high market wages. At the same time, the party is willing to nominate them since they enhance the party's reputation with the voters. On the one hand, voters want politicians with political skills as high as possible. On the other hand, the party wants politicians who generate positive rents for the party. In equilibrium, the party performs a valuable service to the voters by preventing politicians with relatively low political skills from getting in office (although they would still generate rents for the political party if confirmed to a second term),[33] and by supporting the nomination of politicians with relatively high political skills (although they do not generate

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[33]Note that politicians with political skills $p \in [p^*, \widetilde{p})$ would receive the voters' approval and hence serve one term in office if the party were to nominate them.

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any rents for the party).[34] In exchange, the voters confirm partisan politicians with mediocre political skills who generate positive rents for the party (that is, politicians with political skills $p \in [\widetilde{p}, p'')$).

Turning attention to the equilibrium comparative statics, we assess the effects of the parameters of the model on the average skills of politicians and their careers. Let

$$\widehat{p} = \frac{1 + \widetilde{p}}{2}$$

denote the equilibrium average skills of first-term politicians. Also, for the case where both career politicians and political careers occur in equilibrium, let

$$\widehat{p}_{PC} = \frac{1 + p''}{2} \quad \text{and} \quad \widehat{p}_{CP} = \frac{\widetilde{p} + p''}{2}$$

denote the average skills of individuals with political careers and of career politicians, respectively,[35] and

$$\tau = \frac{1 - p''}{1 - \widetilde{p}}$$

denote the fraction of politicians who leave the political sector after one period in office, which measures turnover in the political sector. Proposition 3 summarizes our results.

Proposition 3: *In the equilibrium described in Proposition 1, we have that*

$$\frac{\partial \widehat{p}}{\partial \lambda} < 0, \ \frac{\partial \widehat{p}}{\partial \theta} > 0, \ \frac{\partial \widehat{p}}{\partial \alpha} > 0, \ \frac{\partial \widehat{p}}{\partial \phi} > 0, \ \frac{\partial \widehat{p}}{\partial w} > 0, \ \frac{\partial \widehat{p}}{\partial s} < 0.$$

Furthermore, if in equilibrium there are both career politicians and individuals with political careers, then

$$\frac{\partial \widehat{p}_{PC}}{\partial \lambda} < 0, \ \frac{\partial \widehat{p}_{PC}}{\partial \theta} = 0, \ \frac{\partial \widehat{p}_{PC}}{\partial \alpha} < 0, \frac{\partial \widehat{p}_{PC}}{\partial \phi} = 0, \ \frac{\partial \widehat{p}_{PC}}{\partial w} < 0, \ \frac{\partial \widehat{p}_{PC}}{\partial s} > 0,$$

and

$$\frac{\partial \widehat{p}_{CP}}{\partial \lambda} < 0, \ \frac{\partial \widehat{p}_{CP}}{\partial \theta} > 0, \ \frac{\partial \widehat{p}_{CP}}{\partial \alpha} \lesseqgtr 0, \ \frac{\partial \widehat{p}_{CP}}{\partial \phi} > 0, \ \frac{\partial \widehat{p}_{CP}}{\partial w} \lesseqgtr 0, \ \frac{\partial \widehat{p}_{CP}}{\partial s} \lesseqgtr 0,$$

where there exist θ_s^* and θ_w^*, $1/2 < \theta_s^* < \theta_w^* < 1$, such that if $\theta \leq \theta_s^*$

$$\frac{\partial \widehat{p}_{CP}}{\partial s} \geq 0 \text{ and } \frac{\partial \widehat{p}_{CP}}{\partial w} < 0,$$

if $\theta \in (\theta_s^*, \theta_w^*)$

$$\frac{\partial \widehat{p}_{CP}}{\partial s} < 0 \text{ and } \frac{\partial \widehat{p}_{CP}}{\partial w} < 0,$$

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[34]These are all the politicians with political skills $p \in (p'', 1]$, who only serve one term in office.

[35]In the case where in equilibrium all politicians are career politicians, $\widehat{p}_{CP} = \widehat{p}$.

and if $\theta \geq \theta_w^*$

$$\frac{\partial \widehat{p}_{CP}}{\partial s} < 0 \ and \ \frac{\partial \widehat{p}_{CP}}{\partial w} \geq 0.$$

Also,

$$\frac{\partial \tau}{\partial \lambda} \lesseqgtr 0, \ \frac{\partial \tau}{\partial \theta} > 0, \ \frac{\partial \tau}{\partial \alpha} > 0, \ \frac{\partial \tau}{\partial \phi} > 0, \ \frac{\partial \tau}{\partial w} > 0, \ \frac{\partial \tau}{\partial s} < 0,$$

and a uniform upward shift of $f(p)$ increases both $\widehat{p}_{PC}$ and $\widehat{p}_{CP}$, decreases τ, and does not affect $\widehat{p}$.

The proof of Proposition 3 is contained in the Appendix. Proposition 3 indicates that the average political skills of individuals who become politicians $\widehat{p}$, increases with the transparency of the market sector θ, the fraction of individuals with high market ability in the general population α, the fraction of individuals with political skills ϕ, and the market wage rate associated with high ability w, while it decreases with the correlation between political skills and market ability λ, and with the political salary s.

The intuition for these results follows immediately from our earlier discussion about the interpretation of the equilibrium following Proposition 2. An increase in θ, α, ϕ, or w, or a decrease in λ or s, reduces the return to becoming a politician relative to the cost for all levels of political skills, thus increasing p^* and hence $\widetilde{p}$ and $\widehat{p}$. An increase in ϕ, for example, corresponds to a situation were political talent becomes relatively less scarce in the population, thus lowering the relative returns to political skills and hence increasing the average quality of politicians. Similarly, an increase in s (or a decrease in w), makes politics a more attractive option relative to employment in the market sector for all levels of political skills, thus lowering the average quality of politicians. Also, an increase in θ lowers the relative value of politics as a showcase, thus increasing the minimum level of political skills that make individuals willing to enter the political sector.

In environments where in equilibrium all politicians are career politicians, the comparative statics for $\widehat{p}$ also apply to incumbent politicians in their second term in office. Hence, to analyze the comparative statics with respect to the equilibrium careers of politicians, consider the case where in equilibrium there are both career politicians and individuals with political careers. In these environments, it follows from Proposition 3 that the average political skills of individuals who become politicians for one period, but then leave politics in the second period to work in the market sector, $\widehat{p}_{PC}$, increases with the political salary s, decreases with the correlation between political skills and market ability λ, the fraction of individuals with high market ability in the general population α, and the market wage rate associated with high ability w, and is not affected by the transparency of the market sector θ, or the fraction of individuals with political skills ϕ. Moreover, the average political skills of politicians who remain in office for two periods $\widehat{p}_{CP}$, increases with θ and ϕ, decreases with λ, and may either increase or decrease with α, s, and w. When the transparency of the market sector is relatively low (i.e., $\theta \leq \theta_s^*$), $\widehat{p}_{CP}$ increases with s and decreases with w; when it is relatively high (i.e., $\theta \geq \theta_w^*$), $\widehat{p}_{CP}$ decreases with s and increases with w; and for intermediate values, $\widehat{p}_{CP}$ decreases with both s and w. Finally, turnover in office τ,

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increases with the transparency of the market sector, the fraction of individuals with high market ability in the general population, the fraction of individuals with political skills, and the market wage rate associated with high ability, while it decreases with the correlation between political skills and market ability, and with the political salary.

In our model, the possibility of political careers is generated by the fact that, after serving for one period in the political office, individuals with relatively high political skills may work in the market sector in the second period at a wage that exceeds the total compensation they can receive by remaining in the political sector (which is equal to the political salary plus a transfer from the party). An increase in α, λ, or w, or a decrease in s, increases the second-period market wage relative to the political salary for all levels of political skills, thus making it more difficult for the party to retain politicians with relatively high political skills. This induces a decrease in the highest level of political skills of the politicians the party can afford to retain in the second period p'', and hence a decrease in the average quality of individuals with political careers $\widehat{p}_{PC}$. A downward shift in $f(\cdot)$ also produces a similar effect, while a change in either θ or ϕ does not affect $\widehat{p}_{PC}$, since it does not affect the second-period market prospects of politicians.

Equilibrium comparative statics for the average quality of career politicians $\widehat{p}_{CP}$, and turnover in the political sector τ, depend on the combined effects of the parameters of the model on the relative second-period earnings of politicians in the market and political sectors as well as on the average quality of the individuals who become politicians. An increase in α, for example, corresponds to a situation where market ability becomes relatively more abundant in the general population, thus lowering the relative returns to political skills and hence increasing the average quality of individuals who become politicians. At the same time, a higher α leads to an increase in the second-period market prospects of politicians relative to their earning potentials in the political sector, thus lowering the upper bound on the political skills of politicians who are willing to remain in the political sector in the second period. The overall effect is an increase in political turnover, and either an increase or a decrease in the average quality of career politicians.

Another interesting result that emerges from Proposition 3 concerns the relationship between the transparency of the market sector and the comparative statics for the average quality of career politicians with respect to s and w. An increase in the political salary s, for example, decreases the cost for an individual of becoming a politician while leaving the return unchanged, thus decreasing the political skills of the worst politician, $\widetilde{p}$. At the same time, a higher s makes it affordable for the party to retain politicians with relatively high skills in the second period, thus increasing the political skills of the best career politician, p'', and decreasing turnover in office. The overall effect of s on the average quality of career politicians depends on the relative magnitude of these two opposing effects. If the transparency of the market sector is low (i.e., θ is relatively small), the second effect dominates and hence $\widehat{p}_{CP}$ increases. If, on the other hand, the transparency of the market sector is high (i.e., θ is relatively large), the first effect dominates and hence $\widehat{p}_{CP}$ decreases. The reason for the

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results is that the return to an individual of becoming a politician is decreasing in θ. In other words, the more likely it is that employment in the market sector directly reveals market ability, the lower the "signalling" value of politics. Hence, when θ is small, the entry effect of an increase in s induced by an increase in the first-period payoff of a politician is weaker than the retention effect in the second period, while the opposite is true when θ is large. A decrease in the market wage rate w generates similar results.

5   Extensions

In the model described in Section 3, political experience has only an indirect effect on market wages induced by the positive correlation between political skills and market ability. It is, however, reasonable to think that political experience may also be directly productive in the market sector, for example because of the connections politicians establish during their tenure in office. These connections (and more generally a direct knowledge of the political system or "political human capital"), may be valuable to potential employers, like for example lobbying firms. This situation can be easily incorporated into our model by assuming that if a politician works in the market sector in his second period of life, he would receive a "wage premium" q over and above what he would get based on his expected market ability, $\pi(p)w$.[36]

Introducing this additional feature into our model makes it relatively more desirable for individuals to enter the political sector, and relatively more likely for politicians to end up working in the market sector, while leaving all the previous results unchanged. In particular, there exists a $p^{**} < p^*$ such that in equilibrium, only individuals with political skills $p \geq (1 + p^{**})/2$ apply to become partisan politicians, and the party always nominates an applicant for the political office. If given an opportunity, all individuals with political skills $p \geq p^{**}$ would run for office as independents. Partisan nominees are always approved by the voters to a first term in office and confirmed to a second term, and may either serve two terms in office, or leave the political sector after one period to work in the market sector. In the case where political careers occur in equilibrium, there exists a $p''' < p''$ such that all politicians with skills above p''' leave politics in the second period to work in the market sector.[37] As political experience becomes more valuable in the market sector (i.e., q increases), the average quality of all politicians decreases (regardless of whether they are career politicians or have political careers).[38]

In addition to receiving a salary while in office, individuals may also derive non-pecuniary benefits from becoming politicians. These benefits may include, for example, the perks from

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[36]Alternative specifications could also be accommodated in our framework, like for example allowing the wage premium to be a function of the political skills.

[37]Note that the region of the parameter space where in equilibrium there are both career politicians and political careers is larger than in the previous case (where $q = 0$). Hence, political careers are relatively more likely.

[38]The proofs of these results entail simple extensions of the proofs of Propositions 1-3 and are therefore omitted. Also, the intuition follows closely from the arguments presented in Section 4.

holding office, the desire for political accomplishments, or ego rents.[39] Our model can easily be extended to incorporate this additional feature by letting $\widetilde{s} = s + v$ denote the total per-period benefits from office, where v represents the monetary value of the non-pecuniary benefits. Obviously, the presence of additional benefits from office makes it relatively more desirable for individuals to enter and remain in the political sector. Also, all the comparative statics results with respect to s derived in Section 4 directly apply to v as well.

In the extensive form of the game described in Section 3, we assume that individuals can run as independents after either the political party does not propose a nomination when the political office is vacant, the voters do not approve a partisan nominee, or an incumbent politician fails to be confirmed by the voters to a second term in office. Also, we assume that an incumbent politician decides whether to remain in politics after he has been confirmed by the voters. We now consider an alternative extensive form with elections, where both these assumptions are relaxed.

In political state $z = 1$ the timing of the game is as follows:

1. All individuals with age $a = 1$ decide whether or not to apply to become a partisan politician.

2. If at least one individual applies, the party observes the political skills of a random draw from the pool of applicants and decides whether to nominate that individual for the political office or reject the selected applicant and forgo the opportunity of nominating somebody for the political office for that period.

3. All remaining individuals with age $a = 1$ decide whether or not to run for the political office as independents. If at least one independent chooses to run, a random draw determines the individual who stands for election (either as an independent challenger against a partisan nominee, or as the only candidate if there is no partisan nominee).

4. Given the set of candidates, voters decide by majority rule whom to elect to the political office.

5. The elected politician is then in office for that period, while all other individuals become employed in the market sector. After all individuals are allocated to an occupation, the political skills of the politician in office become publicly observable. Payoffs are then realized and consumption takes place. The game then moves to the next period and the political state becomes $z = 2$.

6. If the party does not nominate a candidate and nobody runs as independent, the political office remains vacant for one period and everybody works in the market sector. The game then moves to the next period and the political state remains $z = 1$.

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[39]Diermeier Keane and Merlo (2005), for example, estimate that the non-pecuniary rewards from being in the U.S. Congress are substantial.

The timing of the game in political state $z = 2$ is as follows:

1. The incumbent politician receives an offer of employment from the market sector at a competitive wage conditional on his political skills, and decides whether to run for a second term in office or accept employment in the market sector.

2. If the incumbent politician chooses to leave the political office and accept employment in the market sector, the game remains in the same period but moves to political state $z = 1$.

3. If the incumbent politician chooses to rerun, all individuals with age $a = 1$ decide whether or not to run for the political office as independents. If at least one individual chooses to run, a random draw determines the independent challenger who stands for election against the partisan incumbent.

4. Given the set of candidates, voters decide by majority rule whether to confirm the incumbent politician or replace him with the independent challenger.

5. After a politician is elected, all other individuals work in the market sector. After all individuals are allocated to an occupation, payoffs are realized and consumption takes place. If an incumbent politician is confirmed to a second term in office, then in the next period the political state becomes $z = 1$. If, on the other hand, an independent challenger is elected, then his political skills become publicly observable and in the next period the game remains in political state $z = 2$.

The alternative extensive form of the game in political state $z = 1$ and $z = 2$ is summarized in Figure 5 and 6, respectively.

The equilibrium outcome described in Section 4 is also an equilibrium outcome under the alternative extensive form if we impose the following additional restriction on the out-of-equilibrium beliefs of voters: if the observed level of political skills of an incumbent partisan politician at time t is smaller than the voters believed possible at t, their belief about the expected level of political skills of a party's nominee at time $t + 1$ cannot be larger than the average in the population. Other equilibria, however, are also possible. The proof is contained in the Appendix.

6   Concluding Remarks

In this paper, we have proposed a dynamic equilibrium model of the careers of politicians in a political economy with a market sector and a political sector, where individuals are heterogeneous with respect to their market ability as well as their political skills. Our analysis has provided an explanation for the existence of career politicians and political careers. Furthermore, we have analyzed the effects of a variety of features of the political-economic environment on the relative occurrence of these two career paths that are prevalent among politicians in modern democracies. For example, we have shown that an increase in

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the salary a politician receives while in office decreases the average quality of individuals who become politicians, decreases turnover in office, and may either decrease or increase the average quality of career politicians. Conversely, an increase in the market wage rate increases the average quality of individuals who become politicians, increases turnover in office, and may either increase or decrease the average quality of career politicians. Moreover, the more transparent the market sector, the higher the turnover in the political sector, and the higher the average quality of all politicians.

Although our model abstracts from many features that characterize actual democratic institutions, it is a rather rich framework that captures some important aspects of the careers of politicians in modern democracies, and generates sharp implications. It may therefore offer important insights for analyzing data on the career paths of politicians, and interpreting differences in the types and durations of careers that are observed across countries and through time. For example, political careers are relatively more prevalent in the U.S. than in several Western European countries (e.g., France, Italy, and the U.K.). Our results suggest that differences in the labor market, the relative compensation of politicians, or the size of the lobbying sector in these countries may contribute to explain this observation.

In our analysis, we have considered a very simple and stylized specification of the political sector. In particular, we have restricted attention to the case where there is one political office and one party, and have focused on the incentives faced by politicians when making their career decisions, in an environment where the party and the voters strategically interact to select politicians. While our analysis can trivially be extended to an environment with multiple political offices and multiple parties, generated by "independent replications" of the basic framework, more interesting extensions entail situations where there are many political offices that are interrelated, and/or there is competition among several parties for obtaining control of the various political offices. These extensions, however, are beyond the scope of the current paper, and represent interesting directions for future research.

Consider, for example, a situation where there are several positions that are simultaneously available in a political office (e.g., parliamentary seats). In this situation, even abstracting from the issue of electoral competition, the problem faced by a party, that (possibly) has to nominate a different politician for each position, is substantially more complex, since the party's payoff (as well as the payoff of the voters), may depend on the overall composition of the political office. Alternatively, the coexistence of many different political offices that vary with respect to the attention they receive from the media and/or the public, significantly complicates the career decisions of politicians, and may have important consequences on the sorting of politicians across political offices.

Similarly, interesting extensions that pertain to the issue of competition among parties for predominance in the political sector, require important modifications of the basic framework considered in this paper. For example, a generalization of our model that incorporates ideological differences and policy considerations could be used to investigate potential differences in the career paths of politicians of different parties.

Appendix

PROOF OF PROPOSITION 1: Since the market sector is competitive, it pays each individual according to his expected market ability. For an individual with political skills p his expected lifetime earnings if he chooses to work in the market sector are

$$\left(\left(\alpha + \frac{\phi\lambda}{2}\right) + (1-\theta)\left(\alpha + \frac{\phi\lambda}{2}\right) + \theta\left(\alpha + \lambda p\right)\right) w = \left(2\alpha + (2-\theta)\frac{\phi\lambda}{2} + \theta\lambda p\right) w,$$

while his expected lifetime earnings if he is nominated by the party and approved by the voters (regardless of whether or not he then remains a politician), are $s + (\alpha + \lambda p) w$. Hence, the individual would like to be nominated by the party (as long as he is approved by the voters) if and only if

$$\left(2\alpha + (2-\theta)\frac{\phi\lambda}{2} + \theta\lambda p\right) w \le s + (\alpha + \lambda p) w,$$

that is,

$$p \ge \frac{2\alpha w + (2-\theta)\phi\lambda w - 2s}{2\lambda(1-\theta)w} = p^*,$$

where we are implicitly assuming that if an individual is indifferent, he prefers to be a politician. Note that Assumption A1 implies that

$$p^* \in \left(\frac{(2-\theta)\phi}{2(1-\theta)}, \frac{1}{2}\right).$$

Assumption A1 also implies that the equation

$$f(p) = \pi(p)w - s \tag{3}$$

has at most two solutions in $[0,1]$. Let p' and p'' be the smallest and largest solution, respectively, if they exist. Note that p' and p'' are the lowest and highest levels of political skills such that an incumbent politician would find it optimal to serve for a second term, respectively. If either solution of equation (3) does not exist, $p' = 0$ and/or $p'' > 1$.

Consider the situation where the game is in political state $z = 2$. First, we show that if the incumbent is not confirmed, $\widetilde{\sigma}_I^i(x_2^i) = 1$ is optimal if and only if $p^i \ge p^*$. Assumption A1 implies that it is always true that $p^* > p'$. To see this, note that p^* is linearly decreasing is s. Also, since

$$\frac{\partial p'}{\partial s} = -\frac{1}{f'(p') - \lambda w},$$

p' is decreasing and convex in s. Finally, when $s = \alpha w$, $p^* = (2-\theta)\phi/2(1-\theta) > 0 = p'$, and when $s = \underline{\alpha}w$, $p^* = 1/2 > p'$. This implies that all individuals with political skills $p \in [p', p^*)$ would like to run as independents only if they would then be confirmed by the voters to a second term in office. But, if an individual with political skills p' were to serve in office for one period, he would not be confirmed by the voters. In fact, this is true for all

individuals with political skills $p < (1 + p')/2$. Therefore, the only individuals who would be willing to run as independents are those with political skills $p \in [p^*, 1]$, who would do so in order to reveal their political skills, regardless of whether or not they could serve in office for two terms. Hence, as long as the probability of being appointed when running as independent is not identically equal to zero, if given the opportunity, all individuals with political skills $p^i \geq p^*$ would choose to run as independents. Note that individuals with political skills $p^i \geq \widetilde{p}$ would also be confirmed for a second term and they would enjoy a second-term payoff of $s + f(p^o)$. On the other hand, individuals for which $p^i \in [p^*, \widetilde{p})$ would not be confirmed, but the possibility of revealing their political skills is enough of an incentive for them to run as independents.

Recall that the number of individuals in each generation is large, but finite. Hence, given the pool of individuals who choose to apply to become partisan politicians or run as independents, the probability that each individual is selected is always positive (although potentially very small). For example, if the number of individuals in each generation is equal to $N = N_1 + N_2$, where N_1 individuals have political skills equal to zero, N_2 individuals have political skills j/N_2, $j = \{1, ..., N_2\}$, and $N_2/(N_1 + N_2) \equiv \phi$, the probability of being selected is strictly positive and decreases with N_2.

The optimality of $\widetilde{\sigma}_P^o(x_2^o)$ and $\widetilde{\sigma}_I^o(x_2^o)$ follows immediately from the observation that the payoff of a confirmed politician who serves for a second term is equal to $s + r^P$, where $r^P = \min\{w\pi(p^o) - s, f(p^o)\}$, if the politician is a partisan, and $s + f(p^o)$ if he is an independent, and a confirmed politician will only choose to remain in office if his payoff from remaining in office is greater than or equal to the wage he could earn in the market sector.

Next, consider the voting strategy $\widetilde{\sigma}_V^i(x_2^i)$. Since on the equilibrium path, the expected political skills of an independent are equal to $\widetilde{p}$, and the equilibrium strategies $\widetilde{\sigma}^P(x_2^P)$ and $\widetilde{\sigma}_P^o(x_2^o)$ imply that any politician with political skills $p^o \in [p^*, p'']$ if $p'' < 1$ (or $p^o \in [p^*, 1]$ if $p'' \geq 1$), if confirmed, would remain in politics for a second term, it is clearly optimal for a voter to confirm an incumbent politician if and only if $p^o \geq \widetilde{p}$.

Consider now the situation where the game is in political state $z = 1$. First, note that if the party does not nominate an individual for the political office, or the voters choose not to approve the party's nominee, $\sigma_I^i(x_1^i) = 1$ is optimal if and only if $p^i \geq p^*$.

The optimality of $\sigma_V^i(x_1^i, \beta)$ follows from the fact that it is never optimal to approve a party's nominee if $\beta < \widetilde{p}$, since the voters can always guarantee themselves an independent politician with expected political skills equal to $\widetilde{p}$. Note that, in the statement of Proposition 1, we did not specify the voters' out-of-equilibrium beliefs when an independent is in office. For completeness, we consider here the two possible cases where, after seeing an independent in office, the voters either approve a party's nominee or do not approve him. Consider first the case where out-of-equilibrium beliefs are such that the voters will approve a party's nominee after an independent was in office.

Regarding the optimality of $\sigma^P(x_1^P)$, we need to show that $\sigma^P(x_1^P) = 1$ is optimal if and only if $p^P \geq \widetilde{p}$. Let V^P be the party's expected equilibrium continuation payoff in

the subgame starting with a first-term partisan politician in office, and V^I be the party's expected continuation payoff in the subgame starting with a first-term independent politician in office. If $p'' < 1$, we have that

$$V^I = \delta \left(\frac{1-p''}{1-p^*}V^P + \frac{p''-\widetilde{p}}{1-p^*}\delta V^P + \frac{\widetilde{p}-p^*}{1-p^*}V^I \right),$$

or equivalently,

$$V^I = \delta \left(\frac{1-p'' + \delta\left(p''-\widetilde{p}\right)}{1-p^* - \delta\left(\widetilde{p}-p^*\right)} \right) V^P < \delta V^P.$$

This expression follows from observing that after an independent is in office, the party has a chance of proposing a new nominee in the next period only if the independent leaves office voluntarily (an even which occurs with probability $(1-p'')/(1-p^*)$), or in the period after that if the independent politician serves for two terms (which happens with probability $(p'' - \widetilde{p})/(1 - p^*)$).

Recall that no individual with political skills $p < p^*$ would want to become a politician. Next, note that if the applicant's political skills are $p^P \in [p^*, \widetilde{p})$, if the party deviates from the candidate equilibrium strategy and chooses to nominate him, the party's payoff is equal to δV^I. This follows from the fact that the partisan nominee would be approved and hence serve a first term in office (which generates a payoff equal to $y^P\left(p^P, 1\right) = 0$). The partisan incumbent, however, would not be confirmed for a second term, thus leading to the appointment of an independent. If, on the other hand, the party chooses not to nominate the applicant, its payoff is equal to $V^I > \delta V^I$.

Suppose now that the applicant's political skills are $p^P \in [\widetilde{p}, p'']$. If the party deviates from the candidate equilibrium strategy and chooses not to nominate him, the party's payoff is equal to V^I. If, on the other hand, the party chooses to nominate the applicant, he would serve two terms in office, and the party's payoff is equal to $\delta\left(y^P\left(p^P, 2\right) - \left(w\pi\left(p^P\right) - s\right)\right) + \delta^2 V^P$. Note that there always exists a $\overline{\delta} < 1$ such that for all $\delta > \overline{\delta}$, we have that $\delta\left(y^P\left(p^P, 2\right) - \left(w\pi\left(p^P\right) - s\right)\right) + \delta^2 V^P > V^I$. In particular, when $p^P = p''$, we have that $\delta^2 V^P > V^I$ for $\delta > 2\left(1 - p''\right)/\left(1 - p^*\right)$, and Assumption A1 implies $2\left(1 - p''\right)/\left(1 - p^*\right) < 1$.

Finally, consider the case where the applicant's political skills are $p^P \in (p'', 1]$. If the party deviates from the candidate equilibrium strategy and chooses not to nominate him, the party's payoff is equal to V^I. If, on the other hand, the party chooses to nominate the applicant, he would serve for one term and then voluntarily leave office to work in the market sector, and the party's payoff is equal to $\delta V^P > V^I$.

If $p'' \geq 1$, we have that

$$V^I = \delta \left(\frac{\delta\left(1-\widetilde{p}\right)}{1-p^* - \delta\left(\widetilde{p}-p^*\right)} \right) V^P < \delta V^P,$$

and the argument is the same as the one above, except that the strategies described in Proposition 1 represent an equilibrium for any $\delta \in (0,1)$.

Since all individuals with political skills $p^i \geq p^*$ would want to be nominated by the party and approved by the voter, only individuals with $p^i \geq \widetilde{p}$ will find it optimal to apply. In particular, individuals with political skills $p^i \in [p^*, \widetilde{p})$ will not apply. Note that in the specification of the game, if an individual is selected by the party but is not nominated for the political office, he cannot run as an independent. This assumption rules out the perverse situation where an individual who would never be nominated by the party would still apply, with the only intent of "sabotaging" the party's chance of nominating a candidate for the political office, and hence increasing his probability of being selected as an independent politician.

Consider now the case where the voters' out-of-equilibrium beliefs are such that they will not approve a party's nominee after an independent was in office. In this case, $V^I = 0$ while $V^P > 0$, and the only difference with the analysis above is that the party, if faced with an applicant with political skills $p^P \in [p^*, \widetilde{p})$, is now indifferent between following the equilibrium strategy of rejecting the applicant and deviating from it. Therefore, in order to preserve the equilibrium, we simply need that the party, when indifferent, chooses not to nominate an applicant. In this case, the strategies described in Proposition 1 represent an equilibrium for any $\delta \in (0,1)$.

We conclude the proof by showing that the equilibrium is unique within the class of Markov Perfect Equilibria. First, we show that $\rho = \widetilde{p}$, where ρ denotes the lowest political skills of an applicant the party is willing to nominate in any Markov equilibrium. To see this, note that the voters cannot induce the party to be more selective in its choice of nominees, that is it cannot be that $\rho > \widetilde{p}$. This follows from the fact that the voters will always confirm an incumbent with political skills $p^o \geq \widetilde{p}$ and therefore the party will always select an individual with political skills equal to $\widetilde{p}$. Next, note that it can never be an equilibrium for the party to nominate an individual with political skills $p^P < \widetilde{p}$. This follows from the fact that the voters will never confirm an incumbent with political skills $p^o < \widetilde{p}$, and instead they will replace him with an independent. The party will therefore be better off by not nominating the politician and having an independent in office one period earlier.

Second, we show that when $p'' < 1$, any Markov equilibrium such that the nomination strategy of the party is such that the party does not nominate individuals whose political skills are above some level $p''' \in (p'', 1]$ can only be supported by voters' out-of-equilibrium beliefs that are not weakly monotone. Indeed, the only way we can construct an equilibrium where the party nominates individuals with political skills between $\widetilde{p}$ and some $p''' \in (p'', 1]$, is that the voters (out of equilibrium) optimally choose not to confirm any incumbent politician with political skills $p^o > p'''$. This can only happen if voters believe that, after having observed a partisan politician with political skills $p^o > p'''$, the average political ability of a party's nominee is smaller than $\widetilde{p}$. Such out-of-equilibrium beliefs are clearly not weakly monotone.

Finally, the concavity of $f(p)$ implies that the equilibrium set of political skills of individuals the party is willing to nominate for the political office must be an interval. QED

DISCUSSION OF ASSUMPTION A1: Existence of the equilibrium characterized in Proposition 1 requires that $0 \leq p' \leq p^* < \widetilde{p} < \min\{p'', 1\}$. The restrictions on the function $f(p)$ and the parameters α, λ, θ, s and w specified in Assumption A1 guarantee that this is the case. These conditions, however, are only sufficient for the existence of the equilibrium and can be weakened, although at the cost of making the notation more cumbersome and the derivation of the equilibrium more convoluted. We now illustrate this point.

An alternative set of conditions for existence is given in Assumption A2.

Assumption A2:

$$\exists\, p^{**} \in (0, 1) \ \ such\ that\ \ f'(p^{**}) = \lambda w,$$

$$s \in [\underline{\alpha}w, \alpha w], \ \ where\ \underline{\alpha} \equiv \alpha - \min\left\{\frac{x}{w}, \frac{\lambda}{2}\left(2(1-\theta) - (2-\theta)\phi\right)\right\} \ \ and\ x \equiv f(p^{**}) - \lambda p^{**}w,$$

$$\frac{(2-\theta)\phi}{2(1-\theta)} \in (0, 1).$$

Note that $f(0) \geq 0$ implies that $x/w < \alpha$. Assumption A2 implies that

$$\pi(p)w - s \geq 0$$

for all $p \in [0, 1]$. It also implies that $p^* < 1$, and this in turn implies that $p^* < \widetilde{p} < 1$ since $\widetilde{p} \equiv (1 + p^*)/2$. Note that $(2-\theta)\phi/(2(1-\theta)) \in (0, 1)$ is needed for $\underline{\alpha} < \alpha$. Finally, Assumption A2 implies that the inequality

$$f(p) > \pi(p)w - s$$

is true for some $p \in (0, 1)$.

First consider the case where

$$\underline{\alpha} = \alpha - \frac{\lambda}{2}\left(2(1-\theta) - (2-\theta)\phi\right).$$

In this case, we have that $s = \alpha w$ implies that $p' = 0 < (2-\theta)\phi/(2(1-\theta)) = p^* < \widetilde{p} < 1$. Also, when $s = \underline{\alpha}w$, we have that $p' < p^{**} < p^* < \widetilde{p} < 1$. Since p^* is linearly decreasing in s, and p' is decreasing and convex in s, it follows that it is always true that $0 \leq p' < p^* < \widetilde{p} < 1$.

If

$$f(1) > (\lambda + (\alpha - \underline{\alpha}))w, \tag{4}$$

it follows that it is not possible to find a χ such that

$$f(\chi) = \pi(\chi)w - s,$$

and

$$f'(\chi) < \lambda w.$$

That is, $p'' > 1$, and in equilibrium all politicians are career politicians.

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If, instead,
$$f(1) \in [\lambda w, (\lambda + (\alpha - \underline{\alpha})) w], \tag{5}$$
there exists an $s^* \in (\underline{\alpha}w, \alpha w)$ such that an equilibrium exists if and only if $s > s^*$. To see this, notice that when $s = \alpha w$ we have that $p'' \geq 1$, and $p' = 0 < (2 - \theta) \phi / (2(1 - \theta)) = p^* < \widetilde{p} < 1$. Also, when $s = \underline{\alpha}w$, condition (5) implies that $p'' \leq 1$, but also that $\widetilde{p} \geq p''$. Since $\widetilde{p}$ is decreasing in s, and p'' is increasing in s, there exists an $s^* \in (\underline{\alpha}w, \alpha w)$ such that $\widetilde{p}$ is equal to p'' if they are both evaluated at s^*. Moreover, if it also follows that there exists an $s^{**} \in [s^*, \alpha w)$ such that in equilibrium we have both career politicians and political careers if and only if $s \in (s^*, s^{**})$, and only career politicians if and only if $s \in [s^{**}, \alpha w]$.

Finally, if
$$f(1) < \lambda w, \tag{6}$$
an equilibrium exists only if p'' evaluated at $s = \alpha w$ is strictly bigger than $\widetilde{p}$ evaluated at $s = \alpha w$, which is equal to
$$\frac{(2 - \theta) \phi + 2(1 - \theta)}{4(1 - \theta)}.$$
In this case, an argument similar to the one above applies, and an equilibrium exists only for values of s that are above some threshold. Note that if (6) is true, in equilibrium we always have both career politicians and political careers.

Consider now the case where
$$\underline{\alpha} = \alpha - \frac{x}{w}.$$
First, note that strict concavity of $f(p)$ implies that condition (4) is never satisfied. Also, we have that in this case it is always true that $0 < p^* < \widetilde{p} < 1$. Moreover, when $s = \underline{\alpha}w$, we have that $p' = p^{**}$ and $p'' = p^{**}$, but it may be the case that $p^* < p'$ and/or $\widetilde{p} > p''$.

If condition (5) is true, when $s = \alpha w$ we have that $p' = 0 < (2 - \theta) \phi / (2(1 - \theta)) = p^* < \widetilde{p} < 1$, and $p'' \geq 1$. Therefore, by continuity, an equilibrium with only career politicians always exists for s close to αw. In order to have also political careers, let $x' \in (0, 1)$ be the unique solution, if it exists, to
$$\frac{f(1) - f(x')}{1 - x'} = \lambda w. \tag{7}$$
Note that if $f(0) = 0$ a solution always exists, and $x' < p^{**}$. If instead, $f(0) > 0$ a solution may not exist, in which case we let $x' = 0$. A necessary condition for political careers to exist when condition (5) is true is
$$x' < \frac{(2 - \theta) \phi \lambda w + 2(f(1) - \lambda w)}{2\lambda(1 - \theta) w}, \tag{8}$$
where the right-hand side of the inequality is p^* evaluated at the value of s such that $p'' = 1$. In particular, since p'' is increasing in s, we can find an interval of values of s such that in equilibrium we also have political careers.

Finally, the analysis if condition (6) is true is similar to the one above for the case where $\underline{\alpha} = \alpha - \lambda(2(1 - \theta) - (2 - \theta)\phi)/2$.

PROOF OF PROPOSITION 3: Since

$$p^* = \frac{2\alpha w + (2 - \theta)\phi\lambda w - 2s}{2\lambda(1 - \theta)w},$$

it is easy to show that

$$\frac{\partial p^*}{\partial \lambda} < 0, \ \frac{\partial p^*}{\partial \theta} > 0, \ \frac{\partial p^*}{\partial \alpha} > 0, \ \frac{\partial p^*}{\partial \phi} > 0, \ \frac{\partial p^*}{\partial w} > 0, \ \frac{\partial p^*}{\partial s} < 0.$$

Clearly, since $\tilde{p}$ and $\hat{p}$ are strictly monotone functions of p^*, these comparative statics results also apply to $\tilde{p}$ and $\hat{p}$.

Since, if it exists, p'' is the largest $p \in (0, 1)$ that solves $f(p'') = \pi(p'')w - s$, it follows that

$$\frac{\partial p''}{\partial \lambda} < 0, \ \frac{\partial p''}{\partial \theta} = 0, \ \frac{\partial p''}{\partial \alpha} < 0, \ \frac{\partial p''}{\partial \phi} = 0, \ \frac{\partial p''}{\partial w} < 0, \ \frac{\partial p''}{\partial s} > 0,$$

where we are using the fact that in equilibrium it is always true that, if p'' exists, it must be the case that

$$f'(p)\big|_{p=p''} < \lambda w.$$

Given the definition of $\hat{p}_{PC}$, it follows immediately that

$$\frac{\partial \hat{p}_{PC}}{\partial \lambda} < 0, \ \frac{\partial \hat{p}_{PC}}{\partial \theta} = 0, \ \frac{\partial \hat{p}_{PC}}{\partial \alpha} < 0, \ \frac{\partial \hat{p}_{PC}}{\partial \phi} = 0, \ \frac{\partial \hat{p}_{PC}}{\partial w} < 0, \ \frac{\partial \hat{p}_{PC}}{\partial s} > 0.$$

Also, from the signs of the derivatives of p^* and p'' with respect to the model parameters, it follows that

$$\frac{\partial \tau}{\partial \theta} > 0, \ \frac{\partial \tau}{\partial \alpha} > 0, \ \frac{\partial \tau}{\partial \phi} > 0, \ \frac{\partial \tau}{\partial w} > 0, \ \frac{\partial \tau}{\partial s} < 0,$$

and it is easy to show that

$$\frac{\partial \tau}{\partial \lambda} \lessgtr 0.$$

Since the derivatives of $\tilde{p}$ and p'' with respect to λ, have the same sign, and the derivatives of p'' with respect to θ and ϕ are equal to zero, we have that

$$\frac{\partial \hat{p}_{CP}}{\partial \lambda} < 0, \ \frac{\partial \hat{p}_{CP}}{\partial \theta} > 0, \ \frac{\partial \hat{p}_{CP}}{\partial \phi} > 0.$$

Moreover, it is clear that a uniform upward shift of $f(p)$ increases p'' but does not affect p^*, thus increasing both $\hat{p}_{CP}$ and $\hat{p}_{PC}$ and decreasing τ, while leaving $\hat{p}$ unchanged. Finally, note that the derivatives of $\hat{p}_{CP}$ with respect to α, s, and θ can switch sign:

$$\frac{\partial \hat{p}_{CP}}{\partial \alpha} = \frac{1}{4}\left(\frac{\lambda w - f'(p'') - 2\lambda(1 - \theta)}{\lambda(1 - \theta)(\lambda w - f'(p''))}\right)$$

$$\frac{\partial \hat{p}_{CP}}{\partial s} = \frac{1}{4}\left(\frac{f'(p'') + \lambda w(1 - 2\theta)}{\lambda w(1 - \theta)(\lambda w - f'(p''))}\right)$$

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$$\frac{\partial \widehat{p}_{CP}}{\partial w} = \frac{1}{4} \left(\frac{s\left(\lambda w - f'\left(p''\right)\right) - 2\left(\alpha + \lambda p''\right)\lambda\left(1 - \theta\right)w^2}{\lambda w^2\left(1 - \theta\right)\left(\lambda w - f'\left(p''\right)\right)} \right)$$

In particular, note that $\partial \widehat{p}_{CP}/\partial s$ is decreasing in θ and

$$\frac{\partial \widehat{p}_{CP}}{\partial s}\Big|_{\theta \to 0} = \frac{1}{4} \left(\frac{f'\left(p''\right) + \lambda w}{\lambda w\left(\lambda w - f'\left(p''\right)\right)} \right) > 0.$$

Moreover, $\partial \widehat{p}_{CP}/\partial w$ is increasing in θ and

$$\frac{\partial \widehat{p}_{CP}}{\partial w}\Big|_{\theta \to 0} = \frac{1}{4} \left(\frac{-\left(f\left(p''\right) + \alpha w + \lambda p''w\right)\lambda w - f'\left(p''\right)s}{\lambda w^2\left(\lambda w - f'\left(p''\right)\right)} \right) < 0.$$

Therefore, $\partial \widehat{p}_{CP}/\partial s > 0$ if and only if $\theta < \theta_s^*$, where

$$\theta_s^* = \frac{1}{2} + \frac{f'\left(p''\right)}{2\lambda w} \in \left(\frac{1}{2}, 1\right),$$

and $\partial \widehat{p}_{CP}/\partial w > 0$ if and only if $\theta > \theta_s^*$, where

$$\theta_w^* = \frac{1}{2} + \frac{f\left(p''\right)\lambda w + sf'\left(p''\right)}{2\left(\alpha + \lambda p''\right)\lambda w^2} \in \left(\frac{1}{2}, 1\right).$$

Finally notice that $\theta_w^* > \theta_s^*$ if and only if

$$\lambda w > f'\left(p''\right),$$

which is always true. Therefore, we have that

$$
\begin{array}{lll}
\text{if } \theta \leq \theta_s^*, & \frac{\partial \widehat{p}_{CP}}{\partial s} \geq 0 \text{ and } \frac{\partial \widehat{p}_{CP}}{\partial w} < 0; \\
\text{if } \theta \in \left(\theta_s^*, \theta_w^*\right), & \frac{\partial \widehat{p}_{CP}}{\partial s} < 0 \text{ and } \frac{\partial \widehat{p}_{CP}}{\partial w} < 0; \\
\text{if } \theta \geq \theta_w^*, & \frac{\partial \widehat{p}_{CP}}{\partial s} < 0 \text{ and } \frac{\partial \widehat{p}_{CP}}{\partial w} \geq 0.
\end{array}
$$

QED.

CHARACTERIZATION OF EQUILIBRIA UNDER ALTERNATIVE EXTENSIVE FORM: In order to show that the equilibrium outcome characterized in Propositions 1 and 2 is also an equilibrium of this game, consider first the situation where the game is in political state $z = 2$ and there is an incumbent with political skills p^o. If $p^o \in [\widetilde{p}, p'']$, the incumbent always decides to rerun for office and is confirmed by the voters. In this case, individuals with age $a = 1$ and with political skills greater than or equal to p^* are indifferent between running as independents or not. Given the extensive form of the game their decision is inconsequential. When $p^o < \widetilde{p}$, if the incumbent reruns, independents with $p \in [p^*, 1]$ would find it optimal to run, in which case an independent would be elected. If, instead, the incumbent leaves politics, the game remains in the same period but moves to political state $z = 1$. However, given the additional assumption on the out-of-equilibrium beliefs of voters, an independent would be elected for sure. Therefore, whatever the incumbent decides, an independent would

be elected. Finally, if $p^o > p''$, the incumbent leaves politics for sure, the game moves to political state $z = 1$, and the party can propose a new nominee.

Consider now the case where the game is in political state $z = 1$. If the party does not nominate a politician (for whatever reason), independents would find it optimal to run. The same is also true whenever a $p^o < \widetilde{p}$ was observed in $z = 2$, and the game moved to political state $z = 1$ with pessimistic beliefs. If, instead, we are on the equilibrium path and there is a party's nominee, the decision of independents is inconsequential (if they don't run, the party's nominee is elected; if they do run, they have no chance of winning). Finally, note that the party's nomination strategy and the individuals' application strategy specified in Proposition 1 are still equilibrium strategies.

The alternative specification of the game considered here, however, also has other Markov Perfect Equilibria. In fact, we can show that for any $\rho \in [p^*, \widetilde{p})$, there exists an equilibrium where all individuals with political skills $p \in [\rho, 1]$ apply to become partisan politicians, and the party always nominates an applicant for the political office, who is always approved by the voters. In this equilibrium, only incumbent politicians with $p \in [\widetilde{p}, p'']$ run for reelection, and are confirmed by the voters to a second term in office, while incumbent politicians with $p \in [\rho, \widetilde{p})$ or $p \in (p'', 1]$ choose not to rerun, and voluntarily leave politics in the second period to work in the market sector.

Note that in all the equilibria with $\rho \in [p^*, \widetilde{p})$, incumbent politicians with political skills $p \in [\rho, \widetilde{p})$ are indifferent between running for reelection (and being defeated by an independent challenger), and voluntarily leaving office, and the equilibrium is supported by breaking the tie in favor of not rerunning. In fact, their decision is of great consequence for the party. If they leave office without seeking reelection, the game moves to political state $z = 1$, where the party has the chance of proposing a new candidate for the political office and its payoff is V^P. If, on the other hand, they run for reelection, an independent politician is elected to office and the party's payoff is V^I. Hence, if they were to rerun, it would no longer be optimal for the party to nominate applicants with political skills $p \in [p^*, \widetilde{p})$, and the only equilibrium that would survive is the one described above.

References

[1] Alesina, Alberto, and Stephen E. Spear, 1988. "An Overlapping Generations Model of Electoral Competition," *Journal of Public Economics*, 37, 359-379.

[2] Banks, Jeffrey S., and Rangarajan K. Sundaram, 1993. "Adverse Selection and Moral Hazard in a Repeated Elections Model," ch. 12, pp. 295-311, in Barnett, W. A., Inich, M. J., Schofield, N. J. (eds.), *Political Economy: Institutions, Competition and Representation*. Cambridge: Cambridge University Press.

[3] Banks, Jeffrey S., and Rangarajan K. Sundaram, 1998. "Optimal Retention in Agency Problems," *Journal of Economic Theory*, 82, 293-323.

[4] Barro, Robert J., 1973. "The Control of Politicians: An Economic Model," *Public Choice*, 14, 19-42.

[5] Besley, Timothy, 2004. "Paying Politicians: Theory and Evidence." *Journal of the European Economic Association*, 2, 193-215.

[6] Besley, Timothy, 2005. "Political Selection," *Journal of Economic Perspectives*, forthcoming.

[7] Besley, Timothy, and Stephen Coate, 1997. "An Economic Model of Representative Democracy," *Quarterly Journal of Economics*, 112, 85-114.

[8] Best, Heinrich, and Maurizio Cotta, 2000. *Parliamentary Representatives in Europe 1848-2000: Legislative Recruitment and Careers in Eleven European Countries*. Oxford: Oxford University Press.

[9] Caillaud, Bernard, and Jean Tirole, 2002. "Parties as Political Intermediaries," *Quarterly Journal of Economics*, 117, 1453-1489.

[10] Carrillo, Juan D., and Thomas Mariotti, 2001. "Electoral Competition and Political Turnover," *European Economic Review*, 45, 1-25.

[11] Caselli, Francesco, and Massimo Morelli, 2004. "Bad Politicians," *Journal of Public Economics*, 88, 759-782.

[12] Cotta, Maurizio, 1979. *Classe Politica e Parlamento in Italia*. Bologna: Il Mulino.

[13] Council of State Governments, 2003. *Book of the States*. Lexington: Council of State Governments.

[14] Dal Bo, Ernesto, 2005. "Bribing Voters," Working Paper.

[15] Diermeier, Daniel, Keane, Michael, and Antonio Merlo, 2005. "A Political Economy Model of Congressional Careers," *American Economic Review*, 95, 347-373.

[16] Echenique, Federico, and Aaron Edlin, 2004. "Mixed Equilibria are Unstable in Games with Strategic Complements," *Journal of Economic Theory*, 118, 61-79.

[17] Ferejohn, John A., 1986. "Incumbent Performance and Electoral Control," *Public Choice*, 50, 5-25.

[18] Gavazza, Alessandro, and Alessandro Lizzeri, 2005. "Transparency and Economic Policy," Working Paper.

[19] Gerth, H. H., and C. Wright Mills, 1946. *From Max Weber: Essays in Sociology.* New York: Oxford University Press.

[20] Jones, Mark, P., Saiegh, Sebastian, Spiller, Pablo, and Mariano Tommasi, 2000. "Professional Politicians - Amateur Legislators: The Argentine Congress in the 20th Century," Working Paper.

[21] Harrington, Joseph E. Jr., 1992. "The Role of Party Reputation in the Formation of Policy," *Journal of Public Economics*, 49, 107-121.

[22] Herrera, Helios, and Cesar Martinelli, 2004. "Group Formation and Voter Participation," Working Paper, Department of Economics, ITAM.

[23] Jackson, Matthew O., and Boaz Moselle, 2002. "Coalition and Party Formation in a Legislative Voting Game," *Journal of Economic Theory*, 103, 49-87.

[24] Levy, Gilat, 2004. "A Model of Political Parties," *Journal of Economic Theory*, 115, 250-277.

[25] Lijphart, Arend, 1994. *Electoral Systems and Party Systems: A Study of Twenty-Seven Democracies, 1945-1990.* Oxford: Oxford University Press.

[26] Mattozzi, Andrea, and Antonio Merlo, 2005. "Mediocracy" Working Paper, Department of Economics, University of Pennsylvania.

[27] Messner, Matthias, and Mattias Polborn, 2004. "Paying Politicians," *Journal of Public Economics*, 88, 2423-2445.

[28] Morelli, Massimo, 2004. "Party Formation and Policy Outcomes under Different Electoral Systems," *Review of Economic Studies*, 71, 829–853.

[29] Osborne, Martin J., and Al Slivinski, 1996. "A Model of Political Competition with Citizen-Candidates," *Quarterly Journal of Economics*, 111, 65-96.

[30] Osborne, Martin J., and Rabee Tourky, 2004. "Party Formation in Single-Issue Politics," Working Paper, Department of Economics, University of Toronto.

[31] Persson, Torsten, Roland, Gerard, and Guido Tabellini, 1997. "Separation of Powers and Political Accountability," *Quarterly Journal of Economics*, 112, 1163-1202.

[32] Persson, Torsten and Guido Tabellini, 2000. *Political Economics: Explaining Economic Policy.* Cambridge: MIT Press.

[33] Poutvaara, Panu, and Tuomas Takalo, 2003. "Candidate Quality," CESifo WP 1106, Munich.

[34] Prat, Andrea, 2005. "The Wrong Kind of Transparency," *American Economic Review*, 95, 862-877.

[35] Samuels, David J., 1999. "Political Ambition in Brazil, 1945-95: Theory and Evidence," Working Paper.

[36] Shachar, Ron, and Barry Nalebuff, 1999. "Follow the Leader: Theory and Evidence on Political Participation," *American Economic Review*, 89, 525–547.

[37] Snyder, James M. Jr., and Michael M. Ting, 2002. "An Informational Rationale for Political Parties," *American Journal of Political Science*, 46, 90-110.

[38] Testa, Cecilia, 2004. "Party Polarization and Electoral Accountability," Working Paper, Department of Economics, Royal Holloway University of London.
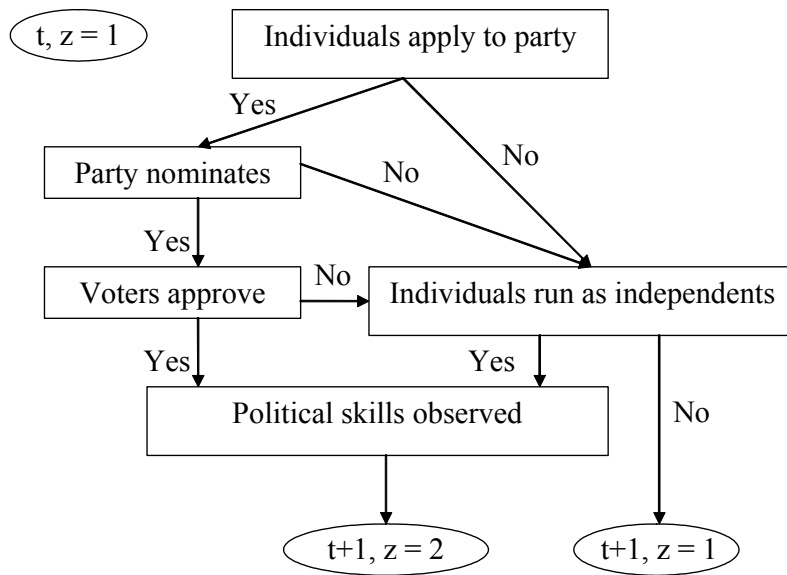
Figure 1: Extensive form when the political office is vacant
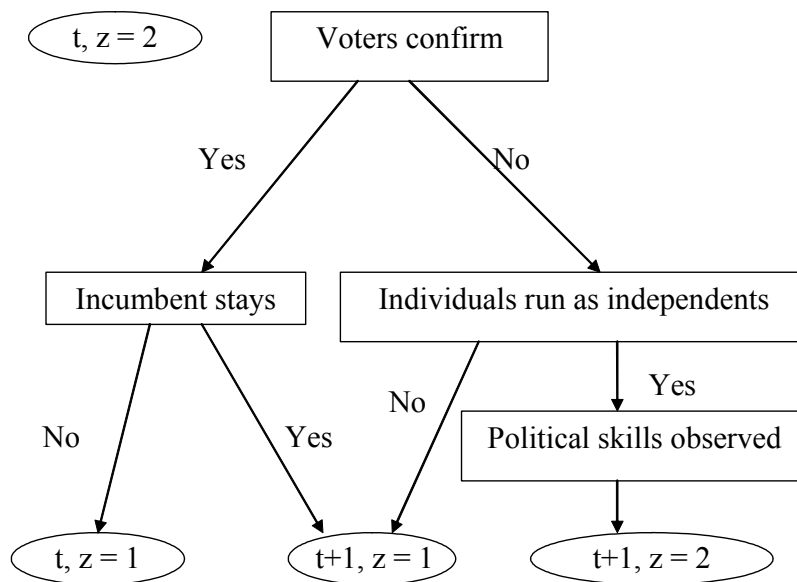

Figure 2: Extensive form when an incumbent is in office
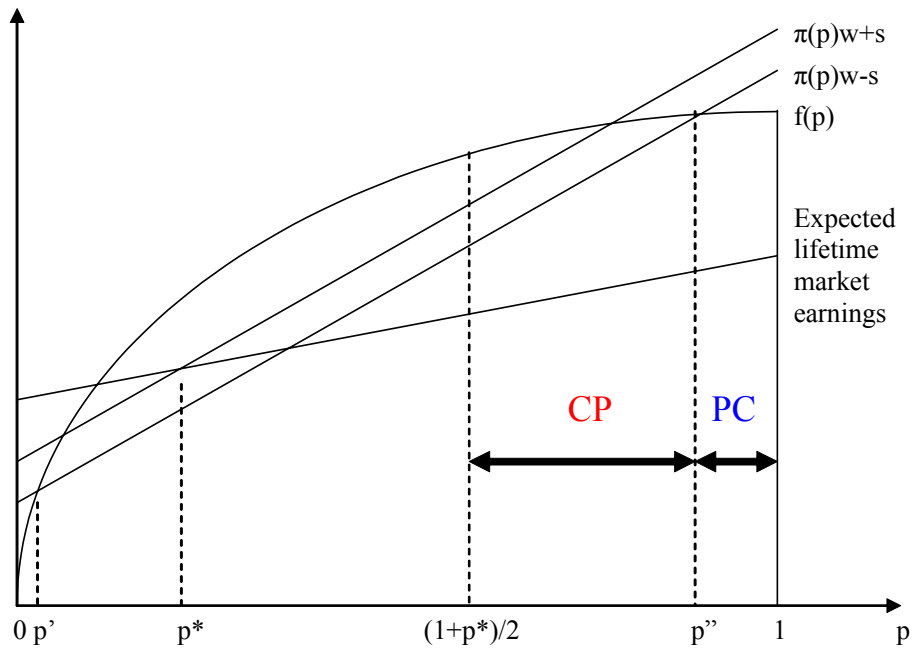
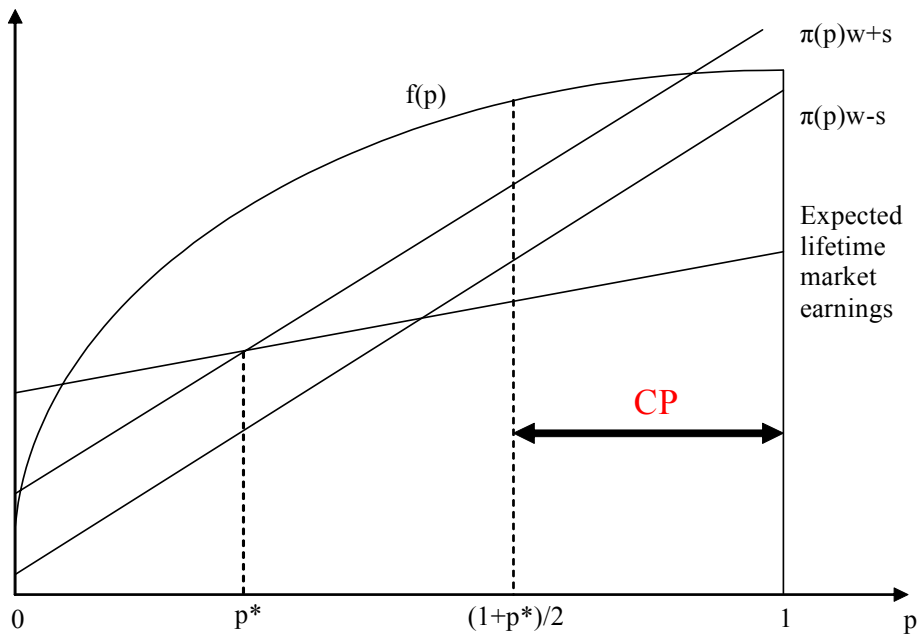Figure 3: Equilibrium with career politicians and political careers

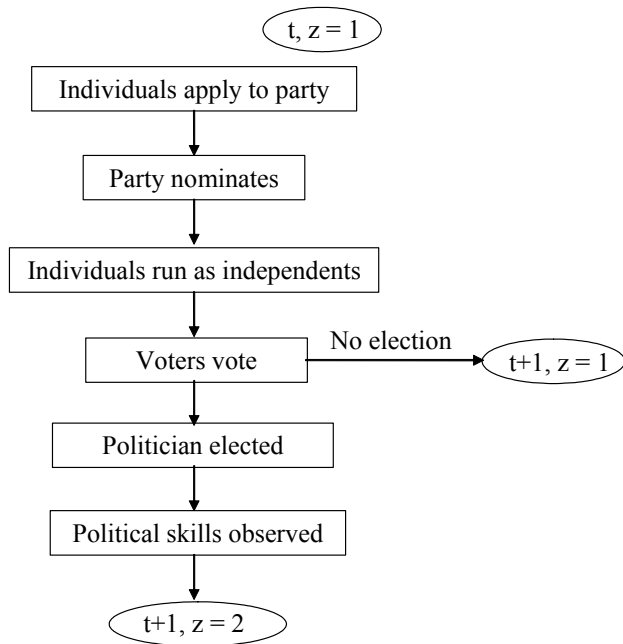Figure 4: Equilibrium with only career politicians

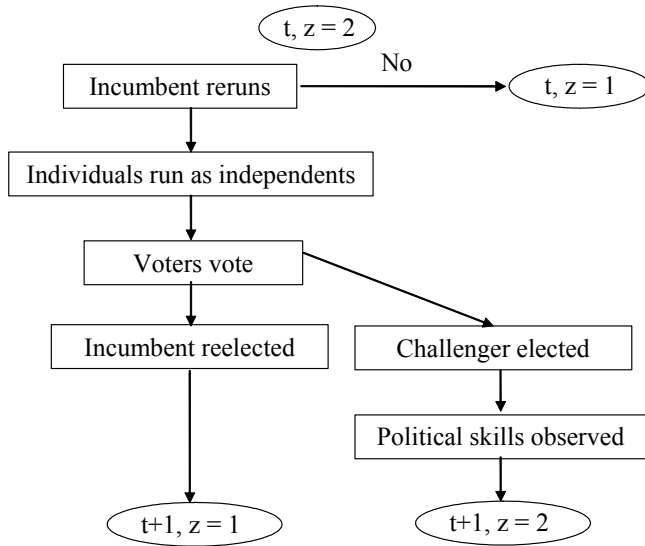Figure 5: Alternative extensive form when the political office is vacant

Figure 6: Alternative extensive form when an incumbent is in office