Political Careers or Career Politicians?*

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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 an environment with a private sector and a political sector, where individuals are heterogeneous with respect to their market ability and political skills. Our analysis provides an explanation for the existence of career politicians and individuals with political careers, and their motivations. We also investigate the effects of monetary incentives and other features of the political-economic environment on the quality of politicians and their careers. We show that an increase in 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.

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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 of them remain in Congress until retirement. Out of all the politicians who entered the House of Representatives after 1945 and left (alive) by 1994, 46% left voluntarily. Of those, 39% took a job in the private sector, while the remaining 61% either moved to a different political office (36%), or retired (25%).[1] Furthermore, the politicians who exit Congress voluntarily and leave politics altogether for another occupation tend to have successful careers in the private sector. For example, the average annual earnings of former representatives who choose to leave Congress to work in the private sector are equal to $258,418 (in 1995 constant dollars).[2] 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.[3]

[1] Of the 54% who left Congress because of electoral defeat, 61% took a job in the private sector, 36% took another political job, and 3% retired.

[2] The corresponding figure for former representatives who left Congress because of electoral defeat is equal to $247,198.

[3] They find that, holding everything else constant, winning reelection in the House for the first time

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).[4] Obviously, political careers can be either voluntary (i.e., when a politician deliberately opts out of office undefeated), or involuntary (i.e., when exit from office follows an electoral defeat).

These considerations raise the following important questions: Who wants to be a politician and why? How do monetary incentives and other features of the political-economic environment affect the quality of politicians and their career paths?

To address these issues, we propose a dynamic equilibrium model of the careers of politicians in an overlapping-generations environment 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, which are private information, 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. To become a politician, an individual must win an election, and to be a career politician he must then be confirmed in office for a second term.

While in office politicians perform a public service which benefits the voters, with relatively more skilled politicians generating higher benefits, and they receive a salary. In addition to their salary, politicians who remain in office for a second term also receive an additional payoff, which can be interpreted as ego-rents from being confirmed in office by

increases post-congressional wages in the private sector by 4.4%. However, the marginal effect of congressional experience on post-congressional wages diminishes quite rapidly with additional experience.

[4]For a description of the careers of politicians in several countries, see, e.g., Best and Cotta (2000), Cotta (1979), Jones et al. (2002), 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.

the voters, or other non-pecuniary rewards associated with seniority in the political sector.[5]

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.[6]

The main results of our analysis can be summarized as follows. In equilibrium, there are both career politicians and individuals with political careers. Some politicians would like to remain in office for a second term, but are not confirmed by the voters. Whether some politicians leave office voluntarily to work in the private sector, or all political careers are involuntary, depends on the environment. When there are individuals who serve in office for one term and then deliberately choose to work in the market sector in the second period, they have relatively better political skills than career politicians, although career politicians are still better than average.

Career politicians enter the political sector because of the non-pecuniary rewards they derive from being in office. Individuals with political careers, on the other hand, enter the political sector in order to increase their market wages. Since political skills are positively correlated with market ability, and politics is a showcase, incumbent politicians have in fact the opportunity to leave the political sector and work in the market sector at a higher wage than the one they would anticipate receiving had they not become politicians.

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

[5] In the U.S. Congress, for example, seniority is an important determinant of committee appointments as well as the likelihood of achieving important legislative accomplishments. Both of these events represent substantial components of the non-pecuniary benefits politicians derive from being in office (Diermeier, Keane and Merlo (2005)).

[6] 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.

quality of individuals who become politicians, increases turnover in office, and may either increase or decrease the average quality of career politicians.

The intuition behind these results is as follows. 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, however, relatively better incumbent politicians are willing to remain in politics, since the wages in politics are now better relative to the market wages. 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 desirable for these individuals to leave office after one period. 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 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 an alternative specification of the model, and in Section 6 an extension that incorporates political parties. We conclude with Section 7. In Sections 5 and 7, we also relate some of the implications of our model to the empirical evidence.

2 Related Literature

Early research in political economy approached the study of politicians by taking their existence as given.[7] 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

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

(1996)). This framework removes the artificial distinction between citizens and politicians, by recognizing that public officials are selected by the voters 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 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.[8]

Our analysis abstracts from heterogeneity in policy preferences. 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.[9] Similarly, in the model of Messner and Polborn (2004), it is also the case that in equilibrium bad candidates

[8] 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), Besley (2006), Ferejohn (1986) and Persson, Roland and Tabellini (1997). For a survey of the literature on political selection see Besley (2005).

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

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. In contrast to our analysis, these papers are not interested in explaining the career paths of politicians, 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 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.[10]

3 The Model

We consider an environment 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, which is publicly observable.[11]

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 has 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 having high market ability $\pi(p)$ is positively correlated with political skills and we let $\pi(p) = \alpha + \lambda p$, where $\lambda \in (0, 1 - \alpha)$ implies that

[10] Dal Bo, Dal Bo and Snyder (2006) provide an empirical study of the self-perpetuation of political elites in the U.S.

[11] At time $t = 0$ there is an initial generation of individuals with age $a = 2$.

$\pi(p) \in [\alpha, 1)$ for all $p \in [0,1]$.[12] We assume that each individual only knows his own political skills, and does not know his market ability.[13] Also, ϕ, α, and λ are common knowledge.

In this environment, the parameters ϕ and α measure the relative scarcity (or abundance) of political skills and market ability in the population, respectively, and λ measures the extent to which political skills and market ability are correlated.

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, after 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.

The market sector is perfectly competitive, and w_m, $m \in \{l, h\}$, denotes the competitive wage rate associated with each market ability level. We normalize $w_l = 0$, and let $w_h = w > 0$. In every period an individual works in the market sector, he is paid according to his expected (or revealed) market ability.

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] In addition, if a politician remains in office for two periods, in the second period he also receives a payoff $r > 0$. This payoff represents the monetary value of the non-pecuniary benefit associated with achieving seniority status in the political sector.

At the beginning of every period $t = 0, 1, ...$, an election determines the identity of the office holder, and all individuals with age $a = 1$ decide whether or not to run as candidates

[12] Hence, the fraction of individuals with high market ability conditional on having political skills is equal to $\alpha + \lambda/2$, while the fraction of individuals with high market ability in the overall population is $\alpha + \phi\lambda/2$.

[13] 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. This simplifying assumption is made here to avoid the additional complications that arise in a two-dimensional signalling problem.

[14] The analysis easily extends to the case where there are multiple independent political offices.

for public office.[15] If an incumbent is in office, the politician also decides whether to rerun for a second (and last) term. Running for election is costless, and the winner is determined by plurality rule. Note that since political skills are private information, all individuals running for office are *ex ante* identical from the point of view of the voters, unless they are incumbent politicians, in which case their political skills are publicly known. The winning candidate is then in office for that period, while all other individuals work in the market sector. If nobody runs for election, the political office remains vacant for that period, and everybody works in the market sector.

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.[16] If in a period the political office remains vacant, then no benefit is generated that period. We assume that the public benefit generated by a politician in office does not affect the career decisions of individuals, but only affects the behavior of voters.[17]

[15] 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 exposition. In particular, it rules out a situation where individuals work in the market sector for one period, realize their market ability, and then try to enter the political sector. While this situation does not affect the equilibrium (since the only individuals who would want to do so are those with low realized market ability, and voters would never elect such individuals), dealing with it introduces additional notation without adding anything to the analysis. In particular, in our model it would never be the case that in equilibrium individuals work in the market sector, realize that they have high market ability, and then run for election to public office.

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

[17] 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).

4 Results

The model described in Section 3 defines a game of incomplete information. The players are the individuals, who in their first period of life have to decide whether to run as candidates for public office, and, in the event they are elected to office, in the second period must then decide whether to rerun for a second term. In addition, in each of their two periods of life individuals have to decide how to vote. We restrict attention to equilibria where the players use weakly undominated strategies, and their beliefs are consistent with equilibrium play.[18]

The following restrictions on the model parameters α, λ, θ, s, r and w are necessary and sufficient for existence and uniqueness of an equilibrium with both career politicians and political careers.

Assumption A1: $s \in \left(\underline{k}w, \overline{k}w\right)$, *where* $\underline{k} \equiv \frac{2\alpha+(2-\theta)\phi\lambda-2\lambda(1-\theta)}{2}$ *and* $\overline{k} \equiv \underline{k} + \lambda(1-\theta)$; *and* $r > \frac{(2-\theta)((2\alpha+\phi\lambda)w-2s)}{2(1-\theta)}$.

The equilibrium has the following properties: In every period $t = 0, 1, ...$, all individuals with $a = 1$ and political skills $p \geq p^*$ run for office, where

$$p^* = \frac{2\alpha w + (2-\theta)\phi\lambda w - 2s}{2\lambda(1-\theta)w} \in (0,1). \tag{1}$$

One of these individuals is elected to office whenever no incumbent is running in the election, or the incumbent running has political skills $p < (1+p^*)/2$. Only incumbent politicians with political skills $p \in [(1+p^*)/2, \min\{p^{**}, 1\}]$ are successful in their reelection bid, where

$$p^{**} = \frac{s + r - w\alpha}{w\lambda} > \frac{1+p^*}{2}, \tag{2}$$

and $p^{**} < 1$ if and only if the potential market wage of the best incumbent politician (i.e., a politician with skills $p = 1$) exceeds its total return from a second term in office (i.e., $s + r < (\alpha + \lambda)w$). If $p^{**} < 1$, incumbents with political skills $p > p^{**}$ do not rerun for a second term in office.

In equilibrium, politicians with skills $p \in [(1+p^*)/2, \min\{p^{**}, 1\}]$ remain in office for two periods (i.e., they are career politicians); politicians with skills $p \in [p^*, (1+p^*)/2)$

[18] Throughout the analysis, we also assume that if an individual is indifferent between running and not running for office, he chooses to run. This assumption is without loss of generality.

only remain in office for one period in spite of the fact that they would prefer to be career politicians, since the voters do not confirm them for a second term (i.e., they have involuntary political careers); and if $p^{**} < 1$, politicians with skills $p \in (p^{**}, 1]$ deliberately choose to work in the market sector in the second period in spite of the fact that the voters would retain them in office for two periods (i.e., they have voluntary political careers). Note that, when in equilibrium there are both voluntary and involuntary political careers, individuals with voluntary political careers have relatively better political skills than career politicians, although the political skills of career politicians are still better than average. An illustration of the equilibrium in the two possible situations where $p^{**} < 1$ and $p^{**} \geq 1$ is depicted in Figures 1 and 2, respectively, where CP denotes career politicians and VPC and IPC voluntary and involuntary political careers, respectively.

The formal definition of the game and of the equilibrium is contained in the Appendix. Here, we provide a more informal characterization of the equilibrium outcome. 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 wage depends on his own 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). Since a politician can always decide not to seek reelection and instead work in the market sector in his second period of life, his potential second-period wage in the market sector determines his reservation wage in the second period.

It follows that 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, $(\alpha + \phi\lambda/2)\, w - s$. The return is not smaller than the (possibly) higher market earnings in the second period after political skills are revealed, $(\alpha + \lambda p)\, w - ((1-\theta)\,(\alpha + \phi\lambda/2) + \theta\,(\alpha + \lambda p))\, w$.

Consider first the scenario where a politician works in the market sector after having

been in office for one period. While the cost of becoming a politician does not depend on an individual's political skills, the return is increasing in his political skills. Hence, individuals with relatively high political skills would certainly find it worthwhile to become politicians. In particular, 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 elected to office and then works in the market sector in the second period are $s+(\alpha+\lambda p)\,w$. Hence, the individual would for sure like to become a politician regardless of whether he would then remain in office for two periods or work in the market sector after serving in office for one period if and only if

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

that is,

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

Note that $p^{*}\in(0,1)$ if and only if $s\in\left(\underline{k}w,\overline{k}w\right)$.

If confirmed in office by the voters, however, the second-period earnings of an incumbent politician who remains in office for two periods are equal to $s+r$. Hence, a politician would prefer to remain in office for two periods rather than work in the market sector in his second period of life if and only if

$$s+r\leq(\alpha+\lambda p)\,w,$$

that is,

$$p\leq\frac{s+r-w\alpha}{w\lambda}=p^{**}.$$

Note that $p^{**}>(1+p^{*})/2$ if and only if

$$r>\frac{(2-\theta)\left((2\alpha+\phi\lambda)\,w-2s\right)}{2\,(1-\theta)}.$$

Since $p^{**}>p^{*}$, it follows that all individuals with political skills $p\in[0,p^{*})$ would like to become politicians only if they would then be confirmed by the voters to a second term in office. But, if an individual with political skills $p=0$ were to serve in office for one

period, he would not be confirmed by the voters. In fact, suppose that all individuals run for office in their first period of life regardless of their political skills. Since political skills are private information, the voters would then form expectations about the quality of the pool of candidates. In particular, from the point of view of the voters all candidates are ex-ante identical, and the expected political skills of a generic candidate would be equal to $\phi/2$ (i.e., the average political skills in the overall population). It follows that all incumbents with political skills $p < \phi/2$ would not be confirmed in office by the voters (since the voters would be better off by replacing the incumbent with a random draw from the new generation of potential politicians), and hence these individuals would be better off by not running for office to begin with, and instead enter the market sector in their first period of life. In fact, this argument implies that given the expected quality of the pool of candidates, the voters would never confirm in office an incumbent with political skills lower than the average in the pool. Therefore, in equilibrium, the only individuals who run for office in their first period of life are those with political skills $p \in [p^*, 1]$.

Since p^* represents the equilibrium 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 confirm an incumbent politician to a second term in office. In particular, it implies that in equilibrium the voters confirm an incumbent only if his political skills are greater than or equal to $(1 + p^*)/2$. Hence, individuals with political skills $p \in [p^*, (1 + p^*)/2) \cup (p^{**}, 1]$ want to become politicians so that they can reveal their political skills and increase their earnings in the market sector. Individuals with political skills $p \in [(1 + p^*)/2, p^{**}]$, on the other hand, want to enter the political sector because of the non-pecuniary rewards from being career politicians.

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

$$\widehat{p} = \frac{1 + p^*}{2} \quad \text{and} \quad \widehat{p}_{CP} = \frac{1 + p^* + 2\min\{p^{**}, 1\}}{4}$$

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

in equilibrium (i.e., $p^{**} < 1$), let

$$\widehat{p}_{IPC} = \frac{1+3p^*}{4} \quad \text{and} \quad \widehat{p}_{VPC} = \frac{1+p^{**}}{2}$$

denote the average skills of individuals with involuntary and voluntary political careers, respectively (where $\widehat{p}_{IPC} < \widehat{p}_{CP} < \widehat{p}_{VPC}$), and

$$\tau = \frac{(\widehat{p} - p^*) + (1 - p^{**})}{1 - p^*} = \frac{1}{2} + \frac{1 - p^{**}}{1 - p^*}$$

denote the fraction of politicians who leave the political sector after one period in office (either voluntarily or involuntarily), which measures turnover in the political sector.[19]

The Appendix contains all of our comparative statics results. Here, we focus on the effects of (monetary as well as non-pecuniary) incentives on the quality of politicians and their career paths. In equilibrium, we have that

$$\frac{\partial \widehat{p}}{\partial w} > 0, \frac{\partial \widehat{p}}{\partial s} < 0, \frac{\partial \widehat{p}}{\partial r} = 0,$$

and

$$\frac{\partial \widehat{p}_{IPC}}{\partial w} > 0, \frac{\partial \widehat{p}_{IPC}}{\partial s} < 0, \frac{\partial \widehat{p}_{IPC}}{\partial r} = 0.$$

If $p^{**} \geq 1$, the same comparative statics results also hold for $\widehat{p}_{CP}$. If $p^{**} < 1$,

$$\frac{\partial \widehat{p}_{VPC}}{\partial w} < 0, \frac{\partial \widehat{p}_{VPC}}{\partial s} > 0, \frac{\partial \widehat{p}_{VPC}}{\partial r} > 0,$$

$$\frac{\partial \widehat{p}_{CP}}{\partial w} > 0 \text{ if and only if } \theta > \frac{s+2r}{2(s+r)}, \frac{\partial \widehat{p}_{CP}}{\partial s} > 0 \text{ if and only if } \theta < \frac{1}{2}, \frac{\partial \widehat{p}_{CP}}{\partial r} > 0,$$

and

$$\frac{\partial \tau}{\partial w} > 0, \frac{\partial \tau}{\partial s} < 0, \frac{\partial \tau}{\partial r} < 0.$$

The intuition for these results is as follows. An increase in s (or a decrease in w) increases the return to becoming a politician relative to the cost for all levels of political skills, thus increasing p^* and hence $\widehat{p}$. In particular, it makes politics a more attractive option relative to employment in the market sector for all individuals, thus lowering the average quality of entering politicians. In addition, a decrease in w (or an increase in s) decreases the second-period market wage relative to the political earnings for all levels of political skills, thus

[19] Note that if $p^{**} \geq 1$, turnover is constant and is equal to $1/2$.

making it more desirable for politicians to remain in office for two periods. In our model, the possibility of voluntary 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. When $p^{**} < 1$, an increase in s or a decrease in w induces an increase in p^{**}, and hence an increase in the average quality of politicians who serve in office for one period and then voluntarily leave politics to work in the market sector, $\widehat{p}_{VPC}$. Overall, the combination of the effect of an increase in s or a decrease in w on p^* (entry effect), and the effect on p^{**} (retention effect), results in a reduction in the amount of turnover in the political sector, τ, and either an increase or a decrease of the average quality of career politicians, $\widehat{p}_{CP}$.

The effect on turnover is due to the fact that the pool of potential politicians expands and fewer politicians leave the political sector (either voluntarily or because of electoral defeat). The effect on the average quality of career politicians depends on the "transparency" of the market sector θ (i.e., the likelihood that market ability is revealed after one period of employment in the market sector). If the transparency is low, $\widehat{p}_{CP}$ increases. While if it is high, $\widehat{p}_{CP}$ decreases. The reason for these 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 political experience. Hence, when θ is small (i.e., $\theta < 1/2$), the entry effect of an increase in s or a decrease in w induced by a relative 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 (i.e., $\theta > (s + 2r)/2(s + r)$).[20]

Another interesting result that emerges from our equilibrium comparative statics is that an increase in the non-pecuniary benefits from remaining in office for two periods, r, does not affect the set of people who run for office and hence the average quality of entering politicians, but increases the average quality of career politicians and decreases turnover in office.

[20]Note that for an intermediate range of values for θ (i.e., $\theta \in (1/2, (s + 2r)/2(s + r))$), $\widehat{p}_{CP}$ decreases with both s and w.

5 An Alternative Model

In the model described in Section 3, political experience has an indirect effect on market wages induced by the positive correlation between political skills and market ability. However, 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 (see, e.g., Mattozzi and Merlo (2007)), and may also induce politicians to have political careers.

To explore this issue we consider here an alternative specification of our model where individuals are heterogeneous only with respect to their political skills, and experience in the political sector makes these skills productive in the market sector. In particular, suppose that all individuals have the same market ability, and can work in the market sector at a per-period wage q, regardless of their age. In addition, an experienced politician with political skills p (i.e., an individual who serves in the political office for one term during which his political skills become publicly observable), can work in the market sector in his second period of life and earn vp, where v is the rental price of political skills in the market sector for individuals with politician experience. All other features of the model remain the same as in Section 3, except that the only relevant parameters are now s, r, v, and q, and suppose the following restrictions hold:

Assumption A2: $s \in (2q - v, 2q)$ *and* $r > \frac{v+2q-3s}{2}$.

Give Assumption A2, the alternative model described here has a unique equilibrium with both career politicians and political careers. The equilibrium has the following properties: In every period $t = 0, 1, ...$, all individuals with $a = 1$ and political skills $p \geq p'$ run for office, where

$$p' = \frac{2q - s}{v} \in (0, 1). \tag{3}$$

One of these individuals is elected to office whenever no incumbent is running in the election, or the incumbent running has political skills $p < (1 + p')/2$. Only incumbent politicians with political skills $p \in [(1 + p')/2, \min\{p'', 1\}]$ are successful in their reelection bid, where

$$p'' = \frac{s + r}{v} > \frac{1 + p'}{2}, \tag{4}$$

and $p'' < 1$ if and only if $s + r < v$. If $p'' < 1$, incumbents with political skills $p > p''$ do not rerun for a second term in office.

In equilibrium, politicians with skills $p \in [(1 + p')/2, \min\{p'', 1\}]$ remain in office for two periods (i.e., they are career politicians); politicians with skills $p \in [p', (1 + p')/2)$ only remain in office for one period in spite of the fact that they would prefer to be career politicians, since the voters do not confirm them for a second term (i.e., they have involuntary political careers); and if $p'' < 1$, politicians with skills $p \in (p'', 1]$ deliberately choose to work in the market sector in the second period in spite of the fact that the voters would retain them in office for two periods (i.e., they have voluntary political careers).[21]

Many of the comparative statics results are also similar to the ones presented in Section 4 above, although there are also important differences. In particular, when in equilibrium there are career politicians as well as voluntary and involuntary political careers, an increase in s decreases the average quality of individuals who become politicians, decreases turnover in office, but always increases the average quality of career politicians. Moreover, an increase in the general market wage rate q increases the average quality of individuals who become politicians, increases turnover in office, and always increases the average quality of career politicians. An increase in the rental price of political skills in the market sector, v, decreases the average quality of individuals who become politicians, increases turnover in office, and decreases the average quality of career politicians.

Whether experience in the political sector has mainly a direct effect on wages in the market sector (via the accumulation of political human capital), or an indirect effect (via signalling), is clearly an empirical question. In the context of the simple environment considered here, where individuals only live for two periods, both models have similar implications with respect to the careers of politicians. The equilibrium mechanisms, however, are quite different, and would generate different predictions in more general environments where individuals can work for more than two periods. In particular, the model with political human capital implies that the wages of politicians in the market sector should gradually increase with political experience (given by the number of periods a politician remains in office),

[21] The derivation of these results and their intuition entail simple extensions of the arguments illustrated above and are therefore omitted.

while the signalling model implies that we should observe a jump in wages after entry in the political office with no further wage growth as political experience increases. The empirical findings of Diermeier, Keane and Merlo (2005) provide evidence in support of the signalling interpretation. In fact, they find that while the first term in Congress significantly increases post-congressional wages in the private sector, the marginal effect of additional congressional experience is negligible.[22]

6 A Model with Political Parties

An interesting extension of our framework consists of modeling the role of political parties in the selection of candidates for public office. Consider a situation where, whenever the public office is vacant, an infinitely-lived party may nominate a candidate subject to the voters' approval, and information about political skills is asymmetric. In particular, suppose 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.[23] Suppose further that in addition to performing a public service, while in office partisan career politicians also engage in activities that generate private benefits to their party, with relatively more skilled politicians generating higher benefits. 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. For example, experienced politicians engage in fund-raising activities on behalf of their party, which may reward them with a variety of valuable posts within its organization as their seniority increases (e.g., committee membership, group leadership, etc.). 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.

Introducing these additional features into our model generates the following results. In

[22] Note that their estimation accounts for the selection induced by the endogeneity of the career decisions of politicians, and allows for unobserved heterogeneity in the quality of politicians.

[23] People with political aspirations typically begin their involvement in politics by engaging in a variety of voluntary, unpaid political activities that are organized and monitored by political parties (e.g., student political organizations, campaign teams, party internships). These activities thus provide opportunities for a political party to observe the political skills of individuals it may be potentially interested in nominating as candidates for public office.

equilibrium, there are only partisan politicians, and they are either career politicians or have voluntary political careers. Only individuals with political skills $p \in [(1+p^*)/2, 1]$ become partisan politicians, and the party always nominates a candidate for the political office. Partisan nominees are always approved by the voters to a first term in office and confirmed to a second term if they choose to run. In environments where some politicians have political careers, there exists a $\widetilde{p} < 1$ such that individuals with relatively better political skills (i.e., $p \in (\widetilde{p}, 1]$) have political careers and career politicians are relatively worse (i.e., they have political skills $p \in [(1+p^*)/2, \widetilde{p}]$).

The main difference with respect to the model without parties is that, when a political party can nominate candidates for the political office, in equilibrium not everybody who would want to become a politician does so. In particular, the party prevents individuals with low political skills (i.e., $p < (1+p^*)/2$) from becoming politicians. This result arises from an equilibrium compromise between the voters and the party. Voters want politicians in office who are as skilled as possible. The party wants politicians who generate rents. 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 discards individuals with low political skills who would want to become politicians and could generate rents for the party, and supports the nomination of politicians with high political skills who may not generate any rents. In exchange, the voters always approve the party's nominees and confirm in office incumbent politicians who, although relatively mediocre, 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.

Note that, although politicians who leave politics to work in the market sector may not generate rents for the party, they 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 possible rationale for the existence of political parties and their survival through time.[24]

[24]The details of the model with political parties and the proofs of all the results that obtain in that model

7 Concluding Remarks

In this paper, we have proposed a dynamic equilibrium model of the careers of politicians in an environment 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 a possible explanation for the existence of career politicians and individuals with political careers, and their motivations. 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 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.

Although our model abstracts from many details of 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. For example, an immediate implication of our model is that politicians with voluntary political careers should earn more than politicians who work in the market sector following an electoral defeat. This implication is consistent with the evidence provided by Diermeier, Keane and Merlo (2005) on the post-congressional wages of members of the U.S. Congress. In particular, the mean of the distribution of annual earnings of former representatives who choose to leave Congress to work in the private sector is equal to $258,418, with a standard deviation of $71,954 and a minimum of $122,662 (in 1995 constant dollars). The corresponding figures for former representatives who left Congress because of electoral defeat are equal to $247,198, $65,726 and $104,805, respectively. Note that to the extent that some representatives may choose to

are contained in an earlier version of this paper (Mattozzi and Merlo (2005)). For other recent models of the role of political parties see, e.g., Caillaud and Tirole (2002), Levy (2004) and Mattozzi and Merlo (2007).

leave office in anticipation of an electoral defeat, the wage difference observed in the data may understate the actual difference between the wages of representatives with truly voluntary and involuntary political careers.

Another implication of our model is that an increase in the political salary or a decrease in the market wage should increase turnover in office, and induce relatively more skilled politicians to leave office to work in the market sector. Using the empirical framework of Diermeier, Keane and Merlo (2005), Keane and Merlo (2007) assess the effects of a 20% decrease in the congressional wage and a 20% increase in wages outside Congress, respectively. They find that the overall impact of a 20% reduction in the congressional wage or a 20% increase in non-congressional wages is a 14% and 17% decrease in the average duration of congressional careers, respectively. The probability representatives exit Congress voluntarily prior to an election increases on average from about 7% to 10% in both cases. Interestingly, the group of politicians who are most affected by changes in the relative wages across occupations are the skilled politicians. They experience the largest reduction in the average duration of their congressional careers, which decreases by 18% and 22% in response to a 20% decrease in the congressional wage or a 20% increase in wages outside Congress, respectively. Also, the fraction of skilled politicians who leave Congress to work in the private sector following a wage increase in that sector increases by 15 percentage points. Furthermore, the percentage decrease in the average duration of the congressional careers of relatively younger politicians is noticeably larger than for their older counterparts.

Our model may also help to interpret differences in the types and durations of careers that are observed across countries and through time. For example, voluntary 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. We intend to pursue these issues in future work.

Appendix

The model described in Section 3 defines a game of incomplete information, where the players are the individuals. Let $N = \{1, ..., n\}$ denote the set of individuals alive in every period $t = 0, 1, ...$ Let $i \in N$ a generic individual, $a^i \in \{1, 2\}$ his age, and $p^i \in [0, 1]$ his political skills. In the first period of life, each individual has to decide whether or not to run as a candidate for public office. Let $\sigma_R^i(p^i) \in \{0, 1\}$ be the running strategy of an individual i with $a^i = 1$, where $\sigma_R^i(p^i) = 1$ denotes the decision to run for office. If an individual is elected to office, he becomes an incumbent politician, and in the second period of life he must then decide whether or not to rerun for a second term. Let $\sigma_{RR}^i(p^i) \in \{0, 1\}$ be the rerunning strategy of an individual i with $a^i = 2$, where $\sigma_{RR}^i(p^i) = 1$ denotes the decision to rerun for a second term in office.

In addition, in each of their two periods of life, individuals face an election, and have to decide whom to vote for given the set of candidates running for election in each period. Since political skills are private information, all individuals running for office are *ex ante* identical from the point of view of the voters, unless they are incumbent politicians, in which case their political skills are publicly known. Furthermore, since while in office a politician with political skills p generates a public benefit $b(p) = p$, the interests of the voters are aligned, in that they all want as skilled a politician in office as possible, regardless of their age. Obviously, the only exception is represented by the candidates themselves, who know their own political skills and want to be elected. Our assumption that the public benefit generated by a politician in office does not affect the career decisions of individuals, imply that each candidate will always vote for himself, and since the winning candidate is determined by plurality rule, the votes of the candidates offset each others, and are therefore irrelevant for the outcome of the election. Recall that we restrict attention to equilibria where the players use weakly undominated strategies.

Hence, for all practical purposes, we can simply specify the voting strategy of a representative individual who is not a candidate in an election where an incumbent is rerunning for office, and assume that if the individual does not vote for the incumbent or there is no incumbent running, a random draw from the set of candidates with age $a = 1$ determines the winner of the election. If, on the other hand, the individual votes for the incumbent, the

politician is confirmed in office for a second term. Let $\sigma_V(p) \in \{0,1\}$ denote such voting strategy, where p denotes the political skills of the incumbent, and $\sigma_V(p) = 1$ denotes the decision to vote for the incumbent.

Given Assumption A1, an equilibrium exists and is unique (up to the identity of the politicians in office), and is characterized by the following set of strategies:

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

$$\sigma_{RR}^i\left(p^i\right) = \begin{cases} 1 & \text{if } p^i \leq \min\{p^{**}, 1\} \\ 0 & \text{otherwise} \end{cases}$$

and

$$\sigma_V(p) = \begin{cases} 1 & \text{if } p \geq \frac{1+p^*}{2} \\ 0 & \text{otherwise} \end{cases}$$

where p^* and p^{**} are defined in (1) and (2), respectively. The proof follows from the arguments presented in Section 4.

In equilibrium, we have that $\frac{\partial \widehat{p}}{\partial \lambda} > 0$ if and only if $s > \alpha w$, $\frac{\partial \widehat{p}}{\partial \theta} > 0$ if and only if $s < \frac{2\alpha w + \phi\lambda w}{2}$, $\frac{\partial \widehat{p}}{\partial \alpha} > 0$, $\frac{\partial \widehat{p}}{\partial \phi} > 0$, $\frac{\partial \widehat{p}}{\partial w} > 0$, $\frac{\partial \widehat{p}}{\partial s} < 0$ and $\frac{\partial \widehat{p}}{\partial r} = 0$. The same comparative statics results hold for $\widehat{p}_{IPC}$, and, if $p^{**} \geq 1$, they also hold for $\widehat{p}_{CP}$.

Moreover, if $p^{**} < 1$: $\frac{\partial \widehat{p}_{VPC}}{\partial \lambda} < 0$, $\frac{\partial \widehat{p}_{VPC}}{\partial \theta} = 0$, $\frac{\partial \widehat{p}_{VPC}}{\partial \alpha} < 0$, $\frac{\partial \widehat{p}_{VPC}}{\partial \phi} = 0$, $\frac{\partial \widehat{p}_{VPC}}{\partial w} < 0$, $\frac{\partial \widehat{p}_{VPC}}{\partial s} > 0$, and $\frac{\partial \widehat{p}_{VPC}}{\partial r} > 0$; $\frac{\partial \widehat{p}_{CP}}{\partial \lambda} > 0$ if and only if $\theta > \frac{s+2r-\alpha w}{2(s+r-\alpha w)}$, $\frac{\partial \widehat{p}_{CP}}{\partial \theta} > 0$ if and only if $s < \frac{2\alpha w + \phi\lambda w}{2}$, $\frac{\partial \widehat{p}_{CP}}{\partial \alpha} > 0$ if and only if $\theta > \frac{1}{2}$, $\frac{\partial \widehat{p}_{CP}}{\partial \phi} > 0$, $\frac{\partial \widehat{p}_{CP}}{\partial w} > 0$ if and only if $\theta > \frac{s+2r}{2(s+r)}$, $\frac{\partial \widehat{p}_{CP}}{\partial s} > 0$ if and only if $\theta < \frac{1}{2}$, and $\frac{\partial \widehat{p}_{CP}}{\partial r} > 0$; and $\frac{\partial \tau}{\partial \lambda} > 0$ if and only if $\theta > \frac{2(1-\phi)}{2-\phi} + \frac{2(s-w\alpha)}{(s-w\alpha+r)(2-\phi)}$, $\frac{\partial \tau}{\partial \theta} > 0$ if and only if $s < \frac{2\alpha w + \phi\lambda w}{2}$, $\frac{\partial \tau}{\partial \alpha} > 0$, $\frac{\partial \tau}{\partial \phi} > 0$, $\frac{\partial \tau}{\partial w} > 0$, $\frac{\partial \tau}{\partial s} < 0$, and $\frac{\partial \tau}{\partial r} < 0$.

These results follow from equations (1) and (2) and the definitions of $\widehat{p}$, $\widehat{p}_{IPC}$, $\widehat{p}_{VPC}$, $\widehat{p}_{CP}$, and τ.

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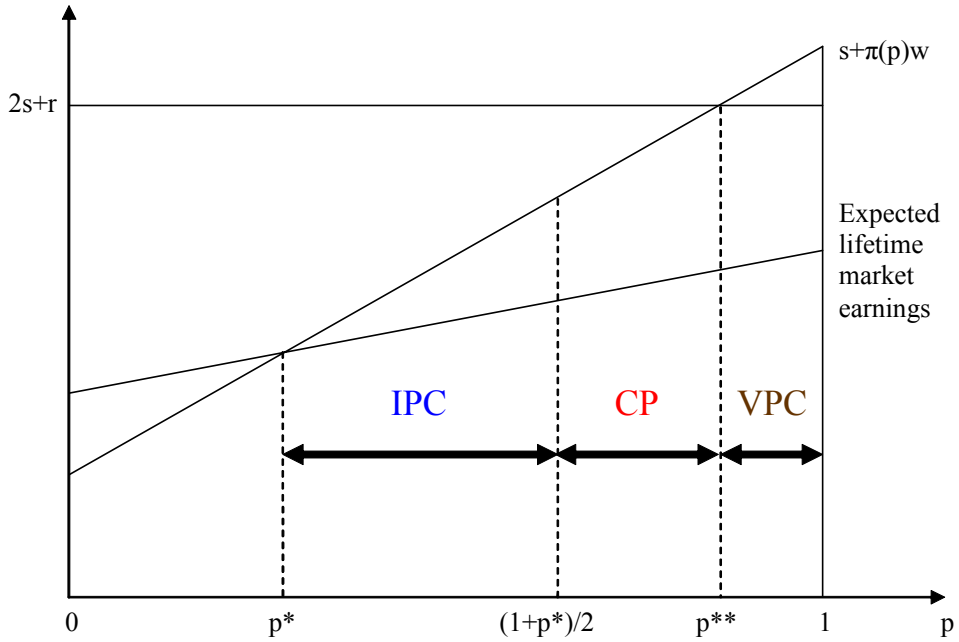

Figure 1: Equilibrium with voluntary political careers

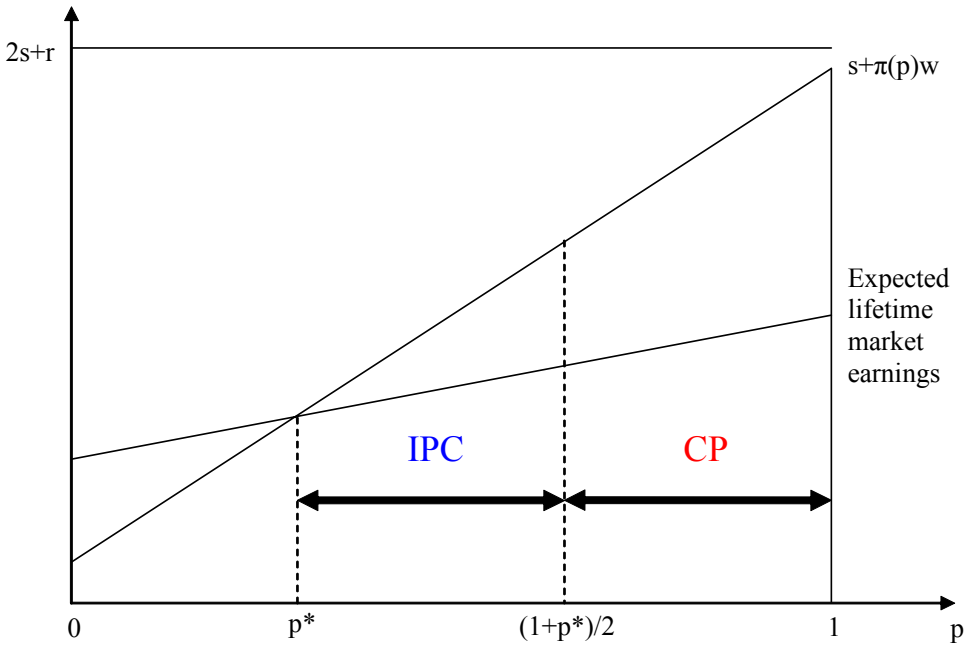

Figure 2: Equilibrium without voluntary political careers