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ABSTRACT

Outside Income and Moral Hazard: The Elusive Quest for Good Politicians*

In most modern democracies elected officials can work in the private sector while appointed in parliament. We show that when the political and market sectors are not mutually exclusive, a trade-off arises between the quality of elected officials and the effort they exert in political life. If high-ability citizens can keep earning money outside of parliament, they will be more likely to run for election; for the same reason, they will also be more likely to shirk once elected. These predictions are confronted with a unique dataset about members of the Italian Parliament from 1996 to 2006. The empirical evidence shows that bad but dedicated politicians come along with good but not fully committed politicians. There is in fact a non-negligible fraction of citizens with remarkably high pre-election income who are appointed in parliament. These citizens are those who gain relatively more from being elected in terms of outside income. Conversely, they are less committed to the parliamentary activity in many respects, like voting attendance and bills sponsorship.

JEL Classification: D72, J45, P16

Keywords: politicians, moral hazard, adverse selection, absenteeism, outside income

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1 Introduction

In almost every parliamentary democracy elected officials are paid a fixed salary, whether they work hard or not. What is not always recognized is that in many countries, like Italy, France, Germany, and the UK, members of parliament can keep working in the private sector after election. Outside employment can be either the continuation of a previous activity or something completely new. It is easy to think of an entrepreneur who keeps running a company while holding a seat in parliament, or a lawyer who still attends to his clients. It is harder to think of a civil servant or any other employee doing this, because they would need to regularly show up to work or because some incompatibilities might apply. Nevertheless, even in countries with a strict system of regulations, like the US, politicians can earn money outside of parliament by offering consulting, writing books or giving speeches and lectures, no matter what their previous job may have been.[1]

Politicians' outside employment has been long debated in many countries. In the US, for instance, the law regulating outside employment was tightened in 1977 after a tough confrontation inside Congress. As summarized at that time by Senator Bob Packwood (R) in his speech to the Senate, there were mainly two rationales for a strict limitation of outside income:[2]

> "One, it is we ought to be full time Senators and we should not do anything that takes time away from this job. That is the time argument. Two, it is a conflict. If we go out and speak, it is indeed a conflict and that ought to be barred."

Other politicians opposed the tightening by arguing that citizens with remarkable market activity would choose not to run for elective office rather than give up their private business. Referring to his choice to run for Congress while maintaining an external source of income as a lawyer, Senator Edmund Muskie (D) declared:[3]

> "I feel very strongly about this, and I say once more that maybe I did make a mistake 22 years ago. But I do know this, that the only thing that has made it possible for me to stay in public life 22 years was my choice - and I think it was an honorable choice - of this source of income for all of that time."

[1] In the US outside income cannot exceed 15% of the salary of an Executive Public Officer, which in 2006 was $165,200. See the Appendix A for a review of outside income regulations across countries.

[2] Congressional Record, Senate, March 21 1977, pg. 8333, Official Conduct Amendments of 1977.

[3] Congressional Record, Senate, March 18 1977, pg. 8158, Amendment n.93.

The issue is still harshly debated, not only in the US. For example, public disclosure of politicians' tax files in Italy and the UK has recently given rise to numerous articles on the popular press, with voters and opinion makers being mostly concerned that elected officials who engage in relevant private activities may be diverted from being full-time representatives.[4]

In this paper, we argue that when the political and market sectors are not mutually exclusive, a trade-off arises between the quality of elected officials and the effort they exert in office. If high-ability citizens do not have to give up their private business, then they will be more likely to run for election. For the same reason, however, they will also be more likely to shirk once elected. We frame this intuition in a simple theoretical model with two sectors: political and private. We assume that individuals are characterized by a unique skill, ability, which is rewarded in the private but not in the political sector. Given this setting, standard literature on political selection would predict adverse selection of *bad politicians* (Besley, 2004; Caselli and Morelli, 2004). The main novelty of our model is that politicians can work in either sector or in both. This departure comes with two main implications. First, the traditional assumption that the opportunity cost of running for office is higher for high-ability individuals may not be true anymore. In particular, if the marginal returns from ability in the market are larger after election (for instance, if a skilled lawyer, as opposed to a mediocre one, were able to procure new clients because of the networks and visibility he gains while in office), then also high-skilled citizens may want to enter politics. Second, as far as the parliament salary is paid whether elected officials work hard or not, a moral hazard problem arises because politicians with potentially higher outside income may prefer to exert less effort in parliament and more in the market. Voters may then find themselves constrained to the following two options: either vote for a low-ability but high-effort candidate, or for a high-ability but low-effort candidate.

The main ideas in the model are confronted with a unique dataset about the members of the Italian Parliament which, with more than 900 representatives, is one of the largest assemblies in the world. The dataset contains individual information on absences in electronic voting, bills as main sponsor, and extensive details on pre-election and outside income from 1996 to 2006. The main results show that although there is a drop in market income following an election, most politicians still earn a considerable amount of money

[4] "On. Bongiorno scelga: o fa il deputato o l'avvocato", *Corriere della Sera Magazine*, August 10, 2006; "Paid-up Members", *The Guardian*, March 28, 2005.

by working in the private sector (33% of total income while in office). In particular, we find that differences in market income are amplified after election, the elasticity of outside income with respect to pre-election income being equal to 1.33. This evidence supports the idea that there is a relative advantage from election for high-ability citizens in terms of outside income, which might explain why they decide to enter politics. Accordingly, we find that when compared to the rest of the Italian population, before entering parliament politicians belonged to the upper tail of the income distribution, the gap varying from +18% to +63% across the quantiles of the joint distribution.

At the same time, politicians with higher outside income are less committed to parliamentary activity in terms of voting attendance and number of proposed bills. One standard deviation of outside income (213,000 euros) is associated with a +3.9 percentage points of the absenteeism rate in electronic votes (with respect to a 33% average) and -0.77 bills (with respect to a 10.5 average). A similar effect is detected when outside income is replaced with pre-election income (+6.5 percentage points of the absenteeism rate and -0.41 bills for one standard deviation, i.e., 138,000 euros), which is a better measure for individual ability and a predictor of outside income opportunities while in office.

The rest of the paper is organized as follows. In Section 2, we review the related literature. In Section 3, we present the theoretical framework. In Section 4, we describe the data. In Section 5, we present the estimation results concerning the link between parliamentary effort and outside income. In Section 6, we present empirical evidence on the selection into parliament. We conclude with Section 7.

2 Related Literature

Outside employment has not received in the political economy literature the same attention it attracted in the public debate. Models that predict adverse selection in politics (Besley, 2004; Caselli and Morelli, 2004) are based on the assumption that the private and political sectors are mutually exclusive, and that low-quality individuals have a lower opportunity cost of running for office.[5] Our framework can be considered as an extension of this literature to the case where citizens can enter politics and work in the market at the same time. We also closely relate to Mattozzi and Merlo (2007a) when they emphasize the role

[5]Messner and Polborn (2004) come to a similar conclusion, although in their case the rationale for adverse selection is that high-quality citizens free-ride on low-quality ones, as for the former the attractiveness of public office is low.

of the public office in signaling ability or establishing a network that could be helpful in the private sector. In their model, however, the two options of being a politician or working in a perfectly competitive market are not simultaneously available. Because of that, some high-ability citizens decide to serve for a short period, after which they leave parliament and capitalize on their political experience.

Some authors have considered honesty, in addition to ability, as a desirable attribute of politicians (e.g., Caselli and Morelli, 2004). Others, instead, have focused on commitment. Besley (2004), for example, shows that paying politicians better will improve their performance, because the salary of a politician plays an efficiency-wage role. Conversely, Poutvaara and Takalo (2007) show situations where increasing politicians' reward lowers candidate quality. In our framework, we also focus on commitment in political life, but we abstract from honesty as we cannot observe an empirical counterpart for this.

Our paper is also conceptually related to the theoretical literature on dual job incentives in health care systems, where individual dedication prevents public-service physicians from referring patients to their private practices (Biglaiser and Ma, 2007) and selects altruistic physicians into the public sector (Ma, 2007). In this sense, our framework could be extended to other public offices, not necessarily elective, like judges, academics, and physicians, the common element with politicians being that they can round up their personal income, otherwise made of a fixed pay, by providing services in the private sector.

As individual-level data on politicians have become available, a conspicuous empirical literature has started growing. One of the first papers to use a large individual-level dataset is Diermeier, Keane, and Merlo (2005), who find that congressional experience in the US significantly increases post-congressional wages, both in the private and the public sector. Keane and Merlo (2007) further extend the analysis by assessing the impact of some specific policies on the quality of politicians. Interestingly, they find that restricting private sector employment after leaving Congress, like precluding employment in firms that rely heavily on government contracts, induces politicians who least value legislative accomplishments to leave the Congress. Dal Bo', Dal Bo', and Snyder (2007) also use data from the US Congress to document patterns and profiles of political dynasties. Finally, Gehlbach, Sonin, and Zhuravskaja (2006) use data from Russian gubernatorial elections to show that in immature democracies businessmen run for public office to gain direct control over certain policies.

There is also an established literature in political science addressing the issue of legislators' personal finances. Among the others, Fiorina (1994) shows that the professionalization of the legislative office in the US (i.e., the fact that it became a full-time job) made it relatively harder for the Republican Party to recruit high-quality candidates, because it traditionally recruited businessmen and lawyers. Not surprisingly, Rosenson (2007) find that senators who earned more honoraria were less likely to vote for a tightening of outside income limits legislation. Another strand of literature has focused on legislator voting.[6] Particularly close to our paper is Lott (1990), who finds that the possibility of being employed in the government after retiring from Congress reduces shirking in voting, otherwise decreasing in the proximity of new elections.

To the best of our knowledge, however, there are neither theoretical nor empirical studies assessing the implications of outside income on both politicians' effort and selection, and the way these two dimensions relate to each other.

3 Theoretical Framework

The following model provides a framework for evaluating the consequences of outside income opportunities on politicians' *ex-ante* selection and *ex-post* behavior, and it is meant to set the stage for the empirical analysis.

3.1 Setup

We investigate the determinants of citizens' decision to self-select into politics. Assume to observe a population of individuals with ability a, uniformly distributed in the interval $[0, \bar{a}]$. Ability is valued by the market as $M(a)$, that is, every individual with ability $\tilde{a}$ can get a market income equal to $M(\tilde{a})$ if he decides to work full-time in the private sector. This sector is meritocratic and attaches a positive value to skills (i.e., $M'(.) > 0$). The alternative option is to become a politician. The rewards from a political career in parliament are both financial and psychological. On the financial side, we assume that the remuneration is equal to W (the salary of the members of parliament) and independent of ability or performance, since we do not generally observe high-powered incentive schemes in politics (Besley, 2004). On the psychological side, positive payoffs (ego rents) accrue both from *being* a politician and from *doing* politics. Being a member of parliament gratifies

[6] See Bender and Lott (1996) for a review.

people because of the influence, celebrity, and power consciousness that comes with it. Doing politics (i.e., devoting time to the political office) gratifies people because they can fulfill their ideological goals. In other words, we assume that ego rents from becoming a politician (R) are made up of both payoffs attached to the position itself (R_1) and payoffs attached to the things that can be done (R_2). This distinction makes it evident that one can obtain some ego rents by simply becoming a member of parliament, while in order to obtain some additional rewards one has to invest time and effort into political life.

In our model, the main departure from the rest of the literature is that members of parliament can also earn money in the private sector while in office. Outside income is a function $P(a)$ strictly increasing in ability ($P'(.) > 0$). Since time is a scarce resource, if politicians are devoting part of their time to making outside income, their effort in political activities, as well as the rewards from doing politics R_2, will be lower. Formally, if we define $e \in \{0, 1\}$ as the effort put forth into parliamentary activities, the net payoff of becoming a politician is

$$\pi(a) = R_1 + eR_2 + W + (1 - e)P(a) - M(a), \tag{1}$$

which is equal to the sum of all financial and psychological rewards while in office minus the opportunity cost of becoming a politician $M(a)$.[7]

Decisions take place in two stages. In the first stage each individual, according to his own ability, decides whether to enter politics or not. To focus on this self-selection decision, like Besley (2004), we abstract from the role of political parties and voters in determining the quality of elected politicians. In doing so, we make the simplified assumption that the set of elected politicians is a random draw from all those willing to serve. Most papers (e.g., Caselli and Morelli, 2004) assume that voters always prefer high-ability candidates. Others, like Mattozzi and Merlo (2007b), argue that political parties may deliberately choose to recruit only mediocre politicians because they face the competition of a lobbying sector which pays higher wages. It is important to notice, however, that for our model to work, we simply need parties or voters to be supplied-constrained by the pool of candidates.

Finally, in the second stage each individual who has chosen to become a politician decides whether to put effort into parliamentary activities ($e = 1$) or not ($e = 0$).

[7]For the sake of simplicity, we only consider a binary effort. Our model could be generalized to the continuous case but, since the payoff function is linear in effort, the main results would remain unchanged.

3.2 Positive Predictions

As a benchmark, it is useful to derive a solution for the simple case where, like in traditional literature on political selection, the possibility of earning outside income is ruled out (i.e., $P(a) = 0 \ \forall a$). In this situation, as long as there are positive ego rents from doing politics ($R_2 > 0$), effort is always equal to 1; the payoff of becoming a politician is equal to its opportunity cost if $R_1 + R_2 + W = M(a)$. Clearly, only individuals with ability lower than $a_1 = M^{-1}(R_1 + R_2 + W)$ decide to become politicians. Excluding the two trivial equilibria in which all citizens become politicians ($a_1 > \bar{a}$) or nobody becomes a politician ($a_1 \leq 0$), the adverse selection of bad politicians (i.e., negative hierarchical sorting) is the main prediction. This is the result of traditional models: high-ability individuals prefer to stay away from politics because of the high opportunity cost of becoming a politician.

Things change if $P(a)$ is allowed. Outside income affects both the *ex ante* decision to enter politics and the *ex post* decision to exert effort in political life. Let's start with the second-stage decision about e, which is relevant only for those who decide to become politicians. In this case, only members of parliament for whom $R_1 + R_2 + W \geq R_1 + W + P(a)$, i.e., with ability lower than $a^* = P^{-1}(R_2)$, put forth effort into legislative activity ($e = 1$). This is a moral hazard problem due to the fact that a time constraint creates a trade-off between legislative effort and outside income. Because of higher outside opportunities, skilled individuals have an incentive to exert lower effort in political life and split their time between politics and the private sector.[8] This simple framework comes with a first testable prediction.

Prediction 1 *High-ability politicians ($a \geq a^*$) exert lower effort in parliamentary activity than low-ability politicians ($a < a^*$).*

Going back to the first-stage decision of entering politics, it is useful to look separately at citizens with $a \in [0, a^*)$ and citizens with $a \in [a^*, \bar{a}]$. The former weigh the benefit $(R_1 + R_2 + W)$ against the opportunity cost $M(a)$. For them, the net payoff of becoming a politician is

$$\pi_1(a) = R_1 + R_2 + W - M(a). \tag{2}$$

[8] We are assuming that voters cannot punish low-effort politicians. For instance, because of the electoral rule or because they possess less than full information. Note also that the threat of not being reelected is less binding for high-quality politicians, since they have better outside options in the market.

Their decision is the same as under the traditional assumption of having no outside income, because a moral hazard problem does not arise.[9] These citizens become politicians only if $a \in [0, a_1)$, where again $a_1 = M^{-1}(R_1 + R_2 + W)$. In the interval $a \in [0, a^*)$, $\pi_1(a)$ has either no zeros or a unique zero at a_1, after which it changes from positive to negative. Hence, in this subsample of citizens we observe three cases:

A. everybody becomes a politician (if $a_1 > a^*$);

B. nobody becomes a politician (if $a_1 \leq 0$);

C. there is negative hierarchical sorting (if $0 < a_1 \leq a^*$), i.e., citizens in $[0, a_1)$ become politicians and citizens in $[a_1, \bar{a}]$ do not.

Now focus on the first-stage decision of entering politics made by citizens with $a \in [a^*, \bar{a}]$. For them, the moral hazard problem is at stake. They weigh the benefits of becoming a politician $(R_1 + P(a) + W)$ against the opportunity cost $M(a)$. Their net payoff of entering politics is

$$\pi_2(a) = R_1 + P(a) + W - M(a), \tag{3}$$

which increases (decreases) as long as $P'(a) > M'(a)\ \forall a$ $(P'(a) < M'(a)\ \forall a)$. If the marginal return to ability for outside income is greater than the marginal return to ability for market income, the net payoff of becoming a politician increases with ability. An intuitive motivation for $P'(a)$ being greater than $M'(a)$ comes from Mattozzi and Merlo (2007a). Politicians are typically under the spotlight. Hence, by entering politics high-ability citizens have relatively better chances to reveal their specific skills. At the same time, they might be able to exploit the political position to establish a network of acquaintances, this network being stronger the higher the ability of the politician. Note also that, since $P(a^*) = R_2$, we observe that $\pi_2(a^*) = R_1 + R_2 + W - M(a^*) = \pi_1(a^*)$. From the above discussion about individuals with $a \in [0, a^*)$, we know that $\pi_1(a^*)$ can be either positive (case A) or negative (cases B and C). In the interval $a \in [a^*, \bar{a}]$, $\pi_2(a)$ has either no zeros or a unique zero at a_2, which is defined as: $R_1 + W + P(a_2) = M(a_2)$. The above three cases are then split into six possible equilibria:

A1. citizens in $[0, a_2)$ become politicians and citizens in $[a_2, \bar{a}]$ do not (if $a_2 \leq \bar{a}$);

[9] To rule out the uninteresting case where moral hazard does not come into play, we only consider the case of $a^* \in (0, \bar{a})$.

A2. everybody becomes a politician (if $a_2 \geq \bar{a}$);

B1. citizens in $[0, a_2)$ do not become politicians and citizens in $[a_2, \bar{a}]$ do (if $a_2 \leq \bar{a}$);

B2. nobody becomes a politician (if $a_2 \geq \bar{a}$);

C1. citizens in $[0, a_1)$ become politicians and citizens in $[a_1, \bar{a}]$ do not (if $a_2 \geq \bar{a}$);

C2. citizens in $[0, a_1)$ and $[a_2, \bar{a}]$ become politicians and citizens in $[a_1, a_2)$ do not (if $a_2 \leq \bar{a}$).

Excluding the trivial equilibria in which everybody becomes a politician (A2) or nobody does (B2), we can observe either positive hierarchical sorting (B1) or negative hierarchical sorting (A1 and C1), as well as an equilibrium in which citizens in the two tails of the ability distribution become politicians, while those in the middle do not (C2). The above four nontrivial equilibria are illustrated in Figures 1 through 4 (solid lines for the baseline case).[10] In case A1 (Figure 1), all low-ability but high-effort citizens enter politics, as well as a fraction of high-ability but low-effort citizens. We observe adverse selection like in the traditional literature, even though the cut-off ability level is a_2 and not a_1.[11] In case B1 (Figure 2), all low-ability and potentially high-effort citizens do not enter politics, since financial and psychological rewards are too low. However, thanks to outside income and an increasing $\pi_2(a)$, the citizens in the upper tail of the ability distribution find it profitable to enter politics, even though they exert no effort in parliamentary activity. In case C1 (Figure 3), we have exactly the same situation as in the traditional literature. High-ability (and potentially low-effort) citizens stay away from politics, while only the lower tail of the distribution finds it profitable to enter politics. The cut-off ability level is a_1 as in the baseline case with no outside income. Finally, in case C2 (Figure 4), the trade-off between positive selection and moral hazard is even more apparent. Citizens in the lower tail of the distribution enter politics and exert positive effort, while citizens in the upper tail of the distribution enter politics but exert no effort.

We can now derive an additional prediction.

[10] In all of these figures, $\pi_1(a)$ and $\pi_2(a)$ are drawn as straight lines for simplicity, although they do not necessarily need to be linear. The only assumption we need is that they are continuous and monotonic.

[11] The greater the level of outside income $P(a)$ with respect to ego rents from doing politics R_2, the higher is a_2 with respect to a_1.

Prediction 2 *If $P'(a) < M'(a)$ (sufficient but not necessary condition), we observe negative hierarchical sorting; if instead $P'(a) > M'(a)$ (necessary but not sufficient condition), also the very upper tail of the ability distribution may enter politics.*

We are aware that positive selection into politics may arise for many other reasons. So far, for example, we assumed R_2 as constant, while the ego rents from doing politics may be thought of as an increasing function of ability (the more skilled you are, the better you accomplish your ideological goals). In this case, if $R_2'(a) < P'(a)$, the predictions of our framework would remain unchanged. On the contrary, if $R_2'(a) > P'(a)$, positive sorting could be completely explained by ego rents $R_2(a)$ instead of outside income opportunities $P(a)$, but then the prediction in terms of moral hazard would be reverted: high-ability citizens would exert more effort than low-ability citizens. This gives even greater relevance to testing Prediction 1 in the data. If high-ability citizens exert less effort once elected, then they entered politics because of greater outside income opportunities.

At the same time, post-parliamentary returns might play an important role here (as in Mattozzi and Merlo, 2007a; and Diermeier, Merlo and Keane, 2005). High-ability candidates may run for politics even if outside income were not allowed, because serving as a politician could boost private sector earnings after leaving office. There are a number of features, nevertheless, that could not be completely addressed with post-parliamentary revenues only. First, future returns might not be enough to compensate for the loss of any private return for the period in office (at least four or five years). Second, they could not explain why some high-ability citizens might come into politics for life. Last but not least, post-parliamentary returns could not account for the moral hazard problem that come with pursuing private activities while in office.[12]

To sum up, our framework shows that as soon as outside income is introduced into the political selection mechanism, two main implications arise. First, there is a *moral-hazard* effect. High-ability individuals who choose to become politicians have an incentive not to exert effort in parliamentary activities, since they might spend their time to grasp outside income opportunities. Second, there is a *selection* effect, where adverse selection of bad politicians is no longer the only possible outcome. High-ability individuals may also find

[12]Another alternative explanation for the positive sorting equilibria may be that high-income candidates have higher financial resources to cover the cost of an electoral campaign. For this reason, they would be more likely to run for election. In countries where most of the electoral fund raising is made by parties, like Italy, the relevance of this argument is lower.

it convenient to enter politics as long as their outside income possibilities offset the greater opportunity cost.

3.3 Normative Thoughts

The main purpose of the model was to set the stage for the empirical analysis, deriving some positive predictions to be tested in the data. Nonetheless, we can derive some normative and policy thoughts as well. In the Appendix B, we formally discuss the normative implications of our framework. Here, some main points deserve to be mentioned.

First, a normative discussion about the selection effect of outside income is relevant only if political ability and market skills are positively correlated. We share this assumption with the literature on political selection. In particular, we find it plausible to assume that political competence and market skills are positively correlated (e.g., problem solving skills increase productivity both in the market and in politics), even though such a correlation might be far from perfect.

Second, the welfare comparison of situations *with* and *without* outside income is ambiguous. If outside income comes with a selection gain (e.g., cases B1, C2 and, under some circumstances, A1), this may more than compensate the cost of shirking, leading to a welfare improvement. If outside income comes instead with no selection gain (e.g., cases C1 and, under some other circumstances, A1), the cost of shirking always produces a welfare loss. From society's point of view, then, it is not clear whether outside income increases or decreases welfare. Furthermore, our framework only looks at the time constraint problem of outside income and does not consider the additional problems of "conflict of interest" (i.e., the fact that members of parliament with relevant outside activities might respond more to their private interests than to their electoral constituencies; see Stigler, 1967). We made that choice because in our data we have measures of outside income and parliamentary effort, but not honesty. If outside income comes not only with a shirking cost but also with an honesty cost, the previous policy conclusions might change in favor of a stricter regulation.

Another normative thought would regard the question of whether alternative policy-induced equilibria can be found, like raising the parliamentary salary W, which always outperform the equilibria with outside income in terms of social welfare. If outside income were not allowed, a mere increase in W only would never convince citizens in the very

upper tail of the ability distribution to enter politics, unless the parliamentary wage was set equal to $M(\bar{a}) - R_1 - R_2$, i.e., to the highest wage in the private market minus the ego rents from becoming a politician. This extremely high level of W may not be feasible for financial and political considerations, or there might be a negative reputation effect from increasing the statutory salary.[13] In these cases, allowing outside income would be the only way to make high-ability citizens enter politics.

If outside income were allowed, instead, would a policy increasing W be desirable? Our framework shows that this is not necessarily the case. If we look at Figures 1 through 4 (dashed lines), an increase in the compensation of politicians implies a parallel shift upward of the payoff function. Only in cases A1 and C1 (negative hierarchical sorting) there would be an unambiguous improvement in the average quality of candidates (a_1 and a_2 shift to the right), although this might come at the cost of higher moral hazard (in case A2, or in case C1 if $a_1' > a^*$). In case B1 (positive hierarchical sorting) there is a unambiguous reduction in the average quality of candidates ($a_2' < a_2$). Finally, in case C2 (two-tail sorting) there is an ambiguous change in the average quality of candidates (as $a_2' < a_2$ but $a_1' > a_1$). Contrarily to Besley (2004) and Caselli and Morelli (2004), in our framework paying a politician more may decrease the average quality of politicians, because it may induce some low-ability citizens, who would have otherwise stayed away from politics, to run for elections.

4 The Data

In what follows, we confront Prediction 1 and Prediction 2 with a dataset about the members of the Italian Parliament (House of Representatives and Senate) for the period 1996-2006 (legislatures XIII and XIV). Although the original dataset also included legislatures X (1987-1992), XI (1992-1994) and XII (1994-1996), we could not use XI and XII because they only lasted for two years and the information about outside income could not be recovered; we then dropped legislature X to avoid time discontinuities.

We have two reasons, rather than just data availability, to believe that the Italian Parliament is particularly suited for this type of empirical analysis. First, it is one of the largest assemblies in the world, with more than 900 representatives (630 deputies and 315 senators), against 535 in the US, 575 in France, and 659 in the UK. Second, although it has

[13] As in Frey (1997) or Benabou and Tirole (2006).

long been recognized as an assembly mostly composed of professional politicians, many outsiders entered the political arena after the majoritarian reform of the electoral system in 1994. This increased the heterogeneity of its composition, particularly reinforcing the representation of businessmen and other citizens coming from the private market.

The dataset contains individual income information coming from yearly tax returns. We also have information over the legislative term on absences (the number of electronic votes not attended without any legitimate reason), and the number of bills as main sponsor over the legislative term.[14] Finally, we have complete detail on the following political and demographic characteristics: political experience (this includes being a member of the directive office of a party at the local, regional and national level; past and current appointments as minister or state secretary; past appointments at the local government level, such as municipality, province or region councillor; past appointments in parliament); appointments in parliament (whether or not a politician is in a second committee and whether or not he is president or vice president of the parliament or of one committee); political party of affiliation; electoral system under which the politician was elected (majoritarian or proportional); the district of election; coalition type (whether they support the government or not); and some self-declared demographics (age, gender, place of birth, place of residence, level of education, field of education, previous job, marital status, and number of children).

The sources we used to collect this information included: the Annals of the Italian Parliament (*La Navicella*) for the demographic information;[15] the archive of tax returns for members of Italian Parliament to find the individual income information (except the salary from parliament); the internet archive of bills for legislative activity;[16] and the Italian Parliament Statistical Office for statistics on individual attendance and salaries.

A brief remark is needed on the distinction between earned and unearned income. In the theoretical framework, we implicitly assumed outside income to always be earned income, not unearned. The main force driving moral hazard was in fact the possibility of allocating time, otherwise devoted to the public office, to private activities. In the data

[14] Attendance does not refer to any committee's activity. Cases of non-attendance because of parliament missions and cabinet meetings are not counted as absences. Electronic votes account for about 90% of total votes (almost the totality if the vote were on a final bill's approval), the rest being held with hand counting. Some measurement error may arise from the forbidden practice of multiple voting.

[15] *I Deputati e i Senatori del Parlamento Repubblicano*, edited by Editoriale Italiana.

[16] Available at: http://www.senato.it/ricerche/sDDLa/nuova.ricerca.

we only observe the total income, which is the sum of property rents, labor income from entrepreneurial and self-employed activities, and labor earnings for dependent employees.[17] Property rents, however, do not represent a significant share of individual income.[18] Therefore, the total income can be taken as a good measure for earned income. Moreover, it is important to remark that even if total income were not a perfect proxy for earned income, it could still be a good measure of politicians' private activities, as far as unearned income, like property rents, also requires some management time.

4.1 The Italian Institutional Framework

In 1994, there was a change in the Italian electoral system. While politicians in previous legislatures were elected through a proportional system, those in legislatures XII (1994-1996), XIII (1996-2001), and XIV (2001-2006) were instead elected through a mixed system (25% proportional and 75% majoritarian). Legislatures XI and XII lasted less than the statutory duration (two years instead of five) and early elections were called. The number of seats (945) has remained unchanged throughout all terms: 630 are in the House of Representatives and 315 are in the Senate.

Another important point concerns the change in the party system composition. Before 1994, when the majoritarian electoral system was introduced, most of the parties gravitated around a strong but unstable center coalition that held power with no interruption since 1948. After 1994, new political actors joined the party system following the corruption scandal which reached many formerly established political leaders (the judicial investigation was called "Mani Pulite"). At the same time, many parties changed their names and compositions to adjust to the bipolar framework induced by the majoritarian system (the so-called "Seconda Repubblica"). Hence, since the data used in this paper only refer to Legislatures XIII and XIV, they are homogeneous with respect to both the electoral rule and the party system.

[17] Dividends and capital gains are not reported in the tax declaration since they are taxed as they are realized. The only exception is represented by the revenues from significant (5% if listed in the stock market, 25% if not) financial shares (in the measure of 51%). In this case, dividends and capital gains could also be considered time consuming and then assimilated to labor income.

[18] The tax returns' archive of the Italian Parliament contains information about the number of properties, but not their value. We checked on a random sample of politicians and we found that properties are not considerable in number. Of course, this could be because they were listed under the names of relatives, but this would not bias the tax declaration.

4.2 Descriptive Statistics

Table 1 summarizes the characteristics of politicians in the dataset. The sample is made up of 1,763 members of parliament, with repeated observations for those who held two consecutive appointments (415 individuals). The majority are male (90%) and the mean age at the beginning of the legislative term is 51 years. Before being appointed, many politicians were lawyers (14%), academics (10%), entrepreneurs (10%), self-employed (9%), and managers (9%), that is, they held typically private professions.[19] It is worth pointing out that elected individuals exhibit a percentage of university level education (72%) considerably higher than the rest of the Italian population (10% in 2002 for the 25 to 64 year-old population).[20] At the same time, 11% of politicians in the sample were completely new to politics when elected to parliament; that is, they had never before had any previous appointment in parliament, government, local government, and political party. On the contrary, 55% had at least one previous appointment in parliament, 19% had been appointed as government minister or deputy minister, 57% had an appointment in a local government, and 51% had an executive appointment in a political party. For the reasons explained in the previous section, repeat appointments in parliament are not frequent (at least for the back-benchers): the average number of terms is 1.03 (2.03 including the term of election) and the number of years served is 3.26.

Measuring the effort exerted by a member of parliament is not an easy task. There are many dimensions over which a politician might reveal his commitment to the public office. Being aware of these shortcomings, we measure effort in parliamentary activity through absences in electronic votes that lacked a legitimate reason, and, as a further check, through the number of bills proposed as main sponsor. While bills represent a main duty of a legislator, it is not clear whether they are the outcome of the effort of the politician himself, or of his own staff. For this reason, although we will often refer to bills for comparison exercises, we will mostly focus our analysis on absences. Other measures could have been used, like the the number of legislative achievements, or the number of appointments in parliament (as president or vice president of a branch of the parliament or a committee) or in government (like minister or deputy minister). The problem with these measures is that they could be confounded with ability, or they could be influenced

[19] For 71 politicians who declared to have retired before election, we re-imputed the previous job with the main activity before retirement.

[20] Source: *Education at a Glance*, OECD, 2004.

by a bargaining process within the party which the politician belongs to. This is not the case with absences and, to a reasonable extent, with bills.

Table 2 reports summary statistics for absences over the legislative term, standardized by the total number of votes.[21] The average rate of absenteeism in the scheduled votes is 33%. Excluding army officers, blue collars and students for whom we have few observations, absences seem to be considerable for lawyers (37%), journalists (37%), academics (37%), top civil servants (36%), magistrates (36%), entrepreneurs (34%), physicians (34%), and managers (34%). With the exception of top civil servants and magistrates, lack of attendance is higher for those professions for which formal or substantial incompatibilities do not apply, i.e., for those who could keep running their pre-election business. On the other side, teachers (28%), political party officials (27%), and white collars (26%), seem particularly committed to parliamentary activity.

Table 3 reports summary statistics for the number of bills. The average number of bills proposed in a legislative term is 10.48. Lawyers (12.97), magistrates (12.95), physicians (12.30), and teachers (12.06) are the most prolific categories. It is not surprising that politicians with a specific legal background show a relative advantage at writing bills.

The dataset contains the following information for individual income of all members of parliament: the gross salary from serving in parliament and the gross total income, both from the first to the fourth year in the legislative term (for those serving a consecutive mandate, we also observe the income in the fifth year of the legislative term).[22] We compute outside income as the difference between gross total income and gross parliament salary (which is fixed within a term unless some inflation adjustments are applied) in a specific year. For freshmen, we also observe the total income for the year before being elected (the first tax return deposited). Since absences and bills are measured per term, we then take the average of the outside income between the second and the fourth year.[23]

Table 4 summarizes these income variables.[24] The average total income of a represen-

[21] Actual number of votes ranges from 0 to 34,577, over a total number of votes varying from 6,418 to 34,966 depending on the legislature and the branch of the parliament.

[22] Elections in Italy are usually held in the spring. In July, all members of parliament must submit their tax declaration, which refers to the previous fiscal year. We also have net total income, but, as far as this includes tax deductions, we prefer to use the gross total income.

[23] Tax returns refer to the fiscal year, from January to December. For this reason, we cannot recover the information for the first six months in the term (a term usually starts in the late spring).

[24] We are aware that, because of tax evasion, income measures might underestimate the actual income. We believe this problem to be less serious here since politicians' tax files are subject to public disclosure. If not, any evidence we might find on moral hazard could be biased upward if tax evasion (and then

tative is 185,700 euros; 124,800 euros come as the parliament salary, but outside income is not an insignificant component (60,900 euros, 32.8% of total income).[25] The standard deviation of outside income is particularly high (212,900 euros), and the maximum value is 5,419,100 euros. In the second part of the table, we focus only on the sample of freshmen, for whom we also have information on the income of the year before elections. On average, citizens who then become politicians could count on 103,300 euros per year, with a standard deviation of 138,000 euros and a maximum value of 2,663,600 euros. Table 5 also shows that politicians with higher outside income were lawyers (113,500 euros), entrepreneurs (106,600 euros), and academics (109,300 euros).

5 Empirical Findings on Moral Hazard

In this section we present empirical evidence about the correlation between outside income and effort in parliamentary activity. From the theoretical framework we know that this relationship can be rewritten in the following reduced form:

$$e_{it} = \gamma P_{it} + \beta X_{it} + \upsilon_i + \epsilon_{it}, \tag{4}$$

where e_{it} is a measure of effort (absence rate), P_{it} is the outside income, X_{it} some individual covariates, and υ_i and ϵ_{it} are error terms (time invariant and variant, respectively) capturing any other unobservable component which is for the moment assumed to be uncorrelated with P_{it}. In Table 6 we present the estimates for this correlation over a final sample of 1,624 observations, where individuals with missing values for any control variable, life senators, ministers, and outliers with more than two million euros of outside income were excluded.

Since the absenteeism rate is bounded between 0 and 1, we use the GLM estimator proposed by Papke and Wooldridge (1996). After controlling for a large set of characteristics (previous job, gender, age, education, political experience, political party, macro-region

underreporting) were higher for politicians with high outside income. Selection mechanisms, instead, would remain unchanged as far as the degree of tax evasion is constant before and after election. This is a particularly plausible assumption if candidates anticipate during the electoral campaign the imminent public disclosure.

[25] In addition to the salary, a politician receives from the parliament 206.58 euros (at 2004 prices) for each voting day. This is meant to be a reimbursement for accommodation expenses in Rome, and it does not appear in the tax return (as any other office-related benefit). Considering that the average number of voting days per month is 12, the variable component of the remuneration of an elected official in Italy amounts to 29,747 euros per year (23.7% of the main salary).

of election, term in office, and being in the government coalition) we find that absences significantly increase along the outside income distribution. In particular, one standard deviation of outside income (212,900 euros) is associated with +3.9 percentage points in absenteeism, which corresponds to +11.8% of the mean absenteeism (33%).[26]

These numbers are particularly significant from an economic point of view. First, because it is likely that politicians with higher ability may find a way to perform both political and private activities without interference. If we then asked a random politician to make the same amount of outside income as a high-ability one, he would probably need to further reduce more his voting attendance. If this is the case, although $\hat{\gamma}$ could not have a causal interpretation (i.e., $cov(P_{it}, \upsilon_i) \neq 0$), it would still be a lower bound of the true parameter. Second, it is relevant because 13.4% of politicians have a source of outside income greater than 100 thousand euros, 5.3% greater than 200 thousand euros, and almost 2% more than 500 thousand euros (see Table 5). Even if not for everybody, it seems that a time constraint problem arises for a relevant number of politicians.

Estimate in column I might just capture a pure mechanical effect due to the time constraint. In column II, we then replace outside income with pre-election income M_i (available for 767 freshmen):

$$e_i = \gamma M_i + \beta X_i + \upsilon_i. \tag{5}$$

Being pre-determined, M_i can be considered a proxy for ability in the market, and then be used for a direct test of Prediction 1, i.e., high-ability politicians exerting a lower effort in parliamentary activity. Results confirm Prediction 1 of the theoretical framework. We find in fact that one standard deviation of pre-election income (138,000 euros) is associated with +6.5 percentage points in absenteeism (+19.2% with respect to the mean).

In order to detect heterogeneity in the correlation between absences and market income, we perform quantile regressions using the same control variables as in Table 6. Figure 5 shows the estimated coefficients for the outside income variable at different quantiles τ (γ_τ). The time constraint actually increases across the absenteeism distribution. In particular, an additional amount of outside income reduces the participation in voting especially when absences are already high; at lower levels, instead, additional outside income does not come

[26]We also tried with a quadratic term for the outside income to capture non-linearities, but it turned out to be not statistically significant. As a further robustness check, we run the same estimates on a sub-sample of politicians for whom there are no formal incompatibilities between the public office and the previous job (managers, entrepreneurs, self-employed, journalists, academics, and doctors). We found that the results were qualitatively identical.

with a relevant reduction in voting attendance. This suggests that the time constraint becomes particularly binding when the time not devoted to parliamentary activity (e.g., leisure) is no longer sufficient for cultivating outside interests. Figure 6 shows instead the estimated coefficients of the pre-election income variable at different quantiles. In this case the moral hazard does not arise at all for the lower half of the absenteeism distribution. This means that there is a relevant fraction of hard-working politicians for whom ability, and thus outside income opportunities, have no effect on parliamentary effort (e.g., because their ego rents from doing politics, R_2, are considerably higher with respect to the other politicians). However, for politicians with higher absenteeism rates we still observe a moral hazard problem.

In Table 7 we run a robustness check for the presence of moral hazard by replacing absences with the number of bills. Although, as we said before, bills may not exactly reflect individual effort, they still represent a key duty of an elected official, i.e., the legislative one. As we can see in column I, the number of bills decreases along the outside income distribution. In particular, one standard deviation of outside income (212,900 euros) is associated with a decrease by 0.77 in the number of bills, which corresponds to 7.3% of the mean (10.5). In column II, we replace outside income with pre-election income, and also find that one standard deviation of pre-election income (138,000 euros) is associated with an increase of 0.41 bills (5.2% with respect to the mean).

6 Empirical Findings on Sorting

Given the nature of the dataset, we cannot test the selection implications of our model in a straightforward way, as the regulation of outside income in Italy never changed during the period of time covered by the dataset. Nevertheless, something interesting can still be obtained from the data.

We start by comparing the pre-election income distribution for the politicians in our sample with the income distribution of the Italian population. The latter comes from the Bank of Italy Household Survey (SHIW), which is a representative sample of the Italian population.[27] Since almost every politician in the sample was employed before appointment (except 2 students and 71 retired individuals), we only selected individuals

[27]The SHIW only provides net (instead of gross) total income. We recovered the same measure for politicians by subtracting the net tax from the gross pre-election income.

in the Italian population who were employed at the reference pre-election years (1995 and 2000). Because of differences in the coding, we could match managers, entrepreneurs, self-employed, lawyers, white collars, teachers, and blue collars only. To make the exercise more meaningful, we further restricted the joint sample to individuals of working age (25-60).[28] We also accounted for under-reporting in the SHIW by increasing the income of the Italian population by 30% (half an increment for employees).[29]

As we can see in Figure 7, politicians' income distribution is located to the right with respect to the population distribution. For some members of parliament the pre-election income was extremely high, with only a small fraction below the median of the national distribution. We test the significance of these distributional differences in Table 8, which reports the estimates of a quantile regression over a joint distribution of the two samples:

$$ln(M_i) = \alpha_\tau Pol_i + \beta X_i + \upsilon_i, \tag{6}$$

where $\ln(M_i)$ is the logarithm of the net total income (the pre-election income for freshmen politicians), X_i is a set of all the control variables we could match between the two datasets (age, gender, year dummies, type of job, and education), Pol_i a dummy equal to one if the individual is a politician, and zero otherwise, and υ_i an error component.[30] The coefficient α_τ is always positive and significant at any quantile (see column I), although the premium for future politicians declines when we test it at lower quantiles (from +63% in the 90th quantile to +18%in the 10th quantile). In column II we restrict the joint sample to males between 40 and 60, with at least a B.A. degree, and excluded blue collars, teachers, and white collars, to focus the comparison more specifically on the upper tale of the income distribution. In this case, the gap is lower, but still positive and statistically significant at the highest quantiles. As far as pre-election income can be interpreted as a proxy for ability, this evidence makes it difficult to conclude that citizens appointed to parliament were the outcome of an adverse selection mechanism only.

Our theoretical framework offers a possible explanation to this puzzle. In what follows, we decompose the gain from election into its two main financial components: parliament salary and outside income. We then clean the original sample of politicians from those

[28]The minimum age for being candidate in the House of Representatives is 25 years, 40 in the Senate.

[29]See Brandolini (1999) for a detailed analysis of under-reporting in the SHIW. We did not make the same correction for politicians' income as we observe their true tax returns.

[30]Following Mansky and Lerman (1977), we control for choice-based sampling by using the *Pesofl* weights (the inverse of the sampling probability) available in the SHIW dataset, and a weight equal to one for the politicians (the whole universe of members of parliament).

whose previous job was as army official, student, political party official, trade unionist, white collar, blue collar, and teacher. In this way we are left with a sample of individuals (528) whose observed market income is more likely to reflect individual talent. Table 9 summarizes pre-election income, total income while in office, parliament salary, and outside income (all gross) by quintiles of the income distribution before election. It is easy to see that in every quintile, the average total income while in office exceeds the pre-election income, i.e., all members of parliament (except 54) had a pecuniary gain from being elected (from an average of +318% in the first quintile to +18% in the highest quintile). However, the absolute value and composition of this gain are significantly different at different levels of pre-election income. As it can be seen in Figure 8, citizens with a low income before election gain the most because of the salary they receive once in office (an average of +278% for citizens in the lowest quintile), which more than offsets the drop in market income (outside income being only 40% of pre-election income, with only 13 individuals experiencing an increase). On the contrary, citizens with a high income before the election gain because they can keep running their private business (for citizens in the highest quintile outside income is 77% of pre-election income). In fact, if they had had to rely on parliament salary only, they would have experienced a 59% income loss. What is particularly important is that the ratio between outside income and pre-election income increases as we move up in the pre-election income distribution. This is evocative of the fact that high-ability citizens have a relative advantage over election in terms of outside income, i.e., the marginal return to ability for market income is greater when appointed than when not appointed ($P'(a) > M'(a)$). This is a necessary condition for observing high-ability individuals entering politics (Prediction 2).

In Table 10 we formally test this hypothesis by regressing the log of the outside income over the log of pre-election income:

$$ln(P_i) = \mu ln(M_i) + \beta X_i + \upsilon_i, \tag{7}$$

where μ represents the standard elasticity parameter ($\frac{\%\Delta P_i}{\%\Delta M_i}$). In case $\hat{\mu}$ was higher than one, this would mean that a percentage difference in pre-election income ($\%\Delta M_i$) translates, once elected, into a more than proportional difference in outside income ($\%\Delta P_i$), i.e., being elected amplifies the differences in market income. The final sample over which we estimate equation (7) is made of 506 individuals for whom we have non-missing values for any variable, and the standard outliers were excluded. As we can see in column I,

the elasticity is significantly higher than one at 1% level ($\hat{\mu}_{OLS}$ equal to 1.28) even after controlling for the standard set of covariates.[31] Politicians who had higher market returns before election have a relative gain in terms of outside income.

One main problem with the estimate in column I, as well as with Figure 8, is that we do not actually observe outside income opportunities $P(a)$, but instead observe outside income conditional to effort $(1 - e_i)P_i$. For this reason, we need to include absences as an additional control. Absences, however, are potentially endogenous with respect to outside income and, even if it is not the main parameter of interest, it might introduce an additional source of bias in the estimation. For this reason, we instrument it with the time distance (in hours) between Rome, where the Parliament is located, and the province of residence, where we assume politicians' outside activity and personal interests to be concentrated.[32] This variable is likely to influence absences and, more importantly, it is exogenous with respect to outside income for two main reasons. First, because the equal distribution of representatives over the national territory ensures that it is not only the citizens who live close to Rome who run for politics.[33] Second, because politicians are exempted from travel expenses (except when they travel by car) and then individual wealth does not have any influence on commuting decisions. At the same time, the distance from Rome does not affect outside income directly, but through absences only, as far as the central geographical position of Rome guarantees that distance does not reflect different regional economic conditions. As an example, Milan (one of the provinces with the highest per-capita income) and Nuoro (one of the provinces with the lowest per-capita income) share the same distance from Rome, which is 3:54 hours.

First-stage estimates in column II (province of residence available for 393 individuals only) show that being resident in a province far from Rome has a negative and statistically significant impact on absenteeism (-1.8 percentage points for each hour). The intuition

[31] The comparison between the pre-election and the post-election market income might be spurious in the presence of favorable economic conditions specific to some professional categories in the related period. We checked this possibility over the SHIW dataset, and found that entrepreneurs and self-employed actually experienced an income increase at national level between 2003 and 2004, but this does not overlap with the intervals over which we computed the elasticity (1995-1997 and 2000-2002). Before 2003, and for all the other professional categories we could match, the time profile of income was instead flat.

[32] Time distance is computed as the time to get to Rome with the fastest mean of transportation between car, airplane and train. It also accounts for the commuting time from the province of residence to the nearest *Alitalia* flight or *Trenitalia/Eurostar* station, and daily frequencies (normalized to one for the car). Time distance ranges from 1:12 in Latina to 5:54 hours in Cosenza (zero for those living in Rome).

[33] 85% of the politicians live in the same region of election.

is that politicians who live far from Rome find more costly to commute everyday. For this reason, they commute less and attend a higher number of sessions. More importantly, second-stage estimates confirm the results in column I. Even after controlling for absenteeism, the elasticity term is still greater than one ($\hat{\mu}_{IV}$ equal to 1.33), although less statistically significant. High-ability politicians have the opportunity after election to reveal their skills to the market or, alternatively, they are better at exploiting the political position for establishing acquaintances that might be useful in the outside work. In this sense, our theoretical framework offers a reasonable explanation to the fact that some members of parliament belonged to the upper tail of the income distribution before election. It is the opportunity to earn outside income that make high-ability citizens willing to stand for election.

7 Conclusions

In this paper, we investigate the possibility of elected officials working in the private sector while appointed in parliament. We show, both theoretically and empirically, that after removing the mutual exclusiveness between the elective office and outside work, a moral hazard problem arises which was not identified in the previous literature. On the other hand, as long as high-ability citizens do not have to give up their private business, they are more likely to run for election and adverse selection into politics is no longer the only possible outcome.

Normative indications about the desirability of outside income are not straightforward. First, it is worth noticing that regulation would not be necessary if voters, through elections, could perfectly select and monitor their representatives choosing the preferred combination of ability and effort. This is unlikely, however, in the presence of asymmetric information on voters' side, or might be strongly influenced by the institutional setting, like the party system or the electoral rule (see Gagliarducci, Nannicini, and Naticchioni, 2007). Second, normative implications crucially depend on how much ability can compensate for effort (or vice versa). If these two attributes were complementary, then an equilibrium in which low-ability but dedicated politicians come along with high-ability but not fully committed politicians, might be preferable to a situation in which outside income is limited or not allowed.

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Appendix A. Outside Income Regulation and Incompatibilities: Cross-Country Comparison

In this appendix we describe the regulation of outside income in the following three countries: the US, the UK, and Italy.

US - *House of Representatives* and *Senate*

In 1992 the House of Representatives adopted a strict ethic code, which incorporated the contents of previous related bills, mainly in 1977, 1989 and 1991. According to these guidelines, the amount of outside earned income that representatives and senior staff can have in any calendar year is limited. The limit per year is 15% of the rate of pay for Level II of the Executive Schedule in effect on January 1 of that year. The rate of pay for Executive Level II in 2006 was $165,200. Accordingly, the outside earned income limit for calendar year 2006 was $24,780.

These restrictions apply only to earned income, that is, employment, rather than investment income. The rule defines the term outside earned income as "wages, salaries, fees, and other amounts received or to be received as compensation for personal services actually rendered."The rule specifically excludes: the individual's congressional salary; compensation for services rendered prior to coming to Congress or before the effective date of the rule; amounts paid to a qualified pension, profit-sharing, or stock bonus plan; in the case of a family-controlled business or farm, amounts received in connection with protecting or managing one's investment as long as the personal services rendered do not in themselves generate a significant amount of income; copyright royalties received from established publishers under usual and customary contractual terms.

As for honoraria, until 1991 all the representatives, officers, and employees were free to accept honoraria of up to $2,000 per speech, appearance, or article, subject only to the outside earned income cap then effective for representatives. The Ethics Reform Act of 1989 prohibited all members, officers, and employees of the House (as well as all executive branch employees) from receiving any honoraria, as of January 1 1991. Similar restrictions apply to teaching activities: members and covered employees may not teach for compensation, unless they receive prior written permission from the Committee on Standards.

Violation of these laws may lead to disciplinary action in the House and/or civil fines

of up to $10,000 or the amount of compensation for the prohibited conduct, whichever is greater. However, the statute specifically provides that any House Member or employee who acts in good faith in accordance with a written advisory opinion from the Committee on Standards shall not be subject to any sanction.

Identical restrictions apply to the US Senate.

UK - *House of Commons* **and** *House of Lords*

The UK system is based on the principles stated in the Code of Conduct, adopted by the House of Commons on July 2005 and by the House of Lords in March 2002. These two set of rules are quite similar. The set of incompatibilities is quite narrow and mainly concerns public occupations. In particular, members may not simultaneously occupy the following posts: membership in the armed forces, policemen, civil servants, certain judicial offices, clergymen (except of non-conformist churches), peers, membership in a large number of public boards and tribunals.

As for the possibility to carry out outside activities, the UK system provides for a high degree of transparency. Members are required to register their pecuniary interests in a Register of Members' Interests. The duty of compiling the Register now rests with the Parliamentary Commissioner for Standards. The main purpose of the Register of Members' Interests is to provide information of any pecuniary interest or other material benefit which a Member receives which might reasonably be thought by others to influence his or her actions, speeches or votes in Parliament, or actions taken in his or her capacity as a Member of Parliament.

According to the House of Lords Rule of Conduct, the following financial interests are always relevant and therefore must be registered: any consultancy agreement under which Members of the House provide parliamentary advice or services; employment or any other financial interest in businesses involved in parliamentary lobbying on behalf of clients, including public relations and law firms but Members of the House involved with organizations that offer commercial lobbying services are not obliged to refrain from participating in parliamentary business in connection with all clients of that organization but only their personal clients; any remunerated service which Members of the House provide by virtue of their position as members of Parliament, and the clients of any such service; employment as a non-parliamentary consultant; remunerated directorship;

regular remunerated employment (excluding occasional income from speeches, lecturing, broadcasting and journalism); shareholdings amounting to a controlling interest; provision by an outside body of secretarial and research assistance; visits with costs paid in the United Kingdom and overseas, made as a member of Parliament, except any visits paid for from public funds.

Further, the list above is not exhaustive. Relevant financial interests may also include (depending on their significance): shareholdings not amounting to a controlling interest; landholdings (excluding Members' homes); the financial interests of a spouse or relative or friend; hospitality or gifts given to a Member which could reasonably be regarded as an incentive to support a particular cause or interest.

Interests that do not exceed 1% of the current parliamentary salary do not have to be registered. Further, except for remuneration received by Members for advice in relation to parliamentary matters, Members of the House are not required to disclose how much they earn from the financial interests set out in paragraphs 12 and 13, but they may do so if they wish.

No limits are set for outside earnings.

Italy - *Senato* **and** *Camera dei Deputati*

In Italy there are several incompatibilities with non elective public offices. Members of parliament cannot simultaneously hold the following positions: ordinary magistrate, magistrate of the Supreme Court and of the Supreme Committee of the Magistracy, member of the National Council of Economy and Labor, executive manager of a state-owned or state-assisted company. Ministers cannot receive any compensation for the functions they exercise in companies or other entities that pertain to their ministries.

The Committee on Elections (*Giunta per le Elezioni*) is the institutional body in charge for the decision concerning incompatibilities. In the first thirty days of the legislative term, representatives have to declare all their public, institutional and private positions to the Committee on Elections. They are asked to update this information over time when changes occur. They also have to declare personal estate properties as well as any shareholding and directorship. In case an incompatibility is detected, representatives must choose whether they want to keep the public office or the private activity.

No limits are set for outside earnings, as in the UK.

Appendix B. Normative Implications of the Theoretical Framework: Comparing Equilibria

The model presented in Section 3 highlights a trade-off between political selection and moral hazard, which is driven by the possibility of making outside income when elected to parliament. In Subsection 3.3 we briefly discussed the desirability of different equilibria. We now make these normative implications more transparent. In particular, we assume that the social output of a politician is a positive function of both ability and effort:

$$F(a, e) = e\tilde{F}(a) + (1 - e)[\tilde{F}(a) - \lambda] \tag{8}$$

with $\tilde{F}'(a) > 0 \ \forall a$, $\tilde{F}(a) - \lambda > 0$ for some a, and $\lambda > 0$. Politicians with higher skills are more valuable because of their greater competence in problem solving. Politicians who shirk produce instead a fixed social cost equal to λ.

How do the four nontrivial equilibria in Section 3.3 (A1, B1, C1, and C2) compare with the counterfactual case of no outside income? As the set of elected politicians is a random draw from the pool of citizens who self-select into politics, in the equilibrium with no-outside-income the average output is

$$\bar{F} = \frac{1}{a_1} \int_0^{a_1} \tilde{F}(a) da. \tag{9}$$

In case A1 (Figure 1), the average output is

$$\bar{F}_{A1} = \frac{1}{a_2} \int_0^{a_2} \tilde{F}(a) da - \frac{(a_2 - a^*)\lambda}{a_2}, \tag{10}$$

i.e., the average productivity of a politician in the interval $[0, a_2)$ minus the shirking cost of politicians in the interval $[a^*, a_2)$. The welfare comparison with the no-outside-income situation depends on the relative position of a_1 and a_2. If $a_1 = a_2$, we have that $\bar{F}_{A1} < \bar{F}$, since the average productivity is the same but outside income comes with a shirking cost. If $a_1 > a_2$, we have that $\bar{F}_{A1} < \bar{F}$, since outside income comes with both a selection loss and a shirking cost. If $a_1 < a_2$, the comparison between $\bar{F}_{A1}$ and $\bar{F}$ depends on the primitive parameters, since outside income comes with a better selection that may (or may not) compensate for the shirking cost.

In case B1 (Figure 2), the average output of self-selected politicians is

$$\bar{F}_{B1} = \frac{1}{\bar{a} - a_2} \int_{a_2}^{\bar{a}} \tilde{F}(a) da - \lambda. \tag{11}$$

In this case low-quality (and potentially high-effort) citizens stay away from politics, since $a_1 < 0$. Hence, $\bar{F}_{B1} > \bar{F}$, as long as high-ability politicians who shirk are not a net cost for society, i.e., as long as $F(a, 0) > 0$, $\forall a \in [a_2, \bar{a}]$.

In case C1 (Figure 3), the average output is exactly equal to the no-outside-income counterfactual:

$$\bar{F}_{C1} = \frac{1}{a_1} \int_0^{a_1} \tilde{F}(a) da, \tag{12}$$

so that $\bar{F}_{C1} = \bar{F}$.

Finally, in case C2 (Figure 4), the average output is

$$\bar{F}_{C2} = w_1 \left[\frac{1}{a_1} \int_0^{a_1} \tilde{F}(a) da \right] + w_2 \left[\frac{1}{\bar{a} - a_2} \int_{a_2}^{\bar{a}} \tilde{F}(a) da - \lambda \right] = w_1 \bar{F} + w_2 \hat{F}, \tag{13}$$

with $w_1 = a_1/(a_1 + \bar{a} - a_2)$ and $w_2 = (\bar{a} - a_2)/(a_1 + \bar{a} - a_2)$. Hence, the comparison between $\bar{F}_{C2}$ and $\bar{F}$ depends again on the primitive parameters. If the selection gain of equilibrium C2 with respect to the baseline no-outside-income case ($\hat{F} - \bar{F}$) is greater than the shirking cost (λ), then $\bar{F}_{C2} > \bar{F}$, or vice versa.

The bottom line is that the welfare comparison of situations *with* and *without* outside income is ambiguous. If outside income comes with a selection gain (case B1, case C2, and case A1 with $a_2 > a_1$), this gain may more than compensate the shirking cost, leading to a welfare improvement. If outside income comes instead with no selection gain (case C1 and case A1 with $a_2 \leq a_1$), shirking always produces a loss. From society's point of view, it is not *a priori* clear whether outside income increases or decreases welfare.

Tables and Figures

Table 1: Sample Characteristics

	Obs.	Mean	St. Dev.	Min	Max
Male	1,763	0.90	0.30	0	1
Age	1,763	50.95	9.34	27	88
Age at the Entry	1,763	47.27	9.22	26	88
Lower Secondary	1,705	0.02	0.12	0	1
Upper Secondary	1,705	0.26	0.44	0	1
B.A.	1,705	0.63	0.48	0	1
M.A. or Ph.D.	1,705	0.09	0.29	0	1
Lawyer	1,725	0.14	0.35	0	1
Top Civil Servant	1,725	0.07	0.25	0	1
Manager	1,725	0.09	0.28	0	1
Political Party Official	1,725	0.07	0.26	0	1
Journalist	1,725	0.08	0.27	0	1
Entrepreneur	1,725	0.10	0.30	0	1
Self Employed	1,725	0.09	0.29	0	1
Teacher	1,725	0.09	0.28	0	1
White Collar	1,725	0.04	0.20	0	1
Magistrate	1,725	0.02	0.15	0	1
Physician	1,725	0.08	0.27	0	1
Blue Collar	1,725	0.00	0.06	0	1
Professor	1,725	0.10	0.30	0	1
Trade Unionist	1,725	0.02	0.15	0	1
Army Officer	1,725	0.01	0.08	0	1
Student	1,725	0.00	0.03	0	1
House of Representatives	1,763	0.66	0.47	0	1
Government Coalition	1,763	0.53	0.50	0	1
Parliament Appointments	1,763	0.15	0.36	0	1
Majoritarian Election	1,763	0.75	0.43	0	1
North-West District	1,763	0.26	0.44	0	1
North-East District	1,763	0.18	0.39	0	1
Center District	1,763	0.18	0.39	0	1
South District	1,763	0.25	0.43	0	1
Islands District	1,763	0.12	0.32	0	1
Parliament Experience (n. terms)	1,763	1.03	1.38	0	12
Parliament Experience (years)	1,763	3.26	4.90	0	48
Ever appointed in:					
Parliament	1,763	0.55	0.50	0	1
Government	1,763	0.19	0.39	0	1
Local Government	1,763	0.57	0.50	0	1
Political Party	1,763	0.51	0.50	0	1
Any	1,763	0.89	0.32	0	1

Note. Self reported previous job and highest educational level completed. *Any* means they held at least one of the appointments listed above.

Table 2: Percentage Absenteeism by Previous Job

	Obs.	Mean (%)	St. Dev.	Min.	Max.
Student	2	42	0.27	0.23	0.61
Army Officer	10	39	0.30	0.02	0.83
Professor	159	37	0.29	0.01	0.91
Lawyer	239	37	0.27	0.01	0.99
Journalist	129	37	0.25	0.00	0.96
Magistrate	40	36	0.27	0.03	0.87
Top Civil Servant	112	36	0.30	0.01	0.97
Physician	127	34	0.27	0.00	0.95
Entrepreneur	165	34	0.28	0.00	0.97
Manager	145	34	0.27	0.00	0.90
Self Employed	154	32	0.26	0.00	0.96
Trade Unionist	38	31	0.30	0.01	0.86
Teacher	148	28	0.27	0.01	0.99
Political Party Official	115	27	0.26	0.00	0.98
White Collar	73	26	0.23	0.00	0.86
Blue Collar	6	23	0.29	0.02	0.79
Total	1,662	33	0.27	0.00	0.99

Note. Percentage of electronic votes not attended without any legitimate reason.

Table 3: Bills by Previous Job

	Obs.	Mean	St. Dev.	Min.	Max.
Army Officer	11	15.36	11.76	0	41
Lawyer	245	12.97	17.25	0	151
Magistrate	42	12.95	9.85	0	44
Physician	132	12.30	15.40	0	135
Teacher	152	12.06	17.49	0	112
Top Civil Servant	113	10.89	13.08	0	66
White Collar	75	10.84	12.05	0	75
Self Employed	159	10.83	17.01	0	170
Journalist	142	10.47	12.10	0	81
Blue Collar	6	10.17	14.39	0	38
Professor	167	10.14	16.74	0	117
Entrepreneur	167	8.28	8.34	0	41
Manager	149	7.96	8.75	0	44
Student	2	7.50	6.36	3	12
Political Party Official	122	6.99	9.17	0	55
Trade Unionist	41	6.85	9.68	0	53
Total	1,725	10.48	14.10	0	170

Note. Bills as main sponsor only.

Table 4: Income Measures

	Obs.	Mean	Median	St. Dev.	Min.	Max.
All:						
Total Income	1,688	185.7	142.7	213.0	123.3	5,542.4
Parliament Salary	1,763	124.8	123.3	1.5	123.3	126.4
Outside Income	1,688	60.9	17.9	212.9	0.0	5,419.1
Freshmen:						
Pre-Election Income	859	103.3	70.6	138.0	0.0	2,663.6
Total Income	863	179.3	140.2	150.2	123.3	3,150.9
Parliament Salary	891	124.9	126.4	1.5	123.3	126.4
Outside Income	863	54.4	15.5	150.2	0.0	3,024.5

Note. All income measures are gross, in thousand of euros (2004 prices), and averaged between the second and the fourth year in the term in office (except the pre-election income which refers to the fiscal year before election).

Table 5: Outside Income by Previous Job

	Obs.	Mean	Median	St. Dev.	% > 100	% > 200	% > 500
Lawyer	240	113.5	54.3	179.1	31.25	14.17	4.17
Professor	161	109.3	28.1	393.4	19.88	11.18	1.86
Entrepreneur	161	106.6	24.7	452.7	16.77	7.45	4.35
Army Officer	9	82.8	95.7	36.0	33.33	0.00	0.00
Magistrate	42	60.6	28.1	74.0	28.57	4.76	0.00
Manager	141	58.1	11.5	181.8	9.22	3.55	2.13
Top Civil Servant	111	49.5	10.3	121.0	12.61	5.41	0.90
Self Employed	151	44.4	16.2	90.5	11.26	2.65	0.66
Physician	126	41.5	24.2	55.9	7.94	1.59	0.00
Journalist	127	37.6	11.1	63.5	10.24	3.15	0.00
Union Rep.	38	17.8	7.9	20.1	0.00	0.00	0.00
Teacher	148	17.2	8.4	22.2	0.68	0.00	0.00
White Collar	71	14.9	3.0	27.2	4.23	0.00	0.00
Political Party Off.	118	12.5	2.2	142.9	0.85	0.00	0.00
Blue Collar	6	2.1	0.2	3.2	0.00	0.00	0.00
Student	2	0.0	0.0	0.0	0.00	0.00	0.00
Total	1,652	61.4	17.6	215.1	13.38	5.27	1.51

Note. Gross outside income in thousand of euros (2004 prices), averaged between the second and the fourth year in the term in office.

Table 6: The Determinants of Absenteeism − GLM estimates

	I		II	
	dy/dx	P-Value	dy/dx	P-Value
Outside Income	0.0178	0.000		
Pre-Election Income			0.0297	0.000
Lawyer	0.0409	0.180	0.0266	0.617
Top Civil Servant	0.0138	0.672	0.0047	0.929
Manager	0.0282	0.352	0.0074	0.890
Political Party Official	0.0069	0.834	-0.0190	0.742
Journalist	0.0251	0.432	0.0260	0.652
Enterpreneur	0.0152	0.597	0.0165	0.752
Teacher	0.0124	0.698	0.0128	0.823
Self Employed	0.0122	0.677	0.0056	0.915
Magistrate	-0.0319	0.307	-0.0311	0.469
Physician	0.0414	0.217	0.0451	0.453
Blue Collar	-0.0092	0.916	-0.1790	0.000
Professor	0.0287	0.354	0.0340	0.546
Trade Unionist	-0.0237	0.596	-0.0583	0.319
Army Officer	-0.0097	0.878	0.0173	0.837
Male	0.0420	0.010	0.0723	0.001
Age	-0.0016	0.024	-0.0030	0.002
B.A. Degree	-0.0054	0.707	-0.0077	0.716
House of Representatives	-0.1241	0.000	-0.1022	0.000
Government Coalition	-0.3306	0.000	-0.2947	0.000
Majoritarian Election	-0.0508	0.000	-0.0117	0.488
Legislature XIV	-0.0948	0.000	-0.1066	0.000
Political Party Experience	-0.0592	0.000	-0.0468	0.021
Parliament Experience	0.0138	0.238	0.0423	0.152
Government Experience	0.0842	0.000	0.0155	0.702
Local Government Experience	-0.0219	0.056	-0.0285	0.094
Parliament Appointment	-0.0111	0.492	0.0228	0.530
Party Appointment	0.0870	0.000	0.0624	0.010
Second Committee	0.0131	0.603	0.0154	0.642
Left-wing Coalition	-0.0232	0.068	-0.0315	0.069
Macro-District of Election	yes(5)		yes(5)	
AIC	0.8508		0.8794	
N. of observations	1,624		767	

Note. Dependent variable: percentage of votes not attended without a legitimate reason. GLM computed using a logistic distribution. Clustered at individual level (in column I) and robust standard errors. *AIC* is the Akaike Information Criteria. All income measures are gross, in hundred thousand of euros (2004 prices), and averaged between the second and the fourth year in the term in office (except pre-election income which refers to the fiscal year before election). Representatives with more than two million euros of income excluded. In column II, freshmen only and representatives with pre-election income lower than twenty thousand euros excluded.

Table 7: The Determinants of Bills − OLS estimates

	I		II	
	Coeff.	P-Value	Coeff.	P-Value
Outside Income	-0.3594	0.012		
Pre-Election Income			-0.2939	0.109
Lawyer	1.1930	0.306	3.0183	0.019
Top Civil Servant	-1.1145	0.321	1.8086	0.160
Manager	-1.3138	0.236	1.0700	0.395
Political Party Official	-2.8831	0.010	-0.6834	0.583
Journalist	-0.1897	0.874	1.8998	0.165
Enterpreneur	-0.5066	0.656	0.7763	0.530
Teacher	-0.9739	0.386	0.3646	0.762
Self Employed	-0.8979	0.447	0.9786	0.448
Magistrate	2.0347	0.167	0.6376	0.716
Physician	-0.0088	0.994	1.5997	0.224
Blue Collar	-2.0318	0.379	6.4787	0.000
Professor	-1.9650	0.082	1.2151	0.322
Trade Unionist	-1.5390	0.328	0.6213	0.679
Army Officer	6.4122	0.032	7.4599	0.031
Male	-1.1030	0.092	-0.5324	0.518
Age	-0.0923	0.000	-0.0933	0.001
B.A. Degree	0.1028	0.842	0.4721	0.438
House of Representatives	-1.2998	0.002	-1.3696	0.009
Government Coalition	-0.3115	0.363	-0.6201	0.223
Majoritarian Election	0.5853	0.169	0.9589	0.062
Legislature XIV	-1.6180	0.000	-1.6328	0.001
Political Party Experience	0.7660	0.140	0.4422	0.495
Parliament Experience	2.4696	0.000	1.1162	0.293
Government Experience	0.4461	0.494	0.3050	0.802
Local Government Experience	0.6223	0.127	0.4309	0.391
Parliament Appointment	0.6060	0.303	2.7254	0.023
Party Appointment	0.5187	0.367	1.1848	0.101
Left-wing Coalition	-1.7669	0.000	-2.1082	0.000
Macro-District of Election	yes(5)		yes(5)	
R^2	0.1274		0.1368	
N. of observations	1,549		767	

Note. Dependent variable: number of bills as main sponsor. Clustered at individual level (in column I) and robust standard errors. All income measures are gross, in hundred thousand of euros (2004 prices), and averaged between the second and the fourth year in the term in office (except pre-election income which refers to the fiscal year before election). Representatives with more than two million euros of income, and more than 30 bills per legislative term, excluded. In column II, freshmen only and representatives with pre-election income lower than twenty thousand euros excluded.

Table 8: Income Distribution of Italian Population vs. Politicians - Quantile Regression

	I		II	
τ	α-Politician	P-value	α-Politician	P-value
0.1	0.175	0.001	0.187	0.077
0.2	0.228	0.000	0.197	0.002
0.3	0.282	0.000	0.231	0.027
0.4	0.355	0.000	0.163	0.045
0.5	0.360	0.000	0.091	0.266
0.6	0.424	0.000	0.190	0.037
0.7	0.484	0.000	0.252	0.008
0.8	0.572	0.000	0.302	0.001
0.9	0.625	0.000	0.259	0.047
Italian Population	14,297		288	
Representatives	459		223	

Note. Dependent variable: logarithm of the net labor income (2004 prices), normalized to 0.1 when 0. Analytical standard errors. Only managers, lawyers, self-employed, entrepreneurs, blue collars, teachers and white collars. Freshmen representatives only. Income for the Italian population raised by 15% (white collars, blue collars, teachers, and managers) and 30% (self-employed, lawyers, and entrepreneurs). Weights equal to the inverse of the sampling probability for the SHIW Italian population sample, one for politicians. Individuals with more than one million euros of income excluded. Also control for gender, type of job, age, year, and education. Age between 25-60 in column I. Age between 40-60, males with at least BA degree, blue collars, teachers and white collars excluded in column II.

Table 9: The Pecuniary Gain from Election by Pre-Election Income Quintiles

		Obs.	Mean	Median	St. Dev.	Min.	Max.
Quintile:	*Income*:						
	Pre-Election	106	33.0	33.0	7.4	20.5	45.7
	Total	106	137.8	130.7	17.9	123.4	240.1
	Parliament	106	124.6	123.3	1.5	123.3	126.4
I	Outside	106	13.2	6.4	18.2	0.0	116.8
	Pre-Election > Total			0			
	Pre-Election < Outside			13			
	Pre-Election	106	58.1	59.4	6.5	45.8	68.0
	Total	106	149.7	137.5	33.2	123.3	321.1
	Parliament	106	124.7	123.3	1.5	123.3	126.4
II	Outside	106	24.9	14.1	33.2	0.0	194.7
	Pre-Election > Total			0			
	Pre-Election < Outside			17			
	Pre-Election	105	80.3	79.0	8.0	68.2	95.8
	Total	105	153.0	139.3	31.6	123.8	269.1
	Parliament	105	125.0	126.4	1.5	123.3	126.4
III	Outside	105	28.0	13.1	32.0	0.0	145.8
	Pre-Election > Total			0			
	Pre-Election < Outside			9			
	Pre-Election	106	123.6	120.6	19.1	96.2	159.6
	Total	106	177.6	157.2	56.2	123.4	385.4
	Parliament	106	125.2	126.4	1.5	123.3	126.4
IV	Outside	106	52.4	30.8	56.5	0.0	262.2
	Pre-Election > Total			11			
	Pre-Election < Outside			13			
	Pre-Election	105	302.7	226.0	287.5	159.8	2,663.6
	Total	105	357.3	260.7	363.2	124.3	3,150.9
	Parliament	105	125.1	126.4	1.5	123.3	126.4
V	Outside	105	232.2	134.3	363.1	0.6	3,024.5
	Pre-Election > Total			43			
	Pre-Election < Outside			20			

Note. Freshmen representatives only. All income measures are gross, in thousand of euros (2004 prices), and averaged between the second and the fourth year in the term in office (except pre-election income which refers to the last fiscal year before election). Teachers, white collars, army officials, political party officials, students, trade unionists, and blue collars excluded. Representatives with pre-election income lower than twenty thousand euros excluded.

Table 10: The Elasticity of Outside Income w.r.t. Pre-Election Income

	I (OLS)		II (IV-2SLS)			
			second-stage		first-stage	
Dependent variable	Log Outside Income		Log Outside Income		Absenteeism	
	Coeff.	P-Value	Coeff.	P-Value	Coeff.	P-Value
Log Pre-Election Income	1.2798	0.000(*)	1.3276	0.101(*)	0.0283	0.061
Absenteeism			-5.4561	0.204		
Lawyer	1.4420	0.005	1.4553	0.000	0.0451	0.255
Top Civil Servant	0.3596	0.496	-0.0056	0.989	0.0028	0.947
Journalist	0.3678	0.510	0.0940	0.852	0.0110	0.817
Enterpreneur	1.1627	0.022	0.9147	0.024	0.0006	0.987
Self Employed	0.9639	0.118	1.0948	0.013	0.0352	0.380
Professor	0.3751	0.451	0.2309	0.567	0.0241	0.575
Physician	0.9125	0.073	0.9350	0.048	0.0480	0.296
Magistrate	-1.6790	0.000	-1.9032	0.003	-0.0161	0.798
Male	0.2299	0.480	0.5722	0.204	0.0562	0.161
B.A. Degree	0.0311	0.891	0.0328	0.910	-0.0238	0.389
Age	0.0464	0.000	0.0244	0.121	-0.0030	0.011
Political Party Exp.	-0.3206	0.294	-0.1371	0.647	-0.0333	0.163
Government Exp.	0.2422	0.536	0.0901	0.883	0.0078	0.912
Local Government Exp.	-0.3333	0.134	-0.5424	0.013	-0.0225	0.259
House of Representatives	-0.2295	0.136	-0.7865	0.167	-0.1276	0.000
Majoritarian Election	0.0397	0.849	-0.3230	0.184	-0.0306	0.153
Government Coalition	0.1857	0.909	-1.9447	0.217	-0.3607	0.000
Parliament Appointment	0.3304	0.278	0.2152	0.613	-0.0272	0.622
Party Appointment	0.0275	0.933	0.0656	0.894	0.0863	0.002
Left-Wing Coalition	-0.2480	0.246	-0.4011	0.109	-0.0254	0.240
Second Committee	0.1233	0.552	0.1613	0.575	0.0412	0.140
Legislature XIV	-0.6972	0.001	-1.0852	0.026	-0.0969	0.000
Macro-District of Election	yes(5)		yes(5)		yes(5)	
Time-Distance from Rome					-0.0176	0.032
F-test excluded instrument					5.00	
R^2	0.3699		0.6242		0.1965	
N. of observations	506		393		393	

Note. (*) H_0: coefficient $\neq 1$. Dependent variable: Logarithm of outside income. Robust standard errors. Freshmen representatives only. Lawyers, entrepreneurs, self-employed, magistrates, journalists, top civil servants, academics, physicians, and managers only. All income measures are gross, in thousand of euros (2004 prices), normalized to 0.1 when 0, and averaged between the second and the fourth year in the term in office (except pre-election income which refers to the fiscal year before election). Representatives with more than two millions euros of income and pre-election income lower than twenty thousand euros excluded. In column II, absenteeism is instrumented with the distance (in hours) from Rome.

Figure 1: Negative Hierarchical Sorting with Moral Hazard (case A1)

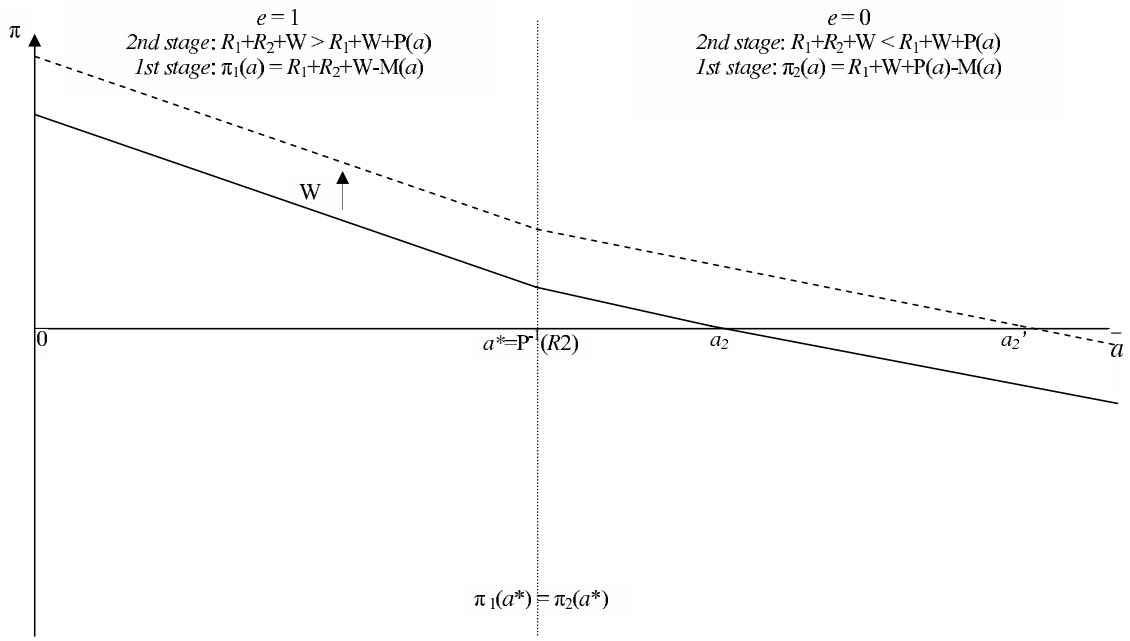


Figure 2: Positive Hierarchical Sorting (case B1)

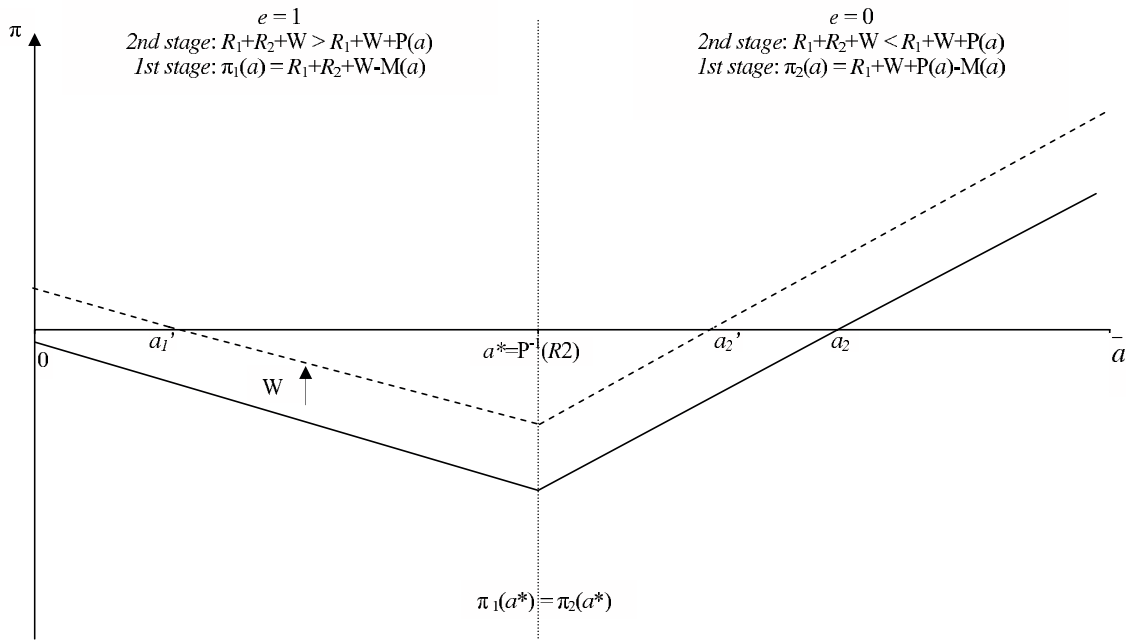


Figure 3: Negative Hierarchical Sorting without Moral Hazard (case C1)

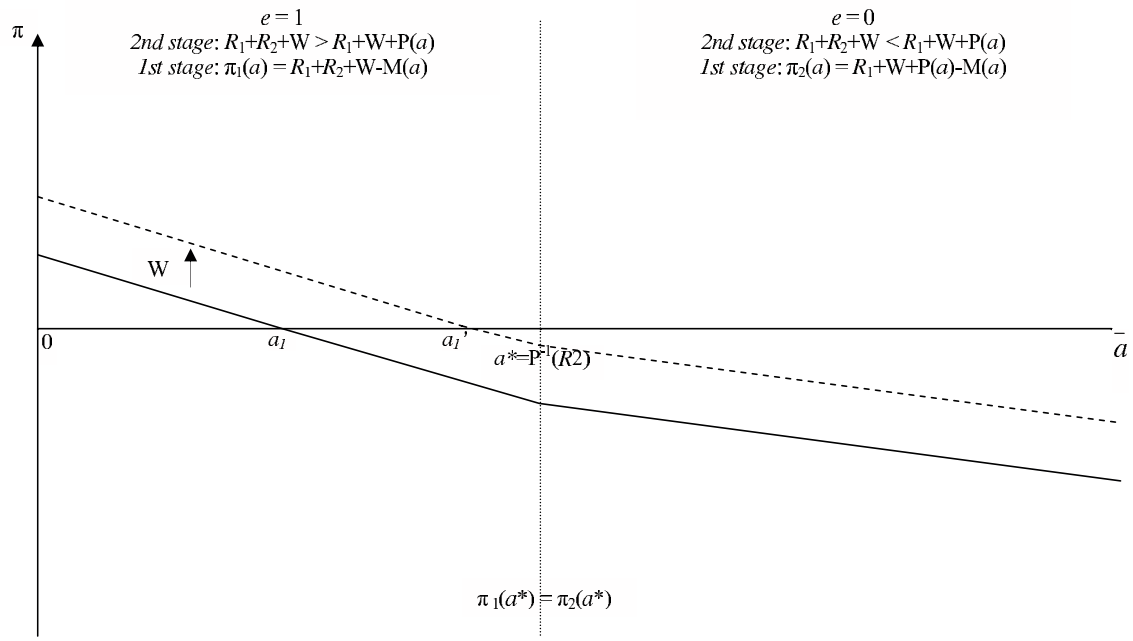


Figure 4: Two-Tail Sorting (case C2)

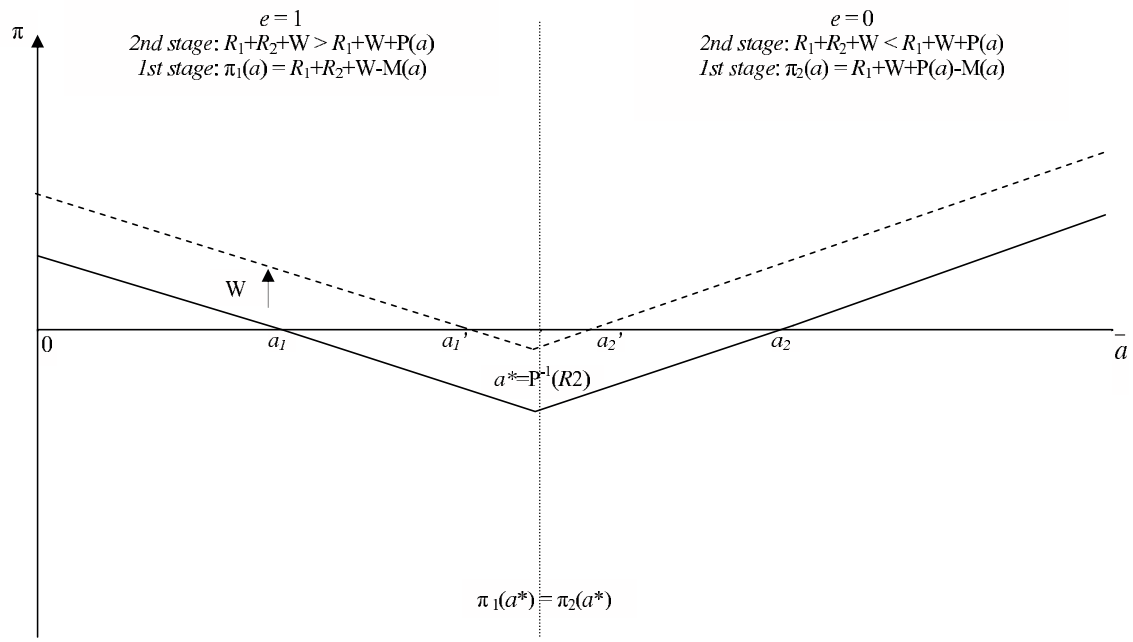
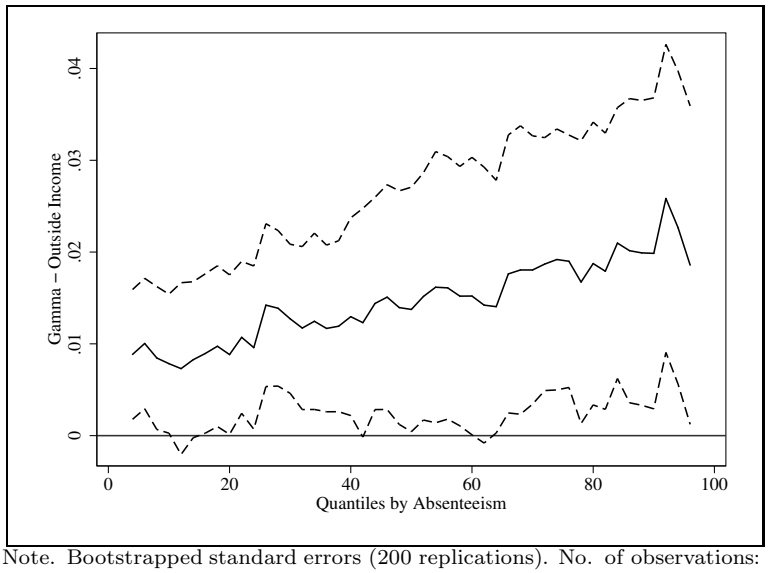
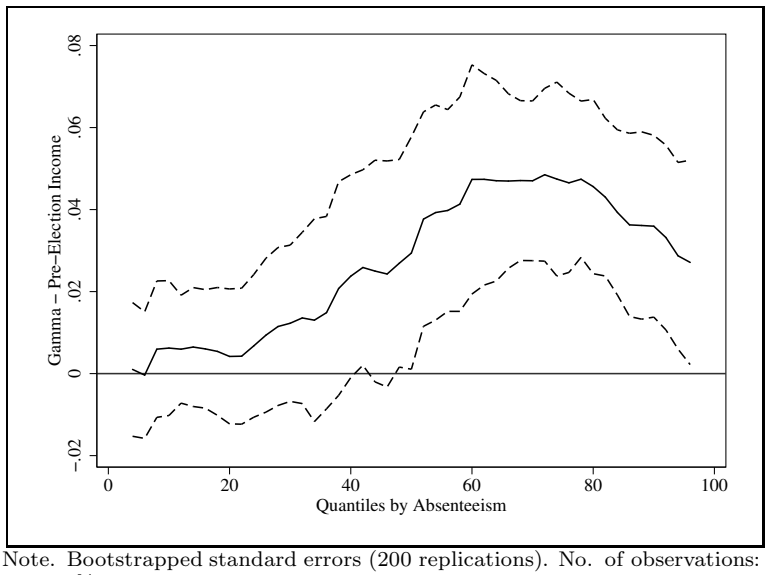


Figure 5: Quantile Regression − Absenteeism on Outside Income



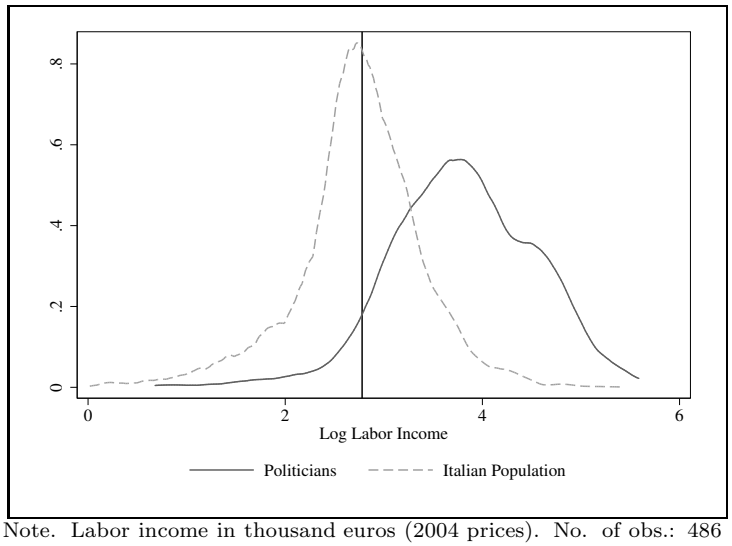
Note. Bootstrapped standard errors (200 replications). No. of observations: 1,624. 95% confidence interval in dashed line. Representatives with more than two million euros of outside income excluded.

Figure 6: Quantile Regression − Absenteeism on Pre-Election Income



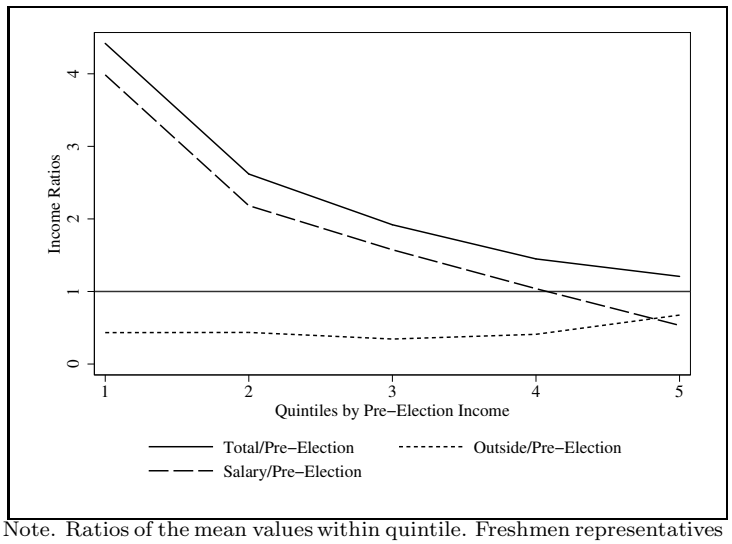
Note. Bootstrapped standard errors (200 replications). No. of observations: 767. 95% confidence interval in dashed line. Representatives with more than two million and less than twenty thousand euros of pre-election income excluded.

Figure 7: Pre-Election Income Comparison with the Italian Population



Note. Labor income in thousand euros (2004 prices). No. of obs.: 486 politicians (freshmen only), 14,405 population. Only lawyers, managers, entrepreneurs, white collars, teachers, blue collars and self-employed; age between 25 and 60. Income for the Italian population raised by 15% (white collars, teachers, blue collars and managers) and 30% (self-employed, lawyers, and entrepreneurs). Weights equal to the inverse of the sampling probability for the SHIW Italian population sample, one for politicians. The vertical line is the median of the national distribution.

Figure 8: The Pecuniary Gain from Election by Pre-Election Income Quintiles



Note. Ratios of the mean values within quintile. Freshmen representatives only. 105 observations per quintile (see Table 9). Teachers, white collars, army officials, political party officials, students, trade unionists, and blue collars excluded. Representatives with pre-election income lower than twenty thousand euros excluded.