

Financial Rewards and Political Elitism*

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Abstract

Many democracies experience political elitism in the sense that virtually all members of the national legislature are high-income citizens. Respecting evidence that voters do not prefer high-income candidates, I identify conditions equivalent to elitism arising by self-selection through a financial-rewards channel. These conditions regulate off-equilibrium behavior through the reward structures facing politicians and private citizens. Higher income premia or more productive outside activity for high-income politicians are not necessary or sufficient. Outside income limits can prevent elitism, but salary reform alone often cannot. A nonmonotonic relationship between politician salary and elitism can help reconcile mixed evidence other channels cannot address.

Keywords: Financial Rewards, Political Elitism, Citizen-Candidates, Outside Income.

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1 Introduction

Descriptive representation has been argued to matter not only for giving groups a voice but also for legitimizing policy-making processes and outcomes, affecting implementation and compliance (e.g., Mansbridge 1999; Hayes and Hibbing 2017; Arnesen and Peters 2018; Clayton et al. 2019). However, many representative democracies experience political elitism in the sense that at all times, virtually all members of the national legislature are citizens with high income potential (Carnes 2012, 2018; Thompson et al. 2019; Gagliarducci et al. 2010; Dal Bó et al. 2017).¹ In the United States, for example, not only members of Congress but also congressional candidates more generally tend to be high-income citizens (Thompson et al. 2019; Treul and Hansen 2023).² At the same time, evidence suggests that electoral prospect are independent of income in the sense that voters do not prefer high-income candidates over low-income candidates (Carnes and Lupu 2016a; Griffin et al. 2020; Campbell and Cowley 2014; Hainmueller et al. 2014).³ Given this evidence, treating political elitism as an outcome rather than a principle of political selection, why does it arise in democracies?

I explore a channel through which political elitism can arise by self-selection.⁴ It rests on the fact that holding office can be quite lucrative. First, legislator salaries are relatively high (e.g., Berg 2020). For example, in 2016, members of Congress received \$174,000, while the US population aged at least 25 had median earnings under \$40,000.⁵ Second, holding office may facilitate outside income from consultancy, board memberships, speeches, book deals, and so on (e.g., Gagliarducci et al. 2010; Eggers and Hainmueller 2009; Peichl et al. 2013; Geys and Mause 2013; Kotakorpi et al. 2017; Cirone et al. 2021; Weschle 2021b; Dahlggaard et al. 2022). For example, in 2016, despite an outside earned income limit under \$28,000 in the US Congress, one member’s estimated outside income surpassed \$1.7 million.⁶ Arguably, book royalties might be less considerable without legislators’ visibility and public image. Most other democracies have less restrictive rules (Weschle 2021a), and outside income is common among their legislators (Geys and Mause 2013). Additionally, holding office may increase post-legislature income (e.g., Parker and Parker 2009; Eggers and Hainmueller 2009; Palmer and Schneer 2016). For example, Diermeier et al. (2005) find first-time reelection to the US House or Senate to raise post-congressional wages by over 4% and 16%, respectively.

¹For example, Thompson et al. (2019) find that candidates for and members of the US Congress have substantially higher past incomes than nonpoliticians with the same occupation, education, city of residence, birth state, race, gender, and age. Similarly, Dal Bó et al. (2017) find that Swedish members of parliament have higher income potential than otherwise similar nonpoliticians.

²The focus is on citizens with income above and below but somewhat near the mean income and not extreme cases.

³The evidence in these studies suggests that, if anything, voters favor low-income candidates. Hoyt and DeShields (2021) find in survey experiments that candidates from lower-class family backgrounds, if anything, have an electoral advantage over otherwise similar candidates from higher-class family backgrounds in fictional gubernatorial elections. Controlling for contest, candidate, and district characteristics, Treul and Hansen (2023) find that low-income citizens receive a smaller vote share in primaries for the US House of Representatives than high-income citizens but do not win at significantly different rates. Matching primary candidates on observables, there are no significant differences.

⁴There usually are no wealth, income, or education qualifications for office holders. As to campaign finance, for example, about 43%, 83%, and 27%, respectively, of all candidates, winners, and nonincumbent winners in the 2016 election for the US House of Representatives contributed or loaned \$0 to their campaigns (Federal Election Commission accessed 7/2/2019 and the Directory of Members of the US Congress accessed 7/4/2019).

⁵Brudnick (2016) and US Census Bureau, 2012–2016 ACS 5-year estimates, accessed 9/25/2018.

⁶Brudnick (2016) and www.opensecrets.org accessed 12/03/2019.

Financial rewards are enticing but may depend on legislator skills. The details of the reward structure thus may affect who chooses to run (e.g., [Grosseclose and Krehbiel 1994](#); [Fiorina 1994](#); [Hall and van Houweling 1995](#); [Keane and Merlo 2010](#)). What reward structures lead to elitism? What reforms might prevent it? I address these questions in a model that isolates the role of financial rewards. I discuss other channels in [Section 3.4](#) and argue that the financial rewards channel is important because it can help reconcile mixed evidence that these other channels cannot address.

I consider an environment in which high- and low-income citizens can run for office at a cost ([Osborne and Slivinski 1996](#); [Besley and Coate 1997](#)) and office holders collect outside income. It is closely related to that of [Gagliarducci et al. \(2010\)](#), who, however, assume that running is costless. They study the trade-off between legislator quality and effort when outside income is possible.⁷ My focus is on political elitism, which cannot arise in their framework for realistic parameters. Since running is costless in their framework, low-income citizens always run for the national legislature. Regardless of outside income, legislator salaries are much higher than low-income citizens' market income, and nonpecuniary rewards (e.g., ego rents) are positive.⁸ Thus, the share of low-income citizens among candidates and legislators (since winning is random) is not smaller than in the population. By contrast, running costs induce a strategic interaction not present in [Gagliarducci et al. \(2010\)](#) from which elitism can arise by low-income citizens choosing not to run. [Appendix A.1](#) also highlights differences in predictions for observing high-income politicians.

Two assumptions ensure that electoral prospects are independent of income as the evidence mentioned above suggests. First, to prevent an electoral advantage for some income group due to policy preferences depending on income, the policy benefits everyone, although how much may vary arbitrarily, possibly by income. Otherwise, a salient policy conflict between high- and low-income citizens might give low-income candidates an electoral advantage because most voters are low-income citizens.⁹ Second, to prevent an electoral advantage for some income group due to differences in expected competence in office, all candidates can enact the policy regardless of income. In this dimension, my analysis complements many studies that assume a link between private sector success and competence in office (e.g., [Caselli and Morelli 2004](#); [Messner and Polborn 2004](#); [Poutvaara and Takalo 2007](#); [Mattozzi and Snowberg 2018](#)). The case I study accords with evidence that voters do not perceive high-income candidates as more qualified or effective than low-income candidates ([Carnes and Lupu 2016a](#); [Campbell and Cowley 2014](#)).¹⁰ Being a good representative requires

⁷Also see [Grossman and Hanlon \(2014\)](#) and [Fedele and Naticchioni \(2016\)](#).

⁸For the US Congress, [Diermeier et al. \(2005\)](#) estimate a yearly monetary value of general nonpecuniary rewards of about 17% to over 166% of the sample period's mean annual salary, depending on the chamber and committee roles.

⁹For example, in 2016, median household income was less than mean household income in all US congressional districts (US Census Bureau, 2012–2016 ACS 5-year estimates, accessed on 4/20/2018). The environment thus is not suited to study redistribution. However, redistribution might not be salient if electoral prospects are independent of income. See [Appendix A.4](#) for a discussion of conflict in an unmodeled second policy dimension.

¹⁰Using nationally representative data, [Carnes and Lupu \(2016a\)](#) and [Campbell and Cowley \(2014\)](#) find evidence for several countries including the United States that candidates' perceived competence is independent of income. [Hoyt and DeShields \(2021\)](#) find that otherwise similar gubernatorial candidates with a lower-class compared to a higher-class family background are not perceived less competent. However, focusing on the skill of directing resources to the district, [Mattozzi and Snowberg \(2018\)](#) report evidence from convenience samples via Amazon's Mechanical Turk that US voters may perceive high-income candidates as more competent. [Appendix A.2](#) has more discussion.

certain skills, but income is not informative to voters of whether candidates have them.

Holding office pays a salary, brings prestige or perks, and translates income potential as a private citizen into outside income. Outside income might be facilitated by, for example, the networks or visibility legislators gain. It might depend on, for example, how transferable legislators' skills are to lucrative outside activity that complies with formal and informal rules.¹¹ In this environment with equal electoral prospects, for elitism to arise, when do only high-income citizens ever run for office?

Two conditions that regulate off-equilibrium behavior and together ensure that low-income citizens do not run for office are necessary and sufficient for elitism. First, the office must be attractive. For some citizens, the gain from holding it instead of being a private citizen must compensate for the cost of running in an election with some competition and thus an uncertain outcome. If the office is unattractive, then no one wants to compete for it, and a low-income citizen can run unopposed and win. If the office is attractive, then a single low-income candidate would invite a profitable deviation by some citizens. Second, the difference in income between holding office and being a private citizen must be sufficiently larger for high- than for low-income citizens. For a low-income candidate, given the probability of winning, their difference in income justifies running. Given their sufficiently larger difference in income, high-income noncandidates would want to deviate to running despite a more competitive race as a result. There thus cannot be a low-income candidate in equilibrium.

The two conditions are informative. As their role is to ensure that a low-income candidate invites a profitable deviation, elitism is not driven by high-income citizens simply benefitting more from holding office. Elitism does not require that the office pays a higher income premium or facilitates more productive outside activity for high-income citizens. The office doing so is also not sufficient for elitism to arise. Similarly, the conditions can inform policy aimed at preventing elitism. Imposing restrictive enough outside income limits prevents elitism, and what is restrictive enough can be linked to income data that is observable in principle. Such limits on outside income further could be accompanied by increases in legislator salaries to keep average legislator income unchanged. However, a reform of legislator salaries alone often cannot prevent elitism. All legislators regardless of income potential receive the same salary and are thus equally affected by a reform. For prestigious offices, depending on outside incomes, a salary reform thus may not affect whether the presence of low-income candidates induces profitable deviations and thus whether elitism arises.

Finally, for prestigious offices, the relationship between legislator salary and elitism can be nonmonotonic. This nonmonotonicity can help reconcile mixed evidence on the association between politician pay and politician background (details in Section 3.4). Depending on fundamentals, an increase in the legislator salary may induce a shift to elitism, a shift to no elitism, or no shift at all. As in the mixed evidence, higher politician pay thus can be associated with more, fewer, or unchanged numbers of politicians being more highly educated or from higher-paying occupations. Other likely complementary channels promoting political elitism cannot address this mixed evidence.

Next, I describe the model in Section 2 and analyze it in Section 3. I offer additional discussion of the environment, analysis, and results in Section 4 and conclude in Section 5.

¹¹I discuss post-legislature employment and revolving doors in Section 4.

2 The Model

Consider a set of $I \in \mathbb{N}$ risk-neutral citizens indexed by $i \in \mathcal{I} = \{1, \dots, I\}$ who are eligible and competent to represent an electoral district. These potential candidates are the only citizens of interest for the analysis. To ease the presentation, I refer to them simply as citizens, ignoring all others. Among them, there are $I_l > 1$ low-income citizens with indices in $\mathcal{L} \subset \mathcal{I}$ and market-income potential $w_l > 0$. There are also $I_h > 1$ high-income citizens with indices in $\mathcal{H} \subset \mathcal{I}$ and finite market-income potential $w_h > w_l$, where $\mathcal{L} \cup \mathcal{H} = \mathcal{I}$, $\mathcal{L} \cap \mathcal{H} = \emptyset$. Citizen i 's market income thus is

$$w(i) = \begin{cases} w_l & \text{if } i \in \mathcal{L}, \\ w_h & \text{if } i \in \mathcal{H}. \end{cases}$$

A finite utility benefit $\theta(i) > 0$ accrues to each citizen i , with arbitrary heterogeneity across citizens, if and only if some citizen holds office. This assumption formalizes electoral prospects independent of income. First, to prevent an electoral advantage due to policy preferences depending on income, all citizens benefit from the policy, although the size of the benefit may depend on income. The policy might represent a local service or public good for which a representative must formally request the required resources.¹² All income can then be interpreted as after taxes raised from all citizens in all districts to finance such local public goods in all districts.¹³ Second, to prevent an electoral advantage due to expected competence in office depending on income, all potential candidates are equally competent to enact the policy regardless of income. As discussed above, this assumption is consistent with evidence that voters do not perceive high-income candidates as more qualified or effective than low-income candidates (Carnes and Lupu 2016a; Campbell and Cowley 2014; see Appendix A.2 for more discussion). It also ensures that elitism is not explained by simply assuming that voters expect low-income citizens to be less competent in office.

Running for office incurs a finite utility cost $\delta > 0$ from, for example, a loss of privacy due to public scrutiny. If there is no candidate, then the office remains vacant. If there is at least one candidate, then simple random sampling from the candidates determines the office holder. This assumption only simplifies the exposition (see Appendix A.3). The office holder receives finite office utility benefits $\beta \geq 0$ from, for example, prestige and perks associated with the office. To ensure that elitism is not explained by assuming differences by income in preferences over prestige or privacy, the benefits β and the cost δ are institutional and equal for all citizens.¹⁴

¹²The arbitrary heterogeneity of $\theta(i)$ across citizens allows for differences in preferences over the local public good by income. One could imagine a scenario in which, e.g., the provision of some local public transport could benefit both low-income citizens (who gain a more affordable mode of transport than ownership of and commute by car) and high-income citizens (who face less traffic on their commute by car), even if the benefit might be a lot larger for one group than the other. I discuss redistribution and policy conflict more generally in Appendix A.4.

¹³As the setup is, explicitly modeling taxation to pay for the legislator salary and the policy would not add anything.

¹⁴For example, the utility cost of running might be related to the media landscape and the nature of public scrutiny candidates face. Some citizens might value privacy more and choose to share less information about themselves publicly, while others might value privacy less and choose to share more. One can imagine that members of the media exert on average the same effort on revealing information about each candidate beyond what is shared or easily accessible. Then, all citizens might expect similar levels of discomfort from the loss of privacy as a candidate.

To hold office, citizen i must give up their market income $w(i)$. However, legislators receive a finite legislator salary not less than the market income of low-income citizens, $v \geq w_l$. As illustrated above, this assumption is reasonable in the context of national legislatures. While in office, citizen i generates finite outside income $\varphi(i) \geq 0$.¹⁵ (See Section 4 for an interpretation as post-legislature employment.) Some skills valued in the private sector may be transferable to available outside activities. Thus, outside income may depend on citizen i 's market-income potential,

$$\varphi(i) = \begin{cases} \varphi_l \geq 0 & \text{if } i \in \mathcal{L}, \\ \varphi_h \geq 0 & \text{if } i \in \mathcal{H}. \end{cases}$$

From the point of view of an individual citizen, the laws and rules they face once a legislator are exogenous at least in the short run. They thus take the salary v and constraints on outside activity and income as given. Citizen i 's income while in office thus is $v + \varphi(i) = \gamma(i)w(i)$, where

$$(1) \quad \gamma(i) \equiv v/w(i) + \varphi(i)/w(i) = \begin{cases} \gamma_l \equiv v/w_l + \varphi_l/w_l & \text{if } i \in \mathcal{L}, \\ \gamma_h \equiv v/w_h + \varphi_h/w_h & \text{if } i \in \mathcal{H}. \end{cases}$$

The expressions $\gamma(i)$ are useful in the below discussion of differences in income between holding office and being a private citizen and office-holding premia.

Citizens choose to run or not to maximize expected payoffs. The benefits from holding office and enacting the policy outweigh the cost of running for at least some high- and low-income citizens: $\theta(k_h) + \beta > \delta$ for some $k_h \in \mathcal{H}$ and $\theta(k_l) + \beta > \delta$ for some $k_l \in \mathcal{L}$.¹⁶ Both income groups are large:

$$(2) \quad \min\{I_l, I_h\} > (\beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}) / \delta.$$

These last two assumptions prevent needless convolution by ruling out unrealistic, uninteresting cases in which either no citizen runs for office because nobody finds it worth it or all citizens in an income group, or overall, run for office because there are too few of them.¹⁷

3 Analysis

I first describe strategies and payoffs and introduce some definitions and terminology in Section 3.1. I study when elitism arises in Section 3.2 and what might prevent it in Section 3.3. Finally, I discuss how the results can help reconcile mixed evidence on the association between politician pay and politician background in Section 3.4. All proofs are relegated to Appendix B.

¹⁵In the data, not all legislators have outside income. It may thus represent the expected value at the time of running of a draw of outside-income opportunities once in office from a distribution that may vary by income background.

¹⁶As $\theta(i) > 0 \forall i$, these inequalities do not require that the office benefits alone outweigh the cost of running, $\beta > \delta$.

¹⁷First, for example, without Inequality (2), elitism might not arise simply because there are too few high-income citizens. Second, the right-hand side of Inequality (2) depends on the maximum gains from holding office over being a private citizen (and the cost of running). Thus, for example, if the prestige and outside income potential associated with an office are very low, then very small numbers of high- and low-income citizens satisfy Inequality (2).

3.1 Strategies, Payoffs, Equilibrium Definition, and Terminology

For all $i \in \mathcal{I}$, let $\chi(i) \in \{0, 1\}$ indicate whether or not citizen i chooses to run for office, where $\chi(i) = 1$ indicates running, while $\chi(i) = 0$ indicates not running. The profile of running decisions can be represented by the set of candidates, $\mathcal{C} = \{i \in \mathcal{I} : \chi(i) = 1\}$. The number of candidates is $n = |\mathcal{C}| \geq 0$. The set of noncandidate citizens is $\mathcal{I} \setminus \mathcal{C}$. The profile of running decisions ignoring citizen i can be represented by the set of candidates other than citizen i , $\mathcal{C}_{-i} = \mathcal{C} \setminus \{i\}$. The number of candidates other than citizen i is $n_{-i} = |\mathcal{C}_{-i}| \geq 0$. If there are $n > 0$ candidates, then simple random sampling from the candidates gives each of them a probability $1/n$ of winning the office.

Consider any citizen $i \in \mathcal{I}$. Their expected payoffs depend on their identity—their index i —and the number n_{-i} of candidates other than them. Citizen i 's expected payoff of not running is

$$(3) \quad V_0(n_{-i}, i) = \begin{cases} w(i) & \text{if } n_{-i} = 0, \\ \theta(i) + w(i) & \text{if } n_{-i} > 0. \end{cases}$$

If there is no other candidate, then citizen i 's payoff of not running is their market income $w(i)$ because the policy will not be enacted. If there is at least one other candidate, then citizen i 's payoff of not running is their market income plus their policy benefit, $\theta(i) + w(i)$, because the policy will be enacted by some other citizen. Citizen i 's expected payoff of running is

$$(4) \quad V_1(n_{-i}, i) = \frac{1}{n_{-i} + 1} (\theta(i) + \beta + \gamma(i)w(i) - \delta) + \frac{n_{-i}}{n_{-i} + 1} (\theta(i) + w(i) - \delta).$$

Running for office, citizen i incurs the cost of running δ , but the policy benefit $\theta(i)$ accrues to them because the policy will be enacted either by them or by another candidate. With probability $1/(n_{-i} + 1)$, citizen i wins the office and collects the office benefits β and the in-office income $\gamma(i)w(i)$. With probability $n_{-i}/(n_{-i} + 1)$, citizen i does not win the office and has market income $w(i)$ as a private citizen. Using (3) and (4), an equilibrium is defined as a profile of running decisions such that, given all other citizens' running decisions, no citizen can benefit from changing theirs.

Definition 1. *An equilibrium is a set \mathcal{C} such that*

$$(5) \quad V_1(n_{-i}, i) \geq V_0(n_{-i}, i) \quad \forall i \in \mathcal{C},$$

$$(6) \quad V_0(n_{-i}, i) \geq V_1(n_{-i}, i) \quad \forall i \in \mathcal{I} \setminus \mathcal{C}.$$

From the point of view of citizen i , the running decisions of all other citizens together determine the number n_{-i} of candidates other than themselves. Given a set \mathcal{C} of $n \geq 0$ candidates, $n_{-i} = n$ for all $i \in \mathcal{I} \setminus \mathcal{C}$ and, if there are candidates so that $\mathcal{C} \neq \emptyset$ and $n \geq 1$, then $n_{-i} = n - 1$ for all $i \in \mathcal{C}$.

I show in Proposition 1 below that an equilibrium always exists and that there are candidates for office. The following definition of elitism is natural and uniquely suitable here (see Section 4).

Definition 2. *Elitism arises if and only if there is no equilibrium with a low-income candidate.*

Below, I distinguish the *difference in income between holding office and being a private citizen*,

$$\gamma(i)w(i) - w(i) = (\gamma(i) - 1)w(i),$$

from the *office-holding premium*,

$$\frac{\gamma(i)w(i) - w(i)}{w(i)} = \gamma(i) - 1.$$

For low-income citizens follows from (1) together with $v \geq w_l$ and $\varphi_l \geq 0$ that $\gamma_l w_l \geq w_l$ and, thus, that their difference in income between holding office and being a private citizen is nonnegative, $(\gamma_l - 1)w_l \geq 0$. I usually use $\gamma(i)$ to refer to citizen i 's office-holding premium $\gamma(i) - 1$. From (1), $v \geq w_l$, and $\varphi(i) \geq 0$, $\gamma(i)$ is not less than $w_l/w(i)$ and increases in both v and $\varphi(i)$.

Definition 3. *There is a positive office-holding premium for citizen i if and only if $\gamma(i) > 1$. The office-holding premium is higher for citizen i than for citizen j if and only if $\gamma(i) > \gamma(j)$.*

To ease discussion and interpretation, I define the office productivity for citizen i as $\phi(i) = \varphi(i)/w(i) \geq 0$. It captures the extent to which the office translates market-income potential as a private citizen into outside income. Since $\varphi(i) \geq 0$ and $w(i) > 0$ are fixed real numbers, calculating $\phi(i)$ and writing citizen i 's outside income as $\varphi(i) = \phi(i)w(i)$ is without loss of generality, where

$$\phi(i) = \begin{cases} \phi_l = \varphi_l/w_l \geq 0 & \text{if } i \in \mathcal{L}, \\ \phi_h = \varphi_h/w_h \geq 0 & \text{if } i \in \mathcal{H}. \end{cases}$$

Definition 4. *The office is productive for citizen i if and only if $\phi(i) > 0$. The office is more productive for citizen i than for citizen j if and only if $\phi(i) > \phi(j)$.*

An unproductive office can pay a positive office-holding premium due to a high enough salary. Similarly, a productive office does not pay high-income citizens a positive office-holding premium if the salary does not more than compensate them for a productivity disadvantage in office.

3.2 When Does Elitism Arise?

Two initial insights about this environment are that an equilibrium exists and there are candidates.

Proposition 1. *An equilibrium exists. In every equilibrium, there is at least one candidate.*

If no citizen runs for office, then the policy is not enacted. A low-income citizen who deviates to running wins with certainty. They incur the cost of running but also receive the benefits from holding office and the policy being enacted, which outweigh the cost of running for at least some low-income citizens. Their income in office is not less than their income as a private citizen, and they may collect an office-holding premium. There thus is at least one candidate in equilibrium.

Candidates trade off the cost of running against expected gains—office benefits and the difference in income between holding office and being a private citizen, weighed by the probability of winning.

Citizens' running decisions do not affect office benefits or the difference in income. However, an additional citizen entering the race increases competition and thus decreases the probability of winning the benefits and difference in income for all candidates. In equilibrium, noncandidate citizens do not benefit from also entering the race given how many candidates are already running. Due to the lower probability of winning if they entered as well, the expected gains from running would not outweigh the associated cost. Candidates, on the other hand, find the odds of winning and collecting the gains from holding office they face high enough to justify incurring the cost.

Two conditions matter for political elitism. First, Condition 1 states that the office is attractive. The maximum gains from holding office instead of being a private citizen—the office benefits and the maximum difference in income—are sufficiently larger than the cost of running.

Condition 1. *The cost of running for office satisfies $2\delta < \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}$.*

The office could be attractive due to, for example, the benefits of lots of prestige and perks associated with it alone, $\beta > 2\delta$. A national legislative office might be attractive in this sense. It could also be attractive because it facilitates enough productive outside activity for some citizens' difference in income alone to be large enough relative to the cost of running. An attractive office might offer some prestige and perks and facilitate some productive outside activity.

The left panel of Figure 1 illustrates Condition 1 for an example where $\delta > \beta > 0$. It depicts the space of pairs of differences in income, showing low-income citizens' on the horizontal axis and high-income citizens' on the vertical axis. While the difference in income is nonnegative for low-income citizens due to $(\gamma_l - 1)w_l \geq 0$, it may be negative for high-income citizens. The solid line separates the set of pairs of differences in income for which Condition 1 holds from the set of pairs for which Condition 1 does not hold, where the latter includes the pairs on the solid line itself.

Second, Condition 2 states that the difference in income is sufficiently larger for high- than for low-income citizens.

Condition 2. *The difference in differences in income between holding office and being a private citizen satisfies*

$$(\gamma_h - 1)w_h - (\gamma_l - 1)w_l > \delta \left(1 - \left(\frac{\beta + (\gamma_l - 1)w_l}{\delta} - \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor \right) \right).$$

The expression $\lfloor \cdot \rfloor$ denotes the floor function. Condition 2 could be written differently. As will become clear below, stating it in terms of the difference in differences in income helps make the role of the financial rewards structure in the results and discussion in Sections 3.3 and 3.4 transparent. Since all office holders collect the same salary, the left-hand side of Condition 2 really is the difference in differences in income between outside activity while in office and market activity as a private citizen. Thus, the difference in differences in income may be sufficiently large if, for example, the office facilitates sufficiently productive outside activity for high- relative to low-income citizens. In addition, for an office that is prestigious enough for the utility benefits from holding it to outweigh the cost of running, $\beta \geq \delta$, Condition 2 implies Condition 1.

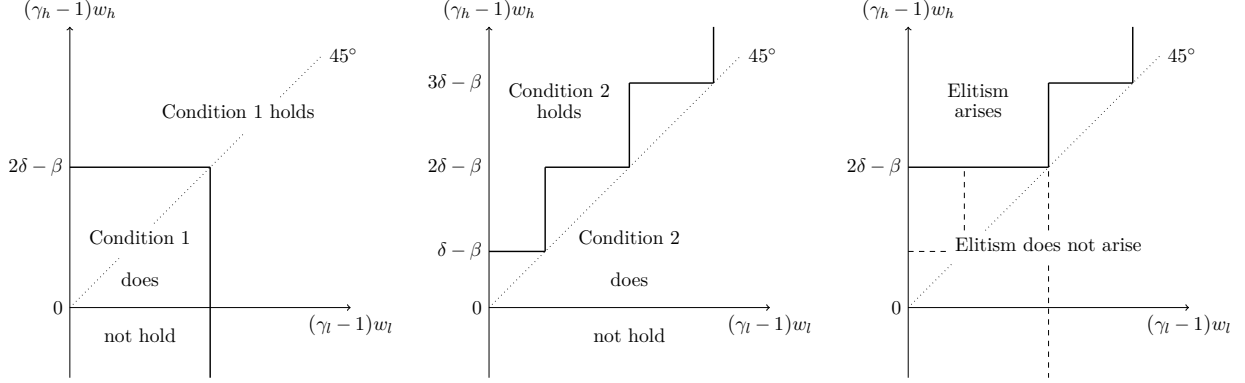


Figure 1: The left and middle panels depict pairs of differences in income for low- and high-income citizens that satisfy Conditions 1 and 2, respectively, where $\delta > \beta > 0$. The right panel depicts the pairs of differences in income that satisfy both Conditions 1 and 2, i.e., for which elitism arises.

Remark 1. *Condition 2 implies Condition 1 if and only if $\beta \geq \delta$.*

The middle panel of Figure 1 is analogous to the left panel and also assumes $\delta > \beta > 0$. The solid line separates the set of pairs of differences in income for which Condition 2 holds from the set of pairs for which Condition 2 does not hold, where the latter includes the pairs on the solid line itself. Together, Conditions 1 and 2 are necessary and sufficient for elitism to arise.

Proposition 2. *Elitism arises if and only if Conditions 1 and 2 hold.*

The right panel of Figure 1 combines the left and middle panels to separate the pairs of differences in income for which elitism arises from those for which elitism does not arise. Conditions 1 and 2 regulate off-equilibrium behavior so that the presence of a low-income candidate invites a profitable deviation by some noncandidate citizens. Condition 1 ensures that given the cost of running, the office's prestige, perks, salary, and productivity attract at least two candidates in equilibrium. These candidates must be willing to pay the cost of running to enter a competitive election with an uncertain outcome. Citizens may be willing to enter such an election for an attractive office because the gains from holding it instead of being a private citizen are sufficiently large. A single low-income candidate thus cannot be an equilibrium because some noncandidate citizens would benefit from deviating to running. By contrast, for an unattractive office, the cost of running is too high compared to the maximum gains from it for anyone to compete for it. Many citizens may be better off holding office instead of being a private citizen but willing to run only if there is no competition. A single low-income candidate thus can be an equilibrium. Elitism does not arise.

Condition 2 ensures that noncandidate high-income citizens want to deviate to running if there is a low-income candidate. Given the probability of winning and the office's prestige and perks, a low-income candidate's difference in income between holding office and being a private citizen justifies incurring the cost of running. A noncandidate high-income citizen deviating to running decreases the probability of winning. Yet, their sufficiently larger difference in income still more than

justifies incurring the cost of running. There thus cannot be a low-income candidate in equilibrium. By contrast, if high-income citizens do not have a sufficiently larger difference in income, then the gains noncandidates among them can expect upon deviating to running do not outweigh the cost. An equilibrium with low-income candidates thus exists. Elitism does not arise.

The solid line in the middle panel of Figure 1 captures this intuition. Consider a pair of differences in income located on a horizontal segment of the solid line. Given low-income citizens' difference in income, Condition 2 requires high-income citizens' difference in income to be larger than that associated with the pair. It must be sufficiently larger than that of low-income citizens because the pair is located north of the 45° line. Now, given the office benefits and cost of running, an increase in low-income citizens' difference in income makes the office more attractive to them. They might be willing to enter a more competitive race. However, more candidates imply a lower probability of winning. A small enough increase in the difference in income does not compensate them for the distinctly lower probability of winning implied by an additional competitor. The number of other candidates a low-income candidate is willing to compete with and the implied probability of winning are unchanged. Thus, noncandidate high-income citizens' calculations regarding a deviation to running are unaffected by a small enough increase in low-income citizens' difference in income. Upon deviating to running, their probability of winning is the same as before the increase in low-income citizens' difference in income. Thus, the same differences in income as before are still large enough for them to benefit from deviating to running. This intuition explains why the segment of the solid line that the initial pair of differences in income is located on is horizontal to begin with.

Given a large enough increase in their difference in income, however, a low-income candidate is willing to accept a distinctly lower probability of winning to begin with. Therefore, a noncandidate high-income citizen has a distinctly lower probability of winning upon deviating to running than before the increase in low-income citizens' difference in income. They thus also require a distinctly larger difference in income than before to benefit from deviating to running. The vertical segment of the solid line captures this jump in the difference in income they require. Further increases in low-income citizens' difference in income again do not affect high-income citizens' calculations initially, which is why the next segment is horizontal again, until they do eventually, which is why the next horizontal segment is followed by another vertical segment, and so on.

Conditions 1 and 2 ensure that someone can profitably deviate if there are low-income candidates. Elitism thus is not driven by high-income citizens simply benefitting more from holding office. I show in Appendix A.1 that high-income citizens may run for office despite having lower income as office holder than as a private citizen. For elitism to arise, however, by Condition 2 and $(\gamma_l - 1)w_l \geq 0$, high-income citizens must collect positive office-holding premia, $\gamma_h > 1$. This prediction that elitism coincides with positive office-holding premia matches observations (e.g., [Gagliarducci et al. 2010](#); [Berg 2020](#)). Yet, elitism does not require that holding office pays higher income premia or facilitates more productive outside activity for high- than for low-income citizens.

Corollary 1. *Elitism can arise while (1) office-holding premia are higher for low- than for high-income citizens; (2) the office is more productive for low- than for high-income citizens.*

For example, the same high enough office-holding premium for both high- and low-income citizens ensures that Conditions 1 and 2 hold. For a small enough further increase in the premium for low-income citizens, Conditions 1 and 2 still hold. Conversely, a higher income premium or more productive outside activity for high- than for low-income citizens is not enough for elitism to arise.

Corollary 2. *Elitism may not arise while (1) office-holding premia are higher for high- than for low-income citizens; (2) the office is more productive for high- than for low-income citizens.*

For example, suppose office benefits alone do not compensate for the cost of running, $\beta < \delta$. Then, the same positive, low enough office-holding premia for both high- and low-income citizens make the office unattractive. A small further decrease in low-income citizens' office-holding premium makes no difference. By Corollaries 1 and 2, higher income premia or more productive outside activity for high- than for low-income citizens are not necessary or sufficient for elitism to arise.

3.3 What May Prevent Elitism?

Elitism implies a lack of descriptive representation. Descriptive representation plays an important role in giving groups a voice and legitimizing policy outcomes and the policy-making process itself. Elitism as an outcome of political selection also prevents low-income citizens from becoming high-income citizens by earning the high legislator salary. I thus explore what may prevent elitism. Given Proposition 2, taking utility benefits and costs as given, I ask whether salary reform or outside income limits can ensure that Conditions 1 and 2 do not both hold.

3.3.1 Using Legislator Salaries to Prevent Elitism is Often Impossible

One approach to preventing elitism might be a salary reform. For example, decreasing the salary might make the office unattractive. However, an office that facilitates productive enough outside activity might still be attractive despite a lower salary. A reform that has been suggested as a remedy for elitism in US state legislatures is to increase legislator salaries to essentially make the office more attractive to low-income citizens (e.g., Carnes and Hansen 2016).¹⁸ Unfortunately, there may not be a reform of legislator salaries that by itself prevents elitism.

Proposition 3. *If $\beta \geq \delta$, then elitism arises for every legislator salary if and only if $(\phi_h - 1)w_h - (\phi_l - 1)w_l > \delta$.*

Suppose the office is prestigious enough for $\beta \geq \delta$. It might be a national legislative office or a prestigious local office. By Remark 1, it suffices to consider Condition 2. Using (1), it can be rewritten in terms of the difference in differences in income between outside activity while in office and market activity as a private citizen,

$$(7) \quad (\phi_h - 1)w_h - (\phi_l - 1)w_l > \delta \left(1 - \left(\frac{\beta + v + (\phi_l - 1)w_l}{\delta} - \left\lfloor \frac{\beta + v + (\phi_l - 1)w_l}{\delta} \right\rfloor \right) \right) \equiv g(v).$$

¹⁸See Carnes (2018) for a discussion of several reform proposals aimed at alleviating the numerical underrepresentation of low-income citizens in public offices.

Inequality (7) captures the fact that all legislators regardless of income potential receive the same salary. The salary thus does not affect the difference in differences in income between holding office and being a private citizen. At the same time, the right-hand side of (7) is a function $g(v)$ that takes values of at most δ . Condition 2 thus holds for all legislator salaries if and only if the difference in differences in income between outside activity while in office and market activity as a private citizen is sufficiently large. That is, if a reasonably prestigious office facilitates sufficiently productive outside activity for high- relative to low-income citizens, then elitism arises regardless of the salary. No salary reform can prevent it. Otherwise, some salary and thus some reform prevents elitism. This result highlights that to increase descriptive representation, a salary reform might not be optimal even in the best-case scenario in which it does not alter office holders' incentives.

3.3.2 Appropriate Outside Income Limits Always Prevent Elitism

Another approach to preventing elitism might be outside income limits, which have been widely discussed (e.g., Geys and Mause 2013) but adopted only to varying degree (e.g., Bovend'Eert 2018). Suppose legislators face a perfectly enforced outside income limit $m \geq 0$, which could, for example, be proportional to the legislator salary. Then, citizen i 's outside income satisfies $0 \leq \varphi(i) \leq m$. Their overall income while in office satisfies $v \leq \gamma(i)w(i) \leq v + m$. As a result, the lower the outside income limit m is, the smaller is the maximum difference in differences in income that is consistent with it, $(v + m - w_h) - (v - w_l) = m - (w_h - w_l)$. Therefore, a low enough limit prevents elitism.

Proposition 4. *Elitism does not arise if an outside income limit $m \leq \bar{m} \equiv w_h - w_l$ is imposed.*

Proposition 4 characterizes outside income limits that are sufficiently restrictive for elitism not to arise. They ensure that Condition 2 cannot hold because the difference in differences in income between holding office and being a private citizen is nonpositive. The highest such limit, \bar{m} , can be linked to income data that is observable in principle. It can also be linked to a metric of income inequality. Holding the shares of high- and low-income citizens and average income constant, a larger difference $w_h - w_l$ indicates higher income inequality as measured by the coefficient of variation of income.¹⁹ In this sense, Proposition 4 suggests that societies with higher income inequality can prevent elitism with less restrictive outside income limits.

Outside income limits reduce the income legislators can collect while in office. Concerns that such regulation may make attracting candidates harder can be addressed to some extent by simultaneously increasing legislator salaries. In the United States, for example, outside income limit legislation has been accompanied by compensatory increases in legislator salaries on several occasions in the past (Rosenson 2007). In fact, Rosenson (2007) finds that outside income limits might not get passed without such compensation because they clash with legislators' financial self-interest. By Proposition 4, given a restrictive enough outside income limit, salary increases cannot lead to elitism. So, in principle, a combined reform can prevent elitism while the average legislator income remains unchanged. I discuss pensions and post-legislature careers in this context in Section 4.

¹⁹Denoting mean income by \bar{w} , here, the coefficient of variation of income is $(\sqrt{(I_l/I)(I_h/I)}/\bar{w})(w_h - w_l)$.

Members' outside activity and income tend to be more restricted in the United States Congress than in many other countries' national legislatures (Weschle 2021a). Yet, virtually all candidates for and members of the United States Congress are high-income citizens (Carnes 2012; Thompson et al. 2019; Treul and Hansen 2023). An arguably rather prestigious congressional office thus also must be productive enough for elitism to arise despite the restrictions. Maybe the nature of outside activity is not restricted enough, allowing members of Congress to benefit from, for example, the visibility and public image their position grants them (see the example in the introduction).

Finally, given Proposition 3, a combination of outside income limits and salary reform could prevent elitism in prestigious offices. Outside income limits can lower the office productivity enough for an appropriate salary reform to be effective.

3.4 The Channel Can Help Reconcile Mixed Evidence

Insofar as high income is associated with high levels of education and high-paying occupations, the results can help reconcile mixed evidence on the association between pay and politician background. For example, on the one hand, Gagliarducci and Nannicini (2013) find that, in Italy, higher mayoral pay is associated with more educated mayors and mayoral candidates who are more educated and from higher-paying occupations. On the other hand, Pique (2019) finds that, in Peru, higher mayoral wages are associated with less educated mayors who are less experienced in private management and mayoral candidates with less political experience.

For US state legislatures, Hoffman and Lyons (2014) and Carnes and Hansen (2016) exploit variation in legislator pay across states and time to investigate its association with legislator background. Analyzing data for all US states for four years, Carnes and Hansen (2016) find that higher legislator pay is associated with a higher share of legislators from high-paying occupations. However, analyzing data for only a subset of the states for three-and-a-half decades, Hoffman and Lyons (2014) find no association between legislator salaries and the share of highly educated legislators. Together, this evidence suggests that the association between politician pay and politician background in US state legislatures depends on the states and period considered.

As for higher-level legislatures, on the one hand, Atkinson et al. (2016) find that higher salaries are associated with more educated members of parliament in Canada.²⁰ On the other hand, Fisman et al. (2015) and Braendle (2015) study the European Parliament's harmonization of members' base pay that varied with member nationality. Fisman et al. (2015) find that higher salaries are associated with less qualified members by one metric of education quality. Braendle (2015) finds no association between salaries and the share of members from a higher-education background or high-skill occupations. There thus may be a negative association or none at all between salaries and the share of members of the European Parliament from a high-education or high-skill background.

Across these different political contexts, higher politician pay thus sometimes is associated with more politicians being more highly educated or from higher-paying occupations. Other times, it is

²⁰Women members appear to drive this association. Kotakorpi and Poutvaara (2011) also find that higher salaries are associated with more educated women candidates for parliament in Finland but find no association for men.

associated with fewer politicians from these backgrounds. Still other times, there is no association at all. To look at this mixed evidence through the lens of this paper’s stylized environment, one can think of elitism and no elitism as, respectively, many and few politicians being high-income citizens. The mixed evidence then suggests that, across these varied contexts, higher salaries can move society in either direction between elitism and no elitism or not at all.

Other channels likely facilitating elitism cannot address associations with salary increases, let alone differences in them across contexts.²¹ One such channel is that some high-income citizens may have an early fundraising advantage when running for Congress (Bonica 2020). This channel’s importance depends on campaign finance regulation that varies across countries (Falguera et al. 2014). However, all else equal, a salary increase does not affect it. Another channel is that party gatekeepers might make the candidate selection process unrepresentative (Fox and Lawless 2010; Tolley 2019; Dancygier et al. 2021). This channel’s importance depends on formal and informal rules governing political recruitment. However, a salary increase does not affect the role of gatekeepers. Yet another channel is that high time and resource costs may deter campaigns by low-income citizens and induce candidate recruitment using high-income political leaders’ networks (Carnes 2018). This channel’s importance depends on formal and informal rules governing electoral campaigns and candidate recruitment. Again, however, a salary increase does not affect the relevant cost.

By contrast, salary increases affect the rewards for holding office and thus candidate self-selection. Proposition 2 thus can help reconcile different associations between politician pay and politician background across different contexts. Suppose the office is prestigious enough for $\beta \geq \delta$. It again might be a national legislative office or a prestigious local office. As in Section 3.3.1, it suffices to consider Inequality (7). An increase in the legislator salary increases high- and low-income citizens’ difference in income between holding office and being a private citizen by the same amount. The difference in differences in income is unchanged. The salary v thus does not affect the left-hand side of (7). The right-hand side of (7) is a nonmonotonic function $g(v)$ that takes values in $(0, \delta]$ and has jumps. It is depicted in Figure 2 for parameters that are consistent with $\beta \geq \delta$. An increase in the salary v along the horizontal axis decreases the function $g(v)$ towards zero, where it jumps up to δ and then decreases towards zero again, and so on.

Suppose the difference in differences in income between outside activity while in office and market activity as a private citizen is positive but smaller than the cost of running: $(\phi_h - 1)w_h - (\phi_l - 1)w_l = \kappa\delta$ for some $\kappa \in (0, 1)$. In Figure 2, $\kappa\delta$ is represented by the lower of the two dashed lines. Elitism arises if $\kappa\delta > g(v)$ and does not arise otherwise. At legislator salary v_1 , elitism does not arise. Increasing v slightly to v_2 , elitism still does not arise. Thus, a salary increase may not change who runs for office. Once the salary increases to v_3 , elitism arises. Thus, a salary increase may lead to more politicians being high-income citizens. Further increasing the legislator salary to v_4 , elitism still arises. Thus, again, a salary increase may not change who runs for office. Once the salary increases to v_5 , elitism does not arise anymore. Thus, a salary increase may lead to fewer

²¹While Poutvaara and Takalo (2007), for example, can potentially capture some ambiguity about the sign of the association between politician pay and (average) candidate background, they assume an electoral advantage for high-income citizens (moderated by a noisy signal), which is inconsistent with the evidence discussed in the introduction.

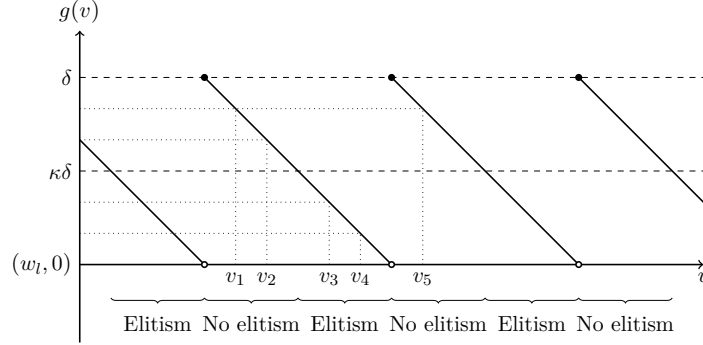


Figure 2: This figure depicts the right-hand side of (7), represented by a nonmonotonic function $g(v)$ with values in $(0, \delta]$ and jumps, and the left-hand side of (7) equal to $\kappa\delta$ for some $\kappa \in (0, 1)$. If the office is rather prestigious, $\beta \geq \delta$, then elitism arises if and only if (7) holds, or $g(v) < \kappa\delta$.

politicians being high-income citizens. The pattern repeats with further salary increases. Thus, for prestigious enough offices, in line with the mixed evidence, a salary increase may increase, decrease, or not affect the share of politicians from a high-education or high-income background. The different predictions stem from differences in the initial legislator salary, the distribution of market-income potential, the productivity of the office, and the cost of running.²²

4 Discussion

In this section, I discuss some assumptions, interpretations, and limitations of the analysis.

Pensions and Post-Legislature Careers. All utility benefits can be interpreted as the associated lifetime utility. Similarly, $w(i)$, v , and $\varphi(i)$ can represent citizen i 's expected present value of, respectively, all future market income as a private citizen, all future legislator salaries and pensions, and all future income from outside activity and post-legislature employment. With this interpretation of the model, the interpretation of some results changes slightly. On the one hand, the extent to which $\varphi(i)$ can be limited to prevent elitism as Proposition 4 suggests depends on why holding office increases post-legislature income potential. The increased income potential might derive mostly from human capital accumulation (e.g., Parker and Parker 2009), imposing restrictions on which might be difficult and undesirable. Holding office might also showcase skills that correlate with market ability (Mattozzi and Merlo 2008). However, arguably, much of the increased income potential likely stems from networks and political connections acquired (e.g., Blanes i Vidal et al. 2012; Bertrand et al. 2014). Then, former legislators' private sector employment could be restricted. For example, they could be prevented from lobbying (e.g., Keane and Merlo 2010) for a "cooling off" period (Straus 2015). On the other hand, Proposition 3 suggests that there may not be a reform of legislator salaries and pensions (e.g., Keane and Merlo 2010) that by itself prevents elitism.

²²A salary increase also has no effect if the difference in differences in income between outside activity while in office and market activity as a private citizen is larger than the cost of running (see Proposition 3) or nonpositive.

The Definition of Elitism. Given the stylized environment, arguably, the definition of elitism is natural and uniquely suitable. First, elitism cannot be defined in terms of a nonzero maximum number of low-income candidates an equilibrium can have. Consider an attractive office. Through the probability of winning, the expected payoff of running depends on the size but not the composition of the set of candidates. Given the office’s prestige, if there are any number of low-income candidates, then their difference in income between holding office and being a private citizen justifies running. Whether noncandidate high-income citizens’ difference in income is large enough to make deviating to running profitable is independent of exactly how many low-income candidates there are. That is, if a low-income citizen can be a candidate in equilibrium, then any number of the candidates, including all of them, can be low-income citizens.²³ Second, if equilibria with low-income candidates exist, then not observing one just means that of many possible equilibria, none of those with low-income candidates arose. It is not clear that such a situation should be labeled elitism. In addition, if all possible equilibria are equally likely to arise, then, given equal electoral prospects, one would expect to see low-income citizens hold office more often.²⁴

Effort. I focus on legislators’ income background rather than legislative effort. In addition, to ensure that electoral prospects are independent of income as the discussed evidence suggests, expected effort must either not affect candidate evaluations or be independent of income. I thus simplify the analysis and abstract from effort. The empirical evidence on the interaction of outside activity and income with legislator effort is somewhat mixed. It ranges from higher outside income being associated with lower effort (Gagliarducci et al. 2010) to outside income being or not being associated with lower effort depending on what metric of effort is used (Arnold et al. 2014; Staat and Kuehnhanss 2017) to outside income being associated with lower effort among only a specific subset of legislators (Fedele and Naticchioni 2016) to the sign of the association between effort and outside activity not only depending on how effort is measured but also on the number and type of outside positions legislators hold (Hurka et al. 2018) to legislators with outside income exerting more effort than others (Weschle 2021b). Therefore, given the paper’s focus, overall, arguably, abstracting from legislative effort seems to be a reasonable starting point.

Political Parties, Campaign Finance, and Special Interests. I focus on the decision to become a candidate. If running requires nomination by a political party based on, for example, charisma, then the potential candidates considered are not only competent but also charismatic. Uncharismatic citizens cannot run for office. Charismatic citizens still must decide whether to apply for a party nomination. The important assumption is that enough high- and low-income citizens

²³Therefore, also, if elitism as defined does not arise, then an equilibrium with only low-income candidates exists.

²⁴The observations discussed here also suggests that defining elitism as there being an equilibrium in which only high-income citizens run for office is conceptually undesirable. First, in this case, nothing prevents some or even all candidates from being low-income citizens in equilibrium. Second, because each citizen’s payoff comparison only depends on the number of other candidates regardless of income, if an equilibrium with a high-income candidate exists, then an equilibrium with only high-income candidates exists. Thus, in this case, preventing “elitism” implies elitism in the sense that all candidates are from the same group (low-income, in this case) in every equilibrium.

are charismatic. Similarly, if running requires campaign funding from a special interest group based on policy alignment, then the potential candidates considered must be aligned with some interest group. Citizens who are not aligned with an interest group cannot run for office. Citizens who are aligned with an interest group still must decide whether to run. The important assumption is that enough high- and low-income citizens are aligned with some interest group.

5 Concluding Remarks

Many representative democracies experience political elitism in the sense that at all times, virtually all members of the national legislature are high-income citizens. At the same time, evidence suggests that voters do not prefer high-income candidates over low-income candidates. Motivated by this evidence, I explore a financial-rewards channel through which elitism can arise by self-selection when electoral prospects are independent of income. The analysis rests on the fact that holding office can be quite lucrative. Besides paying a relatively high salary, holding office may facilitate outside activity while in office or increase legislators' income potential in a post-legislature career.

I find that elitism arises if and only if the office is attractive and the difference in differences in income between holding office and being a private citizen is large enough. Holding office paying higher income premia or facilitating more productive outside activity for high- than for low-income citizens is not necessary or sufficient for elitism to arise. At the same time, however, appropriate outside income limits can always prevent elitism. Salary reform alone, on the other hand, often cannot prevent it. In the context of post-legislature employment and revolving doors, preventing elitism might require restricting the private sector employment that former legislators can take up. For example, one might have to ban former legislators from lobbying for at least some time after they left office. On the other hand, there often is no reform of legislator pay or pensions that by itself can prevent elitism. Finally, the results can help reconcile some mixed evidence on the association between politician pay and politician background.

Future work could attempt to integrate the financial-rewards channel with other potentially important and complementary channels. One prominent such channel is the role of parties, party gatekeepers, and political and civic leaders in candidate recruitment. Other likely important channels are advantages in campaign finance acquisition and the financial burden of running for office. Future work could also attempt to empirically analyze the association between restrictions on legislators' outside activity, outside income, and post-legislature employment and the intensity of elitism.

Appendices

A Additional Discussion

A.1 Comparison of implications of the environment to [Gagliarducci et al. \(2010\)](#)

In this Section, I highlight some important implications of the environment in comparison with the insights from the analysis in [Gagliarducci et al. \(2010\)](#). Proposition 5 provides a sufficient condition for an equilibrium with high-income candidates to exist. This condition is not relevant for the analysis of elitism, although some high-income citizens must run in equilibrium when elitism arises. However, some results stated in Corollary 3 below that follow from Proposition 5 can be compared to [Gagliarducci et al. \(2010\)](#)'s necessary condition for high-income citizens entering politics.

Proposition 5. *An equilibrium with at least one high-income candidate exists if*

$$(8) \quad (\gamma_h - 1)w_h \geq \max \left\{ \delta - \beta - \theta(k_h), \right. \\ \left. (\gamma_l - 1)w_l - \delta \left(1 - \left(\frac{\beta + (\gamma_h - 1)w_h}{\delta} - \left\lfloor \frac{\beta + (\gamma_h - 1)w_h}{\delta} \right\rfloor \right) \right) \right\}.$$

High-income citizens have more lucrative options in the private sector than low-income citizens. Yet, an equilibrium with high-income citizens running for office exists if their difference in income between holding office and being a private citizen is large enough. The first element of the set on the right-hand side of (8) ensures that the only candidate in a one-candidate equilibrium can be a high-income citizen. The second element ensures that an equilibrium with many candidates can have high-income candidates. The expression multiplying δ , where $\lfloor \cdot \rfloor$ again is the floor function, differs from the similar-looking expression in Condition 2 and has the opposite sign.

Inspecting (8) reveals several insights. As $\theta(k_h) + \beta > \delta > 0$ and $(\gamma_l - 1)w_l \geq 0$, the right-hand side of (8) can be negative. The inequality thus can hold while high-income citizens have higher income as a private citizen than when holding office, $(\gamma_h - 1)w_h < 0$. Hence, an equilibrium with high-income citizens running for office can exist even when they must accept a pay cut to hold office. There can also be high-income candidates while holding office does not facilitate outside income at all, $\varphi_l = \varphi_h = 0$, while outside income is higher for low- than for high-income citizens, $\varphi_l > \varphi_h$, or while the office is more productive for low- than for high-income citizens, $\phi_l > \phi_h$.

Corollary 3. *High-income citizens may run for office while (1) they have higher income as a private citizen than when holding office; (2) the office does not facilitate outside income while in office at all; (3) outside income while in office is higher for low- than for high-income citizens; (4) the office is more productive for low- than for high-income citizens.*

Insofar as income potential captures ability, for high-income candidates, it thus is not necessary that outside activity rewards higher ability, let alone rewards it more than market activity. This implication provides a sharp contrast to [Gagliarducci et al. \(2010\)](#). They assume that outside activity rewards higher ability and find that it must do so more than market activity for there to

be high-income candidates in equilibrium. In their framework, running for office is costless. Thus, if everyone is better off holding office than being a private citizen, then everyone runs for office, including those with high market income. [Gagliarducci et al. \(2010\)](#) call these equilibria trivial and exclude them from consideration. However, among them are cases in which outside activity does not reward higher ability more than market activity. By contrast, given a large enough number of potential candidates, the cost of running in the framework here gives rise to a meaningful strategic interaction among them. Equilibria thus are never trivial in the sense that not everyone runs for office even if everyone is better off holding office than being a private citizen. [Corollary 3](#) therefore characterizes some cases that [Gagliarducci et al. \(2010\)](#) ignore because they lead to trivial outcomes in their framework but not in the framework here. More generally, for political elitism to arise, it is not enough that high-income citizens are willing to enter the political arena. As discussed in the introduction, elitism cannot arise in [Gagliarducci et al. \(2010\)](#)'s framework for realistic parameters.

A.2 Competence

Voters not expecting differences in the quality of representation based on income background helps ensure equal electoral prospects as the evidence the paper takes as given suggests. This assumption is consistent with evidence suggesting that voters do not perceive high-income candidates as more qualified or effective in office than low-income candidates ([Carnes and Lupu 2016a](#); [Campbell and Cowley 2014](#)). However, voters do seem to value competence measured by, for example, previous experience or past performance in public office (e.g., [Lublin 1994](#); [Squire 1995](#); [Hobolt and Høyland 2011](#); [Kendall et al. 2015](#)).

Insofar as higher income is associated with higher education, [Carnes and Lupu \(2016b\)](#) find that the perception that high-income candidates are not more qualified or effective is warranted. Measuring wealth by reported assets, [Stacy \(2020\)](#) finds that wealthier members of the US House of Representatives are more effective at advancing their policy agendas than less wealthy members. (Of course, members are generally much wealthier than most citizens.) However, the differences are not due to experience or innate ability but related to institutional factors such as majority party membership and committee chairing. On the other hand, for example, [Besley et al. \(2011\)](#) argue that a country leader's educational attainment affects economic growth. Similarly, [Gagliarducci and Nannicini \(2013\)](#) find evidence suggesting that higher-paid mayors improve bureaucratic efficiency.

More generally, being a good representative likely has many dimensions. Overall performance is difficult to evaluate by metrics capturing only one specific dimension. The lack of an electoral advantage for high-income candidates suggests that voters do not perceive income as informative of whether a candidate has the skills to be a good representative. This interpretation might be particularly important when evaluating the performance of representatives in the legislature rather than local executives, such as, for example, the mayors [Gagliarducci and Nannicini \(2013\)](#) focus on.

Focusing on high- and low-income citizens who are competent enough to hold office and enact the policy only amounts to assuming that such citizens exist. This assumption does not preclude the possibility that there is some underlying ability that imperfectly correlates with education, income,

and competence in office. Similarly, positive selection on certain skills, possibly associated with certain high-income occupations, in equilibrium is consistent with elitism here. For example, while voters do not expect differences in the quality of representation based on income, some skills might be more suitable for outside activity than others. The assumptions essentially ensure that elitism is not explained by low-income citizens simply not being able to hold office because they lack the required competence. However, being competent enough to hold office, all potential candidates, both with high and low income, still must decide whether to put themselves forward as a candidate.

Finally, focusing on citizens who can enact the policy is without loss of generality. Suppose there was a candidate who cannot enact the policy. If, on the one hand, there is another candidate who can enact the policy, then the candidate who cannot enact the policy does not receive any votes as all citizens desire the policy to be enacted. They can thus profitably deviate to not running and save the cost. If, on the other hand, there is no other candidate who can enact the policy, then a citizen who cannot enact the policy will hold office, and the policy will not be enacted. In this case, some low-income citizen who can enact the policy can profitably deviate to running. They would win the election with certainty as all citizens desire the policy to be enacted. They would collect the policy and office benefits, which outweigh the cost of running for at least some low-income citizens, and a potential income premium. Thus, in equilibrium, all candidates for office can enact the policy.

A.3 Voting

The description of the political process in Section 2 captures the implications of a setting with elections under the following assumptions. If there is no candidate for office, then it remains vacant. If there is exactly one candidate for office, then this candidate automatically becomes the office holder. If there are at least two candidates for office, then a plurality-vote election is held. All noncandidate citizens are eligible to vote in the election. Candidates cannot vote. This assumption still simplifies the exposition but is otherwise immaterial (see below). Voters vote as if their vote was decisive. They abstain if they are indifferent among all candidates and otherwise break ties by simple random sampling. Tied elections are also broken by simple random sampling.

The equilibrium concept is pure-strategy Nash equilibrium. As all voting is sincere and mechanical, equilibrium only requires that given all other citizens' running decisions, no citizen can benefit from changing theirs. If there is only $n = 1$ candidate for office, then the single candidate 'wins' the office with probability $1/n = 1$ by assumption. There is an election only if there are $n > 1$ candidates. Since all n candidates in the election are equally good at enacting the desired policy irrespective of their income background, all voters are indifferent among them and thus abstain. Thus, all candidates tie at zero votes. Simple random sampling determines the election winner. Each of the n candidates wins the election with probability $1/n$.

If candidates were allowed to vote, then one would have to first introduce more general notation capturing the probability of winning and then show that in any equilibrium, simple random sampling determines the election winner. All voters, candidate or not, still vote as if their vote was decisive. Noncandidate voters are still indifferent among all candidates and thus abstain. Candidates vote for

themselves. A candidate who votes for another candidate rather than for themselves must have at least as high a payoff when losing as when winning and can increase their payoff further by deviating to not running and saving the associated cost. Thus, all candidates tie at one vote. The tie is broken by simple random sampling. Each of the n candidates wins the election with probability $1/n$.

A.4 Policy Conflict In An Unmodeled Second Dimension

The environment is not suited to study redistribution. Given the evidence that electoral prospects are independent of income, redistribution might also not be a salient policy issue. If it was salient, low-income citizens are the majority, and income groups prefer conflicting policies, then electoral prospects might not be independent of income. Instead, the policy benefit could represent a composite benefit of the district being represented in the legislature, including the value of having a voice in a future policy conflict. However, under certain conditions, the analysis can be interpreted as speaking to elitism in the presence of policy conflict in an unmodeled second policy dimension.

One might consider regulation of a specific issue that citizens either support or oppose. To maintain equal electoral prospects, about the same share of citizens in each income group must support regulation. There might be two ideological parties, one supporting regulation and one opposing it, each comprising of all high- and low-income citizens who share the respective position. Further, each party might use a primary election to nominate a candidate for the district election. In each party's primary, citizens are eligible to vote and run if and only if they are a resident of the district and a member of the party. All eligible voters thus are indifferent among all candidates. All party members desire the local public good and share the position on regulation. In the district election, all citizens in the district then vote for the candidate who shares their stance on regulation.

Suppose most citizens in the district either support or oppose regulation. Then, the candidate fielded by the party that represents the district's majority position becomes the representative with certainty. In addition, altogether ignore the district's losing party, its primary, and the candidate it ends up fielding. The only prediction of interest lost is the losing candidate's income background. Elitism arising then is interpreted as there being no equilibrium with a low-income candidate for the district's majority party nomination. The analysis and results then can be interpreted as speaking to the income background of all viable candidates for office, including the eventual office holder.

B Proofs

Proposition 1

Proof. There are two cases: (1) $2\delta \geq \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}$; (2) $2\delta < \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}$. From (1) follows with $v \geq w_l$ and $\phi_l \geq 0$ that $\gamma_l w_l \geq w_l$. Therefore, $(\gamma_l - 1)w_l \geq 0$ so that $\max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} \geq 0$. I show that an equilibrium exists in general by separately describing and verifying an equilibrium for each case.

(1) Suppose that $2\delta \geq \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}$. Let $\mathcal{C} = \{k_l\}$ so that $n = 1$. Recall that $k_l \in \mathcal{L}$. Using (3) and (4) together with the fact that $n_{-i} = n - 1$ for all $i \in \mathcal{C}$ and $n_{-i} = n$ for

all $i \in \mathcal{I} \setminus \mathcal{C}$ in (5) and (6), \mathcal{C} is an equilibrium if and only if

$$(9) \quad \theta(k_l) + \beta + \gamma(k_l)w(k_l) - \delta \geq w(k_l),$$

$$(10) \quad \theta(i) + w(i) \geq \frac{1}{2}(\theta(i) + \beta + \gamma(i)w(i) - \delta) + \frac{1}{2}(\theta(i) + w(i) - \delta) \quad \forall i \in \mathcal{I} \setminus \{k_l\}.$$

Inequality (9) holds because $k_l \in \mathcal{L}$, $\gamma_l w_l \geq w_l$, and $\theta(k_l) + \beta > \delta$ so that

$$\theta(k_l) + \beta + \gamma(k_l)w(k_l) - \delta = \theta(k_l) + \beta + \gamma_l w_l - \delta \geq \theta(k_l) + \beta + w_l - \delta > w_l = w(k_l).$$

Inequality (10) can be rewritten as

$$2\delta \geq \beta + (\gamma(i) - 1)w(i) \quad \forall i \in \mathcal{I} \setminus \{k_l\},$$

which holds because $2\delta \geq \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} \geq \beta + (\gamma(i) - 1)w(i)$ for all $i \in \mathcal{I} \setminus \{k_l\}$. That is, \mathcal{C} is an equilibrium. Thus, an equilibrium exists.

(2) Suppose that $2\delta < \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}$. Pick $n \in \mathbb{N}$ such that

$$(11) \quad n \leq \frac{\beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}}{\delta} \leq n + 1.$$

It follows that $n \geq 2$. By (2), $n < I_l$ and $n < I_h$. Consider any \mathcal{C} such that $|\mathcal{C}| = n$ and $\mathcal{C} \subset \mathcal{L}$ if $(\gamma_l - 1)w_l \geq (\gamma_h - 1)w_h$ and $\mathcal{C} \subset \mathcal{H}$ otherwise. That is, there are $n \geq 2$ candidates and $(\gamma(i) - 1)w(i) = \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}$ for all $i \in \mathcal{C}$. Using (3) and (4) together with the fact that $n_{-i} = n - 1$ for all $i \in \mathcal{C}$ and $n_{-i} = n$ for all $i \in \mathcal{I} \setminus \mathcal{C}$ in (5) and (6), \mathcal{C} is an equilibrium if and only if

$$(12) \quad \frac{1}{n}(\theta(i) + \beta + \gamma(i)w(i) - \delta) + \frac{n-1}{n}(\theta(i) + w(i) - \delta) \geq \theta(i) + w(i) \quad \forall i \in \mathcal{C},$$

$$(13) \quad \theta(i) + w(i) \geq \frac{1}{n+1}(\theta(i) + \beta + \gamma(i)w(i) - \delta) + \frac{n}{n+1}(\theta(i) + w(i) - \delta) \quad \forall i \in \mathcal{I} \setminus \mathcal{C}.$$

Inequality (12) can be rewritten as

$$\beta + (\gamma(i) - 1)w(i) \geq n\delta \quad \forall i \in \mathcal{C},$$

which holds by (11) because $\beta + (\gamma(i) - 1)w(i) = \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} \geq n\delta$ for all $i \in \mathcal{C}$. Inequality (13) can be rewritten as

$$(n+1)\delta \geq \beta + (\gamma(i) - 1)w(i) \quad \forall i \in \mathcal{I} \setminus \mathcal{C},$$

which holds by (11) because $\beta + (\gamma(i) - 1)w(i) \leq \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} \leq (n+1)\delta$ for all $i \in \mathcal{I} \setminus \mathcal{C}$. That is, \mathcal{C} is an equilibrium. Thus, an equilibrium exists.

Therefore, combining (1) and (2), an equilibrium exists in general.

Suppose for a contradiction that $\mathcal{C} = \emptyset$ is an equilibrium. Consider k_l . As $n = 0$, by (6),

$V_0(0, k_l) \geq V_1(0, k_l)$ or, using (3) and (4), $w(k_l) \geq \theta(k_l) + \beta + \gamma(k_l)w(k_l) - \delta = \theta(k_l) + \beta + \gamma_l w_l - \delta \geq \theta(k_l) + \beta + w_l - \delta > w_l = w(k_l)$ since $k_l \in \mathcal{L}$, $\gamma_l w_l \geq w_l$, and $\theta(k_l) + \beta > \delta$, a contradiction. Thus, $\mathcal{C} = \emptyset$ is not an equilibrium, and in every equilibrium, there is at least one candidate. ■

Remark 1

Proof. Rewrite Condition 2 as

$$(14) \quad \beta + (\gamma_h - 1)w_h > \delta + \delta \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor.$$

First, suppose that $\beta \geq \delta > 0$ and Condition 2 holds. Since $(\gamma_l - 1)w_l \geq 0$, it follows that $\beta + (\gamma_l - 1)w_l \geq \delta$ so that the right-hand side of (14) is at least 2δ . Thus, $\beta + (\gamma_h - 1)w_h > 2\delta$, and Condition 1 holds. Second, suppose that $0 \leq \beta < \delta$. Consider the case in which $0 \leq (\gamma_l - 1)w_l < \delta - \beta < (\gamma_h - 1)w_h < 2\delta - \beta$. Then, $0 \leq \beta + (\gamma_l - 1)w_l < \delta < \beta + (\gamma_h - 1)w_h < 2\delta$. Thus, since $0 \leq \beta + (\gamma_l - 1)w_l < \delta$, (14) holds due to $\delta < \beta + (\gamma_h - 1)w_h$, but, since $\beta + (\gamma_l - 1)w_l < \beta + (\gamma_h - 1)w_h < 2\delta$, Condition 1 does not hold. ■

Proposition 2

Proof. I proceed in two steps. **Step 1** establishes that if elitism arises, then Conditions 1 and 2 hold. **Step 2** establishes that if Conditions 1 and 2 hold, then elitism arises.

Step 1. I proceed by contraposition. Suppose that Conditions 1 and 2 do not both hold. I show that elitism does not arise, i.e., there is an equilibrium with a low-income candidate. There are two cases: (1) Condition 1 does not hold, and Condition 2 holds or does not hold; (2) Condition 1 holds, and Condition 2 does not hold. Consider each case in turn.

(1) Suppose that Condition 1 does not hold, and Condition 2 holds or does not hold. Then, $2\delta \geq \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}$. For this case, irrespective of whether or not Condition 2 holds, the first part of the proof of Proposition 1 shows that an equilibrium with a low-income candidate exists. Therefore, elitism does not arise.

(2) Suppose that Condition 1 holds, and Condition 2 does not hold. Then,

$$(15) \quad (\gamma_h - 1)w_h - (\gamma_l - 1)w_l \leq \delta \left(1 - \left(\frac{\beta + (\gamma_l - 1)w_l}{\delta} - \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor \right) \right).$$

I show that there is an equilibrium with a low-income candidate. Pick $n \in \mathbb{N}$ such that

$$(16) \quad n < \frac{\beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}}{\delta} \leq n + 1.$$

It follows from Condition 1 that $n \geq 2$. By (2), $n < I_l$ and $n < I_h$. Consider any $\mathcal{C} \subset \mathcal{L}$ such that $|\mathcal{C}| = n$. That is, there are $n \geq 2$ low-income candidates. Using (3) and (4) together with the fact that $n_{-i} = n - 1$ for all $i \in \mathcal{C}$ and $n_{-i} = n$ for all $i \in \mathcal{I} \setminus \mathcal{C}$ in (5) and (6), \mathcal{C} is an equilibrium if and

only if

$$(17) \quad \frac{1}{n} (\theta(i) + \beta + \gamma(i)w(i) - \delta) + \frac{n-1}{n} (\theta(i) + w(i) - \delta) \geq \theta(i) + w(i) \quad \forall i \in \mathcal{C},$$

$$(18) \quad \theta(i) + w(i) \geq \frac{1}{n+1} (\theta(i) + \beta + \gamma(i)w(i) - \delta) + \frac{n}{n+1} (\theta(i) + w(i) - \delta) \quad \forall i \in \mathcal{I} \setminus \mathcal{C}.$$

Inequality (18) can be rewritten as

$$(n+1)\delta \geq \beta + (\gamma(i) - 1)w(i) \quad \forall i \in \mathcal{I} \setminus \mathcal{C},$$

which holds by (16) because $\beta + (\gamma(i) - 1)w(i) \leq \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} \leq (n+1)\delta$ for all $i \in \mathcal{I} \setminus \mathcal{C}$. As $\mathcal{C} \subset \mathcal{L}$, Inequality (17) can be rewritten as

$$(19) \quad \beta + (\gamma_l - 1)w_l \geq n\delta.$$

There are two cases: (a) $(\gamma_l - 1)w_l \geq (\gamma_h - 1)w_h$; (b) $(\gamma_l - 1)w_l < (\gamma_h - 1)w_h$.

(a) If $(\gamma_l - 1)w_l \geq (\gamma_h - 1)w_h$, then $\max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} = (\gamma_l - 1)w_l$, and it follows directly from (16) that (19) and thus (17) holds.

(b) If $(\gamma_l - 1)w_l < (\gamma_h - 1)w_h$, then $\max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} = (\gamma_h - 1)w_h$, and $(\beta + (\gamma_h - 1)w_h)/\delta > n$ from (16) so that (19) and thus (17) holds because by (15),

$$\begin{aligned} & \beta + (\gamma_l - 1)w_l \geq \beta + (\gamma_h - 1)w_h - \delta \left(1 - \left(\frac{\beta + (\gamma_l - 1)w_l}{\delta} - \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor \right) \right) \\ \Leftrightarrow & \frac{\beta + (\gamma_l - 1)w_l}{\delta} \geq \frac{\beta + (\gamma_h - 1)w_h}{\delta} - 1 + \frac{\beta + (\gamma_l - 1)w_l}{\delta} - \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor \\ \Rightarrow & \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor \geq \frac{\beta + (\gamma_h - 1)w_h}{\delta} - 1 > n - 1 \\ \Rightarrow & \frac{\beta + (\gamma_l - 1)w_l}{\delta} \geq \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor \geq n \\ \Rightarrow & \beta + (\gamma_l - 1)w_l \geq n\delta. \end{aligned}$$

That is, \mathcal{C} is an equilibrium with a low-income candidate. Thus, elitism does not arise.

Therefore, combining (1) and (2), if Conditions 1 and 2 do not both hold, then elitism does not arise. By contraposition, therefore, if elitism arises, then Conditions 1 and 2 hold.

Step 2. Suppose that Conditions 1 and 2 hold. Suppose for a contradiction that there is an equilibrium \mathcal{C} such that $k \in \mathcal{C}$ for some $k \in \mathcal{L}$. There are two cases: (1) $n = 1$; (2) $n > 1$.

(1) If $n = 1$, then $\mathcal{C} = \{k\} \subset \mathcal{L}$. As \mathcal{C} is an equilibrium, using (3) and (4) together with the fact that $n_{-i} = n - 1$ for all $i \in \mathcal{C}$ and $n_{-i} = n$ for all $i \in \mathcal{I} \setminus \mathcal{C}$ in (5) and (6),

$$(20) \quad \theta(k) + \beta + \gamma(k)w(k) - \delta \geq w(k),$$

$$(21) \quad \theta(i) + w(i) \geq \frac{1}{2} (\theta(i) + \beta + \gamma(i)w(i) - \delta) + \frac{1}{2} (\theta(i) + w(i) - \delta) \quad \forall i \in \mathcal{I} \setminus \{k\}.$$

Inequality (21) can be rewritten as

$$2\delta \geq \beta + (\gamma(i) - 1)w(i) \quad \forall i \in \mathcal{I} \setminus \{k\},$$

which, due to $\mathcal{H} \setminus \{k\} \neq \emptyset$ and $\mathcal{L} \setminus \{k\} \neq \emptyset$ (because $I_h > 1$ and $I_l > 1$), implies that

$$2\delta \geq \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\},$$

which establishes a contradiction because Condition 1 holds.

(2) Suppose that $n > 1$. As \mathcal{C} is an equilibrium, using (3) and (4) together with the fact that $n_{-i} = n - 1$ for all $i \in \mathcal{C}$ and $n_{-i} = n$ for all $i \in \mathcal{I} \setminus \mathcal{C}$ in (5) and (6),

$$(22) \quad \frac{1}{n} (\theta(i) + \beta + \gamma(i)w(i) - \delta) + \frac{n-1}{n} (\theta(i) + w(i) - \delta) \geq \theta(i) + w(i) \quad \forall i \in \mathcal{C},$$

$$(23) \quad \theta(i) + w(i) \geq \frac{1}{n+1} (\theta(i) + \beta + \gamma(i)w(i) - \delta) + \frac{n}{n+1} (\theta(i) + w(i) - \delta) \quad \forall i \in \mathcal{I} \setminus \mathcal{C}.$$

As $k \in \mathcal{L}$, for $k \in \mathcal{C}$, Inequality (22) can be rewritten as

$$(24) \quad \beta + (\gamma_l - 1)w_l \geq n\delta.$$

It follows by (2) that $n < I_l$ and $n < I_h$ as $\beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} \geq \beta + (\gamma_l - 1)w_l$. Inequality (23) can be rewritten as

$$(n+1)\delta \geq \beta + (\gamma(i) - 1)w(i) \quad \forall i \in \mathcal{I} \setminus \mathcal{C},$$

which, due to $\mathcal{H} \setminus \mathcal{C} \neq \emptyset$ (because $n < I_h$), implies that

$$(25) \quad (n+1)\delta \geq \beta + (\gamma_h - 1)w_h.$$

From Condition 2 together with (24) follows that

$$\begin{aligned} & (\gamma_h - 1)w_h > (\gamma_l - 1)w_l + \delta \left(1 - \left(\frac{\beta + (\gamma_l - 1)w_l}{\delta} - \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor \right) \right) \\ \iff & \frac{\beta + (\gamma_h - 1)w_h}{\delta} > \frac{\beta + (\gamma_l - 1)w_l}{\delta} + 1 - \frac{\beta + (\gamma_l - 1)w_l}{\delta} + \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor \\ \implies & \frac{\beta + (\gamma_h - 1)w_h}{\delta} > \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor + 1 \geq n + 1 \\ \implies & \beta + (\gamma_h - 1)w_h > (n+1)\delta, \end{aligned}$$

which contradicts (25).

Combining (1) and (2), if Conditions 1 and 2 hold, then there is no equilibrium \mathcal{C} such that $k \in \mathcal{C}$ for some $k \in \mathcal{L}$. Therefore, if Conditions 1 and 2 hold, then elitism arises. \blacksquare

Corollary 1

Proof. I construct parameter examples for each Case (1) and (2) that satisfy Conditions 1 and 2 so that elitism arises by Proposition 2.

(1) Fix any finite $w_l > 0$, $w_h > w_l$, $\beta \geq 0$, and $\delta > 0$. Pick large enough finite $\theta(i) > 0$ so that $\theta(i) + \beta > \delta$ for all $i \in \mathcal{I}$, implying that $\theta(k_h) + \beta > \delta$ and $\theta(k_l) + \beta > \delta$. Since $w_h > w_l > 0$, $\delta/(w_h - w_l) + 1$ and $(2\delta - \beta)/w_h + 1$ are some finite numbers. There is a large enough finite $\hat{\gamma}$ such that $\hat{\gamma} > \max\{\delta/(w_h - w_l) + 1, (2\delta - \beta)/w_h + 1\} > 1$. It follows that $(\hat{\gamma} - 1)(w_h - w_l) > \delta$. By continuity, there is a small enough $\epsilon > 0$ such that $(\hat{\gamma} - 1)w_h - ((\hat{\gamma} + \epsilon) - 1)w_l > \delta$. Let $\gamma_h = \hat{\gamma}$ and $\gamma_l = \hat{\gamma} + \epsilon$. Then, first, $\gamma_l > \gamma_h = \hat{\gamma} > 1$ so that $\gamma_l \geq 1$ and $\gamma_h \geq w_l/w_h$ as required. Second, it follows from $\gamma_h = \hat{\gamma} > (2\delta - \beta)/w_h + 1$ that $\beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} \geq \beta + (\gamma_h - 1)w_h > 2\delta$ so that Condition 1 holds. Third, it follows from $(\gamma_h - 1)w_h - (\gamma_l - 1)w_l = (\hat{\gamma} - 1)w_h - ((\hat{\gamma} + \epsilon) - 1)w_l > \delta$ that Condition 2 holds. Finally, pick any finite $I_l > 1$ and $I_h > 1$ that satisfy Inequality (2) and let $v = w_l$, $\phi_l = \gamma_l - 1$, and $\phi_h = \gamma_h - w_l/w_h$. Then, $\gamma_l > \gamma_h$ and Conditions 1 and 2 hold.

(2) Fix any finite $w_l > 0$, $w_h > w_l$, $v \geq w_l$, $\beta \geq 0$, and $\delta > 0$. Pick large enough finite $\theta(i) > 0$ so that $\theta(i) + \beta > \delta$ for all $i \in \mathcal{I}$, implying that $\theta(k_h) + \beta > \delta$ and $\theta(k_l) + \beta > \delta$. Since $w_h > w_l > 0$, $\delta/(w_h - w_l) + 1$ and $(2\delta + w_h - \beta - v)/w_h$ are some finite numbers. There is a large enough finite $\hat{\phi}$ such that $\hat{\phi} > \max\{\delta/(w_h - w_l) + 1, (2\delta + w_h - \beta - v)/w_h\} > 1$. It follows that $(\hat{\phi} - 1)(w_h - w_l) > \delta$. By continuity, there is a small enough $\epsilon > 0$ such that $(\hat{\phi} - 1)w_h - ((\hat{\phi} + \epsilon) - 1)w_l > \delta$. Let $\phi_h = \hat{\phi}$ and $\phi_l = \hat{\phi} + \epsilon$. Then, first, $\phi_l > \phi_h = \hat{\phi} > 1$ so that $\phi_l \geq 0$ and $\phi_h \geq 0$ as required. Second, it follows from $\phi_h = \hat{\phi} > (2\delta + w_h - \beta - v)/w_h$ and (1) that $\beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} \geq \beta + (\gamma_h - 1)w_h = \beta + (v/w_h + \phi_h - 1)w_h = \beta + v + (\phi_h - 1)w_h > 2\delta$ so that Condition 1 holds. Third, using (1), $(\gamma_h - 1)w_h - (\gamma_l - 1)w_l = (v/w_h + \phi_h - 1)w_h - (v/w_l + \phi_l - 1)w_l = (\phi_h - 1)w_h - (\phi_l - 1)w_l = (\hat{\phi} - 1)w_h - ((\hat{\phi} + \epsilon) - 1)w_l > \delta$ so that Condition 2 holds. Finally, pick any finite $I_l > 1$ and $I_h > 1$ that satisfy Inequality (2). Then, $\phi_l > \phi_h$ and Conditions 1 and 2 hold. ■

Corollary 2

Proof. I construct a parameter example that captures both Cases (1) and (2) and does not satisfy Condition 1 so that elitism does not arise by Proposition 2.

Fix any finite $I_l > 2$, $I_h > 2$, $w_l > 0$, $w_h > w_l$, and let $0 < \beta = \delta < w_h - w_l < 2\delta$, $v = w_l$, $\phi_l = 0$, $\phi_h = 2\delta/w_h$, and, for all $i \in \mathcal{I}$, $\theta(i) = \delta$, implying that $\theta(i) + \beta > \delta$ for all $i \in \mathcal{I}$ and thus $\theta(k_h) + \beta > \delta$ and $\theta(k_l) + \beta > \delta$. Then, $\phi_h > \phi_l$ and $\gamma_h > \gamma_l$ because, using (1), $\gamma_l = v/w_l + \phi_l = w_l/w_l = 1$ and $\gamma_h = v/w_h + \phi_h = w_l/w_h + 2\delta/w_h > 1$ since $2\delta > w_h - w_l$. Further, $(\gamma_l - 1)w_l = 0$ and $(\gamma_h - 1)w_h = (w_l/w_h + 2\delta/w_h - 1)w_h = 2\delta - (w_h - w_l) > 0$ so that $\beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} = \delta + 2\delta - (w_h - w_l) < 2\delta$ since $\delta < w_h - w_l$, which also implies that $(\beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\})/\delta = (\delta + 2\delta - (w_h - w_l))/\delta < 2$ so that Inequality (2) is satisfied as $I_l > 2$ and $I_h > 2$. Then, $\phi_h > \phi_l$ and $\gamma_h > \gamma_l$ and Condition 1 does not hold. ■

Proposition 3

Proof. Suppose that $\beta \geq \delta$. I proceed in two steps. **Step 1** establishes that if $(\phi_h - 1)w_h - (\phi_l - 1)w_l > \delta$, then elitism arises for all $v \geq w_l$. **Step 2** establishes that if elitism arises for all $v \geq w_l$, then $(\phi_h - 1)w_h - (\phi_l - 1)w_l > \delta$.

Step 1. Suppose that $(\phi_h - 1)w_h - (\phi_l - 1)w_l > \delta$. Fix any $v \geq w_l$. Using (1),

$$\begin{aligned} (\gamma_h - 1)w_h - (\gamma_l - 1)w_l &= (v/w_h + \phi_h - 1)w_h - (v/w_l + \phi_l - 1)w_l \\ &= v + (\phi_h - 1)w_h - v - (\phi_l - 1)w_l \\ &= (\phi_h - 1)w_h - (\phi_l - 1)w_l \\ &> \delta \\ &\geq \delta \left(1 - \left(\frac{\beta + (\gamma_l - 1)w_l}{\delta} - \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor \right) \right), \end{aligned}$$

so that Condition 2 holds. From Remark 1 follows that Condition 1 holds as well because $\beta \geq \delta$. Thus, elitism arises by Proposition 2. Since $v \geq w_l$ was arbitrary, elitism arises for all $v \geq w_l$.

Step 2. I proceed by contraposition. Suppose that $(\phi_h - 1)w_h - (\phi_l - 1)w_l \leq \delta$. I show that there is a $v \geq w_l$ such that elitism does not arise. Fix $v > w_l$ such that $h(v) = 0$, where $h : [w_l, \infty) \rightarrow \mathbb{R}$ is given by

$$h(x) = \frac{\beta + x + (\phi_l - 1)w_l}{\delta} - \left\lfloor \frac{\beta + w_l + (\phi_l - 1)w_l}{\delta} \right\rfloor - 1,$$

which is negative at $x = w_l$, strictly increasing in x , and approaching infinity with x approaching infinity. Then, $(\beta + v + (\phi_l - 1)w_l)/\delta$ is an integer. Thus, by (1),

$$\frac{\beta + (\gamma_l - 1)w_l}{\delta} = \frac{\beta + v + (\phi_l - 1)w_l}{\delta} = \left\lfloor \frac{\beta + v + (\phi_l - 1)w_l}{\delta} \right\rfloor = \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor.$$

Therefore, using (1),

$$\begin{aligned} (\gamma_h - 1)w_h - (\gamma_l - 1)w_l &= (v/w_h + \phi_h - 1)w_h - (v/w_l + \phi_l - 1)w_l \\ &= v + (\phi_h - 1)w_h - v - (\phi_l - 1)w_l \\ &= (\phi_h - 1)w_h - (\phi_l - 1)w_l \\ &\leq \delta \\ &= \delta \left(1 - \left(\frac{\beta + (\gamma_l - 1)w_l}{\delta} - \left\lfloor \frac{\beta + (\gamma_l - 1)w_l}{\delta} \right\rfloor \right) \right), \end{aligned}$$

so that Condition 2 does not hold. Thus, given v , elitism does not arise by Proposition 2. ■

Proposition 4

Proof. Fix any $m \leq \bar{m} \equiv w_h - w_l$. Then, using $\gamma_h w_h \leq v + m$ and $\gamma_l w_l \geq v$, it follows that $(\gamma_h - 1)w_h = \gamma_h w_h - w_h \leq v + m - w_h \leq v + \bar{m} - w_h = v + w_h - w_l - w_h = v - w_l \leq \gamma_l w_l - w_l = (\gamma_l - 1)w_l$. Thus, Condition 2 does not hold, and elitism does not arise by Proposition 2. ■

Proposition 5

Proof. Suppose that (8) holds. There are two cases: (1) $2\delta \geq \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}$; (2) $2\delta < \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}$. From (1) follows with $v \geq w_l$ and $\phi_l \geq 0$ that $\gamma_l w_l \geq w_l$. Therefore, $(\gamma_l - 1)w_l \geq 0$ so that $\max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} \geq 0$. I show that an equilibrium with a high-income candidate exists in general by separately describing and verifying an equilibrium with a high-income candidate for each case.

(1) Suppose that $2\delta \geq \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}$. Let $\mathcal{C} = \{k_h\}$ so that $n = 1$. Recall that $k_h \in \mathcal{H}$. Using (3) and (4) together with the fact that $n_{-i} = n - 1$ for all $i \in \mathcal{C}$ and $n_{-i} = n$ for all $i \in \mathcal{I} \setminus \mathcal{C}$ in (5) and (6), \mathcal{C} is an equilibrium if and only if

$$(26) \quad \theta(k_h) + \beta + \gamma(k_h)w(k_h) - \delta \geq w(k_h),$$

$$(27) \quad \theta(i) + w(i) \geq \frac{1}{2}(\theta(i) + \beta + \gamma(i)w(i) - \delta) + \frac{1}{2}(\theta(i) + w(i) - \delta) \quad \forall i \in \mathcal{I} \setminus \{k_h\}.$$

Inequality (26) holds because $k_h \in \mathcal{H}$ and $(\gamma_h - 1)w_h \geq \delta - \beta - \theta(k_h)$ by (8) so that

$$\theta(k_h) + \beta + \gamma_h w_h - \delta \geq w_h.$$

Inequality (27) can be rewritten as

$$2\delta \geq \beta + (\gamma(i) - 1)w(i) \quad \forall i \in \mathcal{I} \setminus \{k_h\},$$

which holds as $2\delta \geq \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} \geq \beta + (\gamma(i) - 1)w(i)$ for all $i \in \mathcal{I} \setminus \{k_h\}$. That is, \mathcal{C} is an equilibrium. Thus, an equilibrium with a high-income candidate exists.

(2) Suppose that $2\delta < \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}$. Pick $n \in \mathbb{N}$ such that

$$(28) \quad n < \frac{\beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\}}{\delta} \leq n + 1.$$

It follows that $n \geq 2$. By (2), $n < I_l$ and $n < I_h$. Consider any $\mathcal{C} \subset \mathcal{H}$ such that $|\mathcal{C}| = n$. That is, there are $n \geq 2$ high-income candidates. Using (3) and (4) together with the fact that $n_{-i} = n - 1$ for all $i \in \mathcal{C}$ and $n_{-i} = n$ for all $i \in \mathcal{I} \setminus \mathcal{C}$ in (5) and (6), \mathcal{C} is an equilibrium if and only if

$$(29) \quad \frac{1}{n}(\theta(i) + \beta + \gamma(i)w(i) - \delta) + \frac{n-1}{n}(\theta(i) + w(i) - \delta) \geq \theta(i) + w(i) \quad \forall i \in \mathcal{C},$$

$$(30) \quad \theta(i) + w(i) \geq \frac{1}{n+1}(\theta(i) + \beta + \gamma(i)w(i) - \delta) + \frac{n}{n+1}(\theta(i) + w(i) - \delta) \quad \forall i \in \mathcal{I} \setminus \mathcal{C}.$$

Inequality (30) can be rewritten as

$$(n+1)\delta \geq \beta + (\gamma(i) - 1)w(i) \quad \forall i \in \mathcal{I} \setminus \mathcal{C},$$

which holds by (28) because $\beta + (\gamma(i) - 1)w(i) \leq \beta + \max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} \leq (n+1)\delta$ for all $i \in \mathcal{I} \setminus \mathcal{C}$. As $\mathcal{C} \subset \mathcal{H}$, Inequality (29) can be rewritten as

$$(31) \quad \beta + (\gamma_h - 1)w_h \geq n\delta.$$

There are two cases: (a) $(\gamma_h - 1)w_h \geq (\gamma_l - 1)w_l$; (b) $(\gamma_h - 1)w_h < (\gamma_l - 1)w_l$.

(a) If $(\gamma_h - 1)w_h \geq (\gamma_l - 1)w_l$, then $\max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} = (\gamma_h - 1)w_h$, and it follows directly from (28) that (31) and thus (29) holds.

(b) If $(\gamma_h - 1)w_h < (\gamma_l - 1)w_l$, then $\max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} = (\gamma_l - 1)w_l$, and $(\beta + (\gamma_l - 1)w_l)/\delta > n$ from (28) so that (31) and thus (29) holds because by (8),

$$\begin{aligned} & (\gamma_h - 1)w_h \geq (\gamma_l - 1)w_l - \delta \left(1 - \left(\frac{\beta + (\gamma_h - 1)w_h}{\delta} - \left\lfloor \frac{\beta + (\gamma_h - 1)w_h}{\delta} \right\rfloor \right) \right) \\ \Leftrightarrow & \frac{\beta + (\gamma_h - 1)w_h}{\delta} \geq \frac{\beta + (\gamma_l - 1)w_l}{\delta} - 1 + \frac{\beta + (\gamma_h - 1)w_h}{\delta} - \left\lfloor \frac{\beta + (\gamma_h - 1)w_h}{\delta} \right\rfloor \\ \Rightarrow & \left\lfloor \frac{\beta + (\gamma_h - 1)w_h}{\delta} \right\rfloor \geq \frac{\beta + (\gamma_l - 1)w_l}{\delta} - 1 > n - 1 \\ \Rightarrow & \frac{\beta + (\gamma_h - 1)w_h}{\delta} \geq \left\lfloor \frac{\beta + (\gamma_h - 1)w_h}{\delta} \right\rfloor \geq n \\ \Rightarrow & \beta + (\gamma_h - 1)w_h \geq n\delta. \end{aligned}$$

That is, \mathcal{C} is an equilibrium. Thus, an equilibrium with a high-income candidate exists. Combining (1) and (2), an equilibrium with a high-income candidate exists if (8) holds. \blacksquare

Corollary 3

Proof. I construct parameter examples for each Case (1)–(4) that satisfy Inequality (8) so that an equilibrium with at least one high-income candidate exists by Proposition 5.

(1) Fix any finite $I_l > 1$, $I_h > 1$, $w_l > 0$, $w_h > w_l$ and let $v = w_l$, $\phi_l = \phi_h = 0$, $\beta = \delta = w_h - w_l > 0$, and, for all $i \in \mathcal{I}$, $\theta(i) = \delta$, implying that $\theta(i) + \beta > \delta$ for all $i \in \mathcal{I}$ and thus $\theta(k_h) + \beta > \delta$ and $\theta(k_l) + \beta > \delta$. Then, $(\gamma_h - 1)w_h = v - w_h = w_l - w_h = -\delta < 0$ and $(\gamma_l - 1)w_l = v - w_l = w_l - w_l = 0$. Since $I_l > 1$, $I_h > 1$, $\beta = \delta$, and $\max\{(\gamma_l - 1)w_l, (\gamma_h - 1)w_h\} = \max\{0, -\delta\} = 0$, Inequality (2) is satisfied. Since $\theta(i) = \beta = \delta$ for all $i \in \mathcal{I}$, the first element of the set on the right-hand side of Inequality (8) equals $\delta - \beta - \theta(k_h) = \delta - \delta - \delta = -\delta$. Since $(\gamma_l - 1)w_l = 0$, $(\gamma_h - 1)w_h = -\delta$, and $\beta = \delta$ so that $(\beta + (\gamma_h - 1)w_h)/\delta = (\delta - \delta)/\delta = 0$, the second element of the set on the right-hand side of Inequality (8) equals $-\delta$ as well. Then, Inequality (8) is satisfied and $(\gamma_h - 1)w_h < 0$.

(2) See the proof of (1) for an example with $\phi_l = \phi_h = 0$ that satisfies Inequality (8).

(3) Fix any finite $\beta \geq 0$ and $\delta > 0$. Fix a $w_l > 0$ and a $w_h > w_l$ such that $w_h - w_l < \delta$. Next, fix any finite $v \geq w_l$ and pick a finite $\phi_h \geq 1$ such that $(\beta + v + (\phi_h - 1)w_h)/\delta = (\beta + (\gamma_h - 1)w_h)/\delta = \lfloor (\beta + (\gamma_h - 1)w_h)/\delta \rfloor$. Let $\phi_l = (\delta - (w_h - w_l) + \phi_h w_h)/w_l > 0$, which implies that, first, $\phi_l w_l - \phi_h w_h = \delta - (w_h - w_l) > 0$ and thus $\phi_l w_l > \phi_h w_h$ and, second, $(\phi_h - 1)w_h = (\phi_l - 1)w_l - \delta$ and thus $(\gamma_h - 1)w_h = (\gamma_l - 1)w_l - \delta = (\gamma_l - 1)w_l - \delta(1 - ((\beta + (\gamma_h - 1)w_h)/\delta - \lfloor (\beta + (\gamma_h - 1)w_h)/\delta \rfloor))$. Pick large enough finite $\theta(i) > 0$ so that $(\gamma_h - 1)w_h \geq \delta - \beta - \theta(i)$ and $\theta(i) + \beta > \delta$ for all $i \in \mathcal{I}$, implying that $(\gamma_h - 1)w_h \geq \delta - \beta - \theta(k_h)$, $\theta(k_h) + \beta > \delta$, and $\theta(k_l) + \beta > \delta$. Finally, pick finite $I_l > 1$ and $I_h > 1$ that satisfy Inequality (2). Then, Inequality (8) is satisfied and $\phi_l w_l > \phi_h w_h$.

(4) See the proof of (3) for an example with $\phi_l > \phi_h$ that satisfies Inequality (8) because $\phi_l = (\delta - (w_h - w_l) + \phi_h w_h)/w_l > \phi_h$ if and only if $\delta + (\phi_h - 1)(w_h - w_l) > 0$, while $\delta > 0$, $w_h > w_l$, and $\phi_h \geq 1$. ■

References

- Arnesen, S. and Y. Peters (2018). The Legitimacy of Representation: How Descriptive, Formal, and Responsiveness Representation Affect the Acceptability of Political Decisions. *Comparative Political Studies* 51(7), 868–899.
- Arnold, F., B. Kauder, and N. Potrafke (2014). Outside Earnings, Absence, and Activity: Evidence From German Parliamentarians. *European Journal of Political Economy* 36, 147–157.
- Atkinson, M. M., D. Rogers, and S. Olfert (2016). Better Politicians: If We Pay, Will They Come? *Legislative Studies Quarterly* 41(2), 361–391.
- Berg, H. (2020). Politicians’ Payments in a Proportional Party System. *European Economic Review* 128, 103504.
- Bertrand, M., M. Bombardini, and F. Trebbi (2014, December). Is It Whom You Know or What You Know? An Empirical Assessment of the Lobbying Process. *American Economic Review* 104(12), 3885–3920.
- Besley, T. and S. Coate (1997). An Economic Model of Representative Democracy. *The Quarterly Journal of Economics* 112(1), 85–114.
- Besley, T., J. G. Montalvo, and M. Reynal-Querol (2011). Do Educated Leaders Matter? *The Economic Journal* 121(554), F205–227.
- Blanes i Vidal, J., M. Draca, and C. Fons-Rosen (2012, December). Revolving Door Lobbyists. *American Economic Review* 102(7), 3731–48.
- Bonica, A. (2020). Why Are There So Many Lawyers in Congress? *Legislative Studies Quarterly* 45(2), 253–289.

- Bovend'Eert, P. (2018, 12). Public Office and Public Trust: Standards of Conduct in Parliament: A Comparative Analysis of Rules of Conduct in Three Parliaments. *Parliamentary Affairs* 73(2), 296–322.
- Braendle, T. (2015). Does Remuneration Affect the Discipline and the Selection of Politicians? Evidence From Pay Harmonization in the European Parliament. *Public Choice* 162(1), 1–24.
- Brudnick, I. A. (2016). Congressional Salaries and Allowances: In Brief. Congressional Research Service Report No. RL30064, <https://fas.org/sgp/crs/misc/RL30064.pdf>.
- Campbell, R. and P. Cowley (2014). Rich Man, Poor Man, Politician Man: Wealth Effects in a Candidate Biography Survey Experiment. *The British Journal of Politics & International Relations* 16(1), 56–74.
- Carnes, N. (2012). Does the Numerical Underrepresentation of the Working Class in Congress Matter? *Legislative Studies Quarterly* 37(1), 5–34.
- Carnes, N. (2018). *The Cash Ceiling: Why Only the Rich Run for Office - and What We Can Do about It*. Princeton University Press.
- Carnes, N. and E. R. Hansen (2016). Does Paying Politicians More Promote Economic Diversity in Legislatures? *American Political Science Review* 110(4), 699–716.
- Carnes, N. and N. Lupu (2016a). Do Voters Dislike Working-Class Candidates? Voter Biases and the Descriptive Underrepresentation of the Working Class. *American Political Science Review* 110(4), 832–844.
- Carnes, N. and N. Lupu (2016b). What Good Is a College Degree? Education and Leader Quality Reconsidered. *The Journal of Politics* 78(1), 35–49.
- Caselli, F. and M. Morelli (2004). Bad Politicians. *Journal of Public Economics* 88(3-4), 759–782.
- Cirone, A., G. W. Cox, and J. H. Fiva (2021). Seniority-Based Nominations and Political Careers. *American Political Science Review* 115(1), 234–251.
- Clayton, A., D. Z. O'Brien, and J. M. Piscopo (2019). All Male Panels? Representation and Democratic Legitimacy. *American Journal of Political Science* 63(1), 113–129.
- Dahlgaard, J. O., N. Kristensen, and F. K. Larsen (2022). Reward or Punishment? The Distribution of Life-Cycle Returns to Political Office. IZA DP No. 15274.
- Dal Bó, E., F. Finan, O. Folke, T. Persson, and J. Rickne (2017). Who Becomes A Politician? *The Quarterly Journal of Economics* 132(4), 1877–1914.
- Dancygier, R., K.-O. Lindgren, P. Nyman, and K. Vernby (2021). Candidate Supply Is Not a Barrier to Immigrant Representation: A Case-Control Study. *American Journal of Political Science* 65(3), 683–698.

- Diermeier, D., M. Keane, and A. Merlo (2005). A Political Economy Model of Congressional Careers. *The American Economic Review* 95(1), 347–373.
- Eggers, A. C. and J. Hainmueller (2009). MPs for Sale? Returns to Office in Postwar British Politics. *American Political Science Review* 103(4), 513–533.
- Falguera, E., S. Jones, and M. Ohman (Eds.) (2014). *Funding of Political Parties and Election Campaigns: A Handbook on Political Finance*. <https://www.idea.int/publications/catalogue/funding-political-parties-and-election-campaigns-handbook-political-finance>: Stockholm: International Institute for Democracy and Electoral Assistance.
- Fedele, A. and P. Naticchioni (2016). Moonlighting Politicians: Motivation Matters! *German Economic Review* 17(2), 127–156.
- Fiorina, M. P. (1994). Divided Government in the American States: A Byproduct of Legislative Professionalism? *American Political Science Review* 88(2), 304–316.
- Fisman, R., N. A. Harmon, E. Kamenica, and I. Munk (2015). Labor Supply of Politicians. *Journal of the European Economic Association* 13(5), 871–905.
- Fox, R. L. and J. L. Lawless (2010). If Only They’d Ask: Gender, Recruitment, and Political Ambition. *The Journal of Politics* 72(2), 310–326.
- Gagliarducci, S. and T. Nannicini (2013). Do Better Paid Politicians Perform Better? Disentangling Incentives from Selection. *Journal of the European Economic Association* 11(2), 369–398.
- Gagliarducci, S., T. Nannicini, and P. Naticchioni (2010). Moonlighting Politicians. *Journal of Public Economics* 94(9–10), 688–699.
- Geys, B. and K. Mause (2013). Moonlighting Politicians: A Survey and Research Agenda. *The Journal of Legislative Studies* 19(1), 76–97.
- Griffin, J. D., B. Newman, and P. Buhr (2020). Class War in the Voting Booth: Bias Against High-Income Congressional Candidates. *Legislative Studies Quarterly* 45(1), 131–145.
- Groseclose, T. and K. Krehbiel (1994). Golden Parachutes, Rubber Checks, and Strategic Retirements from the 102d House. *American Journal of Political Science* 38(1), 75–99.
- Grossman, G. and W. W. Hanlon (2014). Do Better Monitoring Institutions Increase Leadership Quality in Community Organizations? Evidence from Uganda. *American Journal of Political Science* 58(3), 669–686.
- Hainmueller, J., D. J. Hopkins, and T. Yamamoto (2014). Causal Inference in Conjoint Analysis: Understanding Multidimensional Choices via Stated Preference Experiments. *Political Analysis* 22(1), 1–30.

- Hall, R. L. and R. P. van Houweling (1995). Avarice and Ambition in Congress: Representatives' Decisions to Run or Retire from the U.S. House. *The American Political Science Review* 89(1), 121–136.
- Hayes, M. and M. V. Hibbing (2017). The Symbolic Benefits of Descriptive and Substantive Representation. *Political Behavior* 39(1), 31–50.
- Hobolt, S. B. and B. Høyland (2011). Selection and Sanctioning in European Parliamentary Elections. *British Journal of Political Science* 41(3), 477–498.
- Hoffman, M. and E. Lyons (2014). Do Higher Salaries Lead to Higher Performance? Evidence from State Politicians. Working Paper.
- Hoyt, C. L. and B. H. DeShields (2021). How Social-Class Background Influences Perceptions of Political Leaders. *Political Psychology* 42(2), 239–263.
- Hurka, S., L. Obholzer, and W. T. Daniel (2018). When Time is Money: Sideline Jobs, Ancillary Income and Legislative Effort. *Journal of European Public Policy* 25(5), 651–669.
- Keane, M. P. and A. Merlo (2010, August). Money, Political Ambition, and the Career Decisions of Politicians. *American Economic Journal: Microeconomics* 2(3), 186–215.
- Kendall, C., T. Nannicini, and F. Trebbi (2015, January). How Do Voters Respond to Information? Evidence from a Randomized Campaign. *American Economic Review* 105(1), 322–53.
- Kotakorpi, K. and P. Poutvaara (2011). Pay for Politicians and Candidate Selection: An Empirical Analysis. *Journal of Public Economics* 95(7), 877–885.
- Kotakorpi, K., P. Poutvaara, and M. Terviö (2017). Returns to Office in National and Local Politics: A Bootstrap Method and Evidence from Finland. *The Journal of Law, Economics, and Organization* 33(3), 413–442.
- Lublin, D. I. (1994). Quality, Not Quantity: Strategic Politicians in U.S. Senate Elections, 1952–1990. *The Journal of Politics* 56(1), 228–241.
- Mansbridge, J. (1999). Should Blacks Represent Blacks and Women Represent Women? A Contingent "Yes". *The Journal of Politics* 61(3), 628–657.
- Mattozzi, A. and A. Merlo (2008). Political Careers or Career Politicians. *Journal of Public Economics* 92(3-4), 597–608.
- Mattozzi, A. and E. Snowberg (2018). The Right Type of Legislator: A Theory of Taxation and Representation. *Journal of Public Economics* 159, 54–65.
- Messner, M. and M. K. Polborn (2004). Paying Politicians. *Journal of Public Economics* 88(12), 2423–2445.

- Osborne, M. J. and A. Slivinski (1996). A Model of Political Competition with Citizen-Candidates. *The Quarterly Journal of Economics* 111(1), 65–96.
- Palmer, M. and B. Schneer (2016). Capitol Gains: The Returns to Elected Office from Corporate Board Directorships. *The Journal of Politics* 78(1), 181–196.
- Parker, G. R. and S. L. Parker (2009). Earning through Learning in Legislatures. *Public Choice* 141(3/4), 319–333.
- Peichl, A., N. Pestel, and S. Sieglöcher (2013). The Politicians’ Wage Gap: Insights From German Members of Parliament. *Public Choice* 156(3-4), 653–676.
- Pique, R. (2019). Higher Pay, Worse Outcomes? The Impact of Mayoral Wages on Local Government Quality in Peru. *Journal of Public Economics* 173, 1–20.
- Poutvaara, P. and T. Takalo (2007). Candidate Quality. *International Tax and Public Finance* 14(1), 7–27.
- Rosenson, B. A. (2007). Explaining Legislators’ Positions on Outside Income Limits: Voting on Honoraria Ceilings in the U.S. Senate, 1981–1983. *Public Choice* 133(1), 111–128.
- Squire, P. (1995). Candidates, Money, and Voters-Assessing the State of Congressional Elections Research. *Political Research Quarterly* 48(4), 891–917.
- Staat, C. and C. R. Kuehnhanß (2017). Outside Earnings, Electoral Systems and Legislative Effort in the European Parliament. *JCMS: Journal of Common Market Studies* 55(2), 368–386.
- Stacy, D. (2020). Wealth and Policymaking in the U.S. House of Representatives. Working Paper.
- Straus, J. R. (2015). The Lobbying Disclosure Act at 20: Analysis and Issues for Congress. Congressional Research Service Report No. R44292, <https://crsreports.congress.gov/product/pdf/R/R44292>.
- Thompson, D. M., J. J. Feigenbaum, A. B. Hall, and J. Yoder (2019). Who Becomes a Member of Congress? Evidence From De-Anonymized Census Data. Working Paper 26156, National Bureau of Economic Research.
- Tolley, E. (2019). Who You Know: Local Party Presidents and Minority Candidate Emergence. *Electoral Studies* 58, 70–79.
- Treul, S. A. and E. R. Hansen (2023). Primary Barriers to Working Class Representation. *Political Research Quarterly* 76(3), 1516–1528.
- Weschle, S. (2021a). Parliamentary Positions and Politicians’ Private Sector Earnings: Evidence from the UK House of Commons. *The Journal of Politics* 83(2), 706–721.
- Weschle, S. (2021b). Politicians’ Private Sector Jobs and Parliamentary Behavior. Working Paper.