Where Did The Money Go?

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Abstract

EXTENDED ABSTRACT

This paper studies voter misperceptions about redistribution and government efficiency. Policies affect both the size of the pie and its division, creating winners and losers. The government redistributes this pie according to a political process. Some voters adopt a simplified narrative of the redistribution process, neglecting how outcomes are correlated. We show that even when redistribution is chosen democratically and implemented without waste, voters may come to believe that it is ineffective and view the government to be wasteful. These misperceptions can cause voters to oppose policies that benefit a majority of them.

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1 Introduction

Many policies create winners and losers. If voters expect the government to redistribute gains effectively, they will favor policies that enlarge the pie. By contrast, they may be wary if they consider redistribution to be poorly targeted or wasteful. This tension recurs in debates over globalization, free trade, and immigration. Proponents argue that such policies raise total surplus while acknowledging the need for redistribution to compensate those left behind. Critics, however, contend that redistributive promises go unfulfilled and blame the government for being wasteful and ineffective at transferring gains from winners to losers.

Herein, we develop a simple model of distributive politics in which voters use past performance to evaluate the redistributive process. A continuum of voters decides whether to pass a trade or immigration reform without knowing how many benefit from the reform. If the reform passes, a redistributive process then determines whether gains to beneficiaries are taxed and transferred to those harmed. A specific example is a democratic process that fully redistributes gains—without waste—whenever there are more losers than winners. More generally, we also allow for political processes that favor winners or feature leakage in transfers. Voters' observations of past redistribution shape their beliefs about the political process and their support for the reform. Voters, however, are not all identical; we model two forms of heterogeneity described below.

The first is in the voters' *mental model* for redistribution. *Sophisticated* voters accurately anticipate how transfers depend on the number of winners and losers, and correctly account for leakages due to government inefficiency. *Naive* voters, by contrast, do not recognize what triggers redistribution; they treat the government as a black box that intermittently fulfills its promises. Such voters subscribe to a narrative that, amidst the chaos and gridlock of governance, redistributive promises are only occasionally upheld regardless of who gains or loses. They therefore track only the frequency and magnitude of past transfers and their beliefs about these summary statistics are correctly specified.

The second dimension is a voter's *rank* in society, which reflects her vulnerability to harm from the reform. Rank is denoted by a number in $[0, 1]$ such that if the reform harms a voter of rank r, it also harms all those of lower rank. This dimension captures what voters know ex ante about the reform's unequal effects. For instance, in a trade referendum, high-ranked voters may be those who work in sectors that benefit from cheaper imports or expanded market access while low-rank voters may be in industries

threatened by foreign competition. Similarly, when voting on immigration restrictions, high-rank voters may be firm owners, consumers, and workers in sectors that benefit from greater demand whereas low-rank voters may be workers in the sector exposed to greater labor market competition from immigrants. More broadly, a voter's rank indicates if she is near the front or back of the line in reaping gains from the reform.

We analyze the steady-state voting choices made by an electorate that comprises sophisticated and naive voters across ranks. To highlight the divergence in their voting decisions, we consider the majoritarian redistributive process that fully redistributes gains, without any waste, whenever the reform harms more voters than it helps. Sophisticated voters at or above median rank value the insurance that such redistribution provides, anticipating that they will either benefit from the reform or be compensated by transfers. Naive voters, by contrast, undervalue redistribution. They see it as haphazard, helping them only sometimes when they need it. Moreover, in the steady state, they incorrectly perceive it to be inefficient: because these voters fail to recognize that redistribution occurs only when the gains are limited, the magnitude of transfers falls below their expectations leading them to conclude that the government is wasteful. Their naivete then makes the reform less likely to pass.

This elementary theory helps explain how open trade and immigration can foster skepticism about whether expanding the pie leads to shared prosperity. In their survey on populism, Guriev and Papaioannou (2022) highlight how lowering trade and immigration barriers leads to economic anxiety that fuels the demand for populist reforms.[1] Our analysis shows that, even under ideal circumstances, voters may come to distrust the promise of shared prosperity and redistribution, viewing redistribution to be a blunt instrument—intermittent and inefficient.

In practice, circumstances are likely far from ideal: redistributive processes may be elite-biased, requiring widespread harm or protest to trigger redistribution, and they may also involve significant waste. Our subsequent analysis examines the influence of these factors. Raising the threshold for redistribution from simple majority to a supermajority rule—say two-thirds of voters have to be losers—reduces support for the reform from sophisticated but has ambiguous effects for naive voters. While raising the threshold further convinces naive voters, in the steady state, that the government

[1]Specifically, Autor, Dorn, and Hanson (2016) and Autor, Dorn, Hanson, and Majlesi (2020) document how the "China shock" led to a significant drop in manufacturing employment and wages and contributed to political polarization as well as the support for protectionist policies. Dal Bó, Finan, Folke, Persson, and Rickne (2023) describes how marginalized voters who were more likely to lose their jobs to immigrants shifted their support to populist radical-right Sweden Democrats.

is wasteful, they may favor a higher threshold so as to reduce the odds of facing the "leaky bucket." Allowing for the bucket to actually have leaks reduces support from all voters but naive voters always overestimate the leakage rate.

Putting all of this together, this work identifies how a fundamental and widely documented behavioral bias, correlation neglect, pushes towards the narrative that globalization has failed to achieve its promise of shared prosperity, that redistribution is ineffective, and that governments should be run more efficiently as "corporations."

Here is an outline of the paper. Section 2 describes the baseline model and Section 3 contains the main results. Section 3 considers comparative statics, and Section 4 considers extensions to other mental models and to a dynamic model of learning. Section 5 concludes. All omitted proofs are in Appendices. The remainder of this introduction places our contribution in the relevant literature.

Related Literature: This work is at the intersection of that on distributive politics and misspecified learning. Our central contribution lies in connecting these ideas, using misspecified learning to offer a new rationale for why voters distrust redistributive promises and reject policies that would enlarge the pie.

The literature on distributive politics uncovers other mechanisms that lead to bad policies. Fernandez and Rodrik (1991) consider how the lottery of a reform may have a negative expected value–and therefore, be rejected—even if, ex post, most voters come out ahead. Jain and Mukand (2003) investigate the strategic challenges that arise when the government cannot commit to redistribution, and redistributive promises are fulfilled only if they have popular support. Their central finding is that reforms can be victims of their own success: a reform that generates too many winners with sufficiently high probability is one that is likely to have too few supporters of redistribution. Paradoxically, voters may then favor a less successful reform precisely because it allows the government to *credibly* commit to redistribution. Mitchell and Moro (2006) study the challenges in eliciting information about who loses and how much, and how that informational friction could lead bad policies to persist.

To formulate misspecified learning, we draw on ideas of *cursedness* (Eyster and Rabin, 2005) and *correlation neglect* (DeMarzo, Vayanos, and Zwiebel, 2003; Enke and Zimmermann, 2019). Correlation neglect has been identified as an important driver of political behavior (Ortoleva and Snowberg, 2015) and applied in other contexts (e.g.,

Levy and Razin, 2015; Levy, Moreno de Barreda, and Razin, 2021).[2] That correlation neglect results in voters also losing faith in government efficiency is reminiscent of Heidhues, Kőszegi, and Strack (2018)'s findings on how incorrect beliefs along one dimension can misguide learning on other dimensions.

We also draw heavily on the model of narratives formulated by Spiegler (2016) and Eliaz and Spiegler (2020).[3] Voters here hold onto the (not unreasonable) narrative that the legislature or Congress is a "mad house", rife with chaos, gridlock, and rancor, and therefore fulfills its redistributive promises randomly. That narrative omits the causal link between whether redistribution occurs and its popular support.[4] Our work elucidates how this narrative naturally leads to one that also perceives government transfers to be wasteful and leaky.

Finally, this work speaks to the prevalence of zero-sum mindsets, where people treat positive-sum interactions as zero-sum. This trend, noted in social psychology (Meegan, 2010; Różycka-Tran, Boski, and Wojciszke, 2015; Davidai and Ongis, 2019), has been of recent interest in economics. Chinoy, Nunn, Sequeira, and Stantcheva (2024) document that such mindsets are widely prevalent among Democrat and Republican voters and Bergeron, Carvalho, Henrich, Nunn, and Weigel (2024) describe how it results in demotivating beliefs. Ali, Mihm, and Siga (2025) offer an informational microfoundation rooted in the idea that others' support for a reform may convey information to a voter that she has less to gain from it herself; Bueno De Mesquita and Dziuda (2024) describe how politicians may make zero-sum politics salient for their own electoral benefits. Herein, there is neither private information nor strategic politicians. Naive voters also do not necessarily see the world as zero-sum but their pessimism about the redistributive process leads them to undervalue policies that enlarge the pie.

[2]The literature has also explored the impact of other forms of misspecified learning on political economy; see, for instance, Esponda and Pouzo (2017), Levy, Razin, and Young (2022), Bowen, Dmitriev, and Galperti (2023), Ely (2023), Levy and Razin (2025), and Szeidl and Szucs (2025).

[3]For a different formulation, see Benabou and Tirole (2006) and Benabou, Falk, and Tirole (2018).

[4]One can view this narrative as a special case of Jehiel (2005)'s analogy-based expectations equilibrium in which naive voters do not distinguish times in which redistributive promises are upheld from those in which they are not.

2 Model

Policies and Redistribution. A continuum of voters, uniformly distributed on $[0,1]$, chooses between policies A and B by simple-majority rule.[5] Policy A yields a payoff of 0 to each voter, which is a normalization. Relative to policy A, policy B creates *winners* and *losers*, where each winner receives $v_w > 0$ while each loser bears a loss of $v_\ell > 0$. Voters do not know how many will be hurt by policy B: the fraction of losers L is drawn according to a strictly increasing and differentiable distribution F. Crucially, while voters do not know how many will gain from policy B, they have information about who is more likely to benefit. This pecking order is summarized by the voter's label or henceforth *rank*. If a fraction L loses from policy B, then all voters of rank $r \geq L$ are winners, while those with $r < L$ are losers. Hence, voter r's realized payoff is $v(r, L) := \mathbb{1}[r \geq L]v_w - \mathbb{1}[r < L]v_\ell$. Ex ante, voter r gains from policy B with probability $F(r)$, which is strictly increasing in her rank.

In the context of globalization, the choice between the two policies can be viewed as that between maintaining a closed economy and opening trade or immigration barriers. Voters may not know how many gain from economic liberalization but they generally recognize who stands to benefit the most. A majority of voters might support policies that expand the pie if they were confident that the government would redistribute the surplus by taxing winners and compensating losers. Yet, governments often cannot credibly commit to redistribution, leaving that outcome to a political process.

We model a general class of political processes and allow redistribution to be wasteful. Let $\rho : [0,1] \to [0,1]$ denote the probability that the government redistributes when the fraction of losers is L; we refer to ρ as a *redistributive rule*. Redistribution, when it occurs, is complete: each voter receives an equal share. However, a κ fraction of the surplus taxed from winners is lost to government waste. Thus, if the share of losers is L, the total surplus after redistribution is $\pi(L, \kappa) := (1-\kappa)(1-L)v_w - Lv_\ell$.

A salient example of a redistributive rule that we use to illustrate our results is the *majoritarian* rule, $\rho(L) = \mathbb{1}[L \geq 1/2]$, where the government redistributes gains and losses if and only if that action has majority support. One may envision processes that are more "elite-biased" than the majoritarian rule: redistribution might occur only under widespread mobilization (e.g., protests or riots), so that the critical threshold exceeds $1/2$. Other processes may reflect elite-capture, where redistribution arises

[5] For simplicity, we assume that, when both policies receive exactly the same mass of votes, each policy wins with equal probability.

only when certain influential elite voters—for instance, those in $[0.95, 0.99]$—lose out and press to redistribute gains from the top 1%. To accommodate these possibilities and more, we consider all (non-trivial) rules in which the probability of redistribution weakly increases in the fraction of losers.

Assumption 1. *The redistribution rule ρ satisfies the following two properties:*

(a) Weak Monotonicity: $\rho(L') \geq \rho(L)$ *for every* $L' \geq L$.
(b) Non-Constant: $\rho(L') \neq \rho(L)$ *for at least some* L' *and* L *in* $(0, 1)$.

Mental Models. Voters may not fully grasp the redistributive process, in terms of knowing what triggers redistribution or the degree of government waste. We assume that each voter forms a mental model of the redistributive process that she fact-checks against historical data.

We denote a voter's mental model by θ in Θ: $\rho_\theta(L)$ denotes the probability she ascribes to redistribution when the share of losers is L and κ_θ is her estimate of government wastefulness. A voter whose rank is r and mental model is θ then expects from policy B the payoff

$$u(r, \theta) := \mathbb{E}\left[\underbrace{(1 - \rho_\theta(L))v(r, L)}_{\text{No Redistribution}} + \underbrace{\rho_\theta(L)\pi(L, \kappa_\theta)}_{\text{Redistribution with waste } \kappa_\theta}\right].$$

These mental models must match the evidence that voters see. Following the literature on misspecified learning (e.g., Esponda and Pouzo, 2016; Spiegler, 2016; Eliaz and Spiegler, 2020), we assume that voters observe historical records about the frequency and levels of redistributive transfers. At a steady state, each voter's mental model must be consistent with these historical records. That consistency imposes two conditions on the mental model. First, each voter's model must generate an aggregate probability of redistribution that matches the actual empirical frequency with which redistribution happens when policy B is selected. Second, these models must match the levels of redistribution that emerge from the political process.[6]

[6] An underlying assumption is that voters do not observe the realized fraction of losers in the past nor the actual degree of government wastage, and therefore, do not fact-check $\rho_\theta(L)$ and κ_θ beyond these two summary statistics. A subtle issue pertains to what voters observe about the transfers. Given that voters do not observe how many are winners or losers, we assume they cannot see how much winners are taxed nor how much losers obtain; instead, they observe a summary statistic, like GDP per capita, that indicates the average income post redistribution.

Assumption 2. *Voters' mental models satisfy the following two properties.*

(a) Match Frequency: *Each voter's belief about the frequency of redistribution is correct in expectation:* $\mathbb{E}[\rho_\theta(L)] = \mathbb{E}[\rho(L)]$ *for every type* $\theta \in \Theta$.

(b) Match Amounts: *Each voter's belief about the amount of redistribution is correct in expectation:* $\mathbb{E}[\rho_\theta(L)\pi(L, \kappa_\theta)] = \mathbb{E}[\rho(L)\pi(L, \kappa)]$ *for every type* $\theta \in \Theta$.

Our analysis largely focuses on two mental models, $\Theta = \{N, S\}$. A *naive* voter has a constant belief that $\rho_N(L) = \hat{\rho}$ for every L, neglecting the correlation of redistribution with the (potentially unobserved) variable L. We contrast those choices with those of a *sophisticated* voter, whose beliefs coincide with the truth ($\rho_S(L) = \rho(L)$).

We highlight three sources for the naive voters' misspecified beliefs. The first is that a voter may search for the simplest possible theory consistent with the government's past redistributive track record, which causes her to neglect its dependence on a variable unobservable to her. Alternatively, the voter may understand that the choice of redistribution is responsive to its demand, but she commits the conceptual or statistical error of neglecting selection and correlation when judging the government's past performance. Failures to account for selection and correlation have been widely documented across a range of domains in economics and psychology. A third source is cynicism, where a naive voter views Congress or parliament to be a madhouse and attributes variations in redistribution to orthogonal factors such as legislative gridlock or special interests rather than to the demand for redistribution.

Our main analysis uses the interplay and contrast of these two mental models to obtain our core economic findings; **??** shows that these conclusions extend to a broader class of mental models.

Equilibrium Behavior. We consider the steady state behavior as (short-lived) voters choose between policies A and B in each of infinitely many periods.[7] Each voter votes *sincerely*: a voter of rank r and mental model θ votes for policy B if and only if $u(r, \theta) \geq 0$. We do not hold fixed the mental model of a voter of rank r, and allow it to be randomly determined. Formally, let $(\Omega, \mathcal{F}, \mu)$ be a (Borel) probability space and $\mathcal{M} : [0, 1] \times \Omega \to \Theta$ be a jointly measurable function. Then $\mathcal{S}(\omega) := \{r \in [0, 1] : \mathcal{M}(r, \omega) = S\}$ is the set of sophisticated voters in state ω and its complement, $\mathcal{N}(\omega) := \{r \in [0, 1] : \mathcal{M}(r, \omega) = N\}$ is the set of naive voters.

[7] We envision that, if implemented, policy B realizes payoffs stochastically in each period, selecting an L fraction to be losers according to distribution F independently of the past.

This formulation allows for correlation across voters' mental models, and does not hold fixed the mass of naive voters.

3 How Beliefs Go Astray

3.1 An Illustration

We illustrate our results using a simple example in which redistribution is triggered whenever it has popular support ($\rho(L) := \mathbb{1}[L \geq \frac{1}{2}]$) and it entails no waste ($\kappa = 0$). Moreover, suppose the fraction of losers is uniformly distribution on $[0, 1]$. Thus, if policy B is chosen, the government redistributes the total surplus with probability $1/2$, and conditional on redistribution, the expected total surplus is

$$\overline{\pi} := \mathbb{E}\left[(1-L)v_w - Lv_\ell \mid L \geq \frac{1}{2}\right] = \frac{v_w - 3v_\ell}{4}.$$

By Assumption 2, all voters' beliefs about the frequency of redistribution and the expected surplus conditional on redistribution match the truth. A sophisticated voter understands the true redistributive process and her expected payoff from policy B based on her rank therefore is

$$u(r, S) = \begin{cases} rv_w + \left(\frac{1}{2} - r\right) v_\ell + \left(\frac{1}{2}\right) \overline{\pi} & \text{if } r < \frac{1}{2}, \\ \left(\frac{1}{2}\right) v_w + \left(\frac{1}{2}\right) \overline{\pi} & \text{if } r \geq \frac{1}{2}. \end{cases}$$

As intuition for this expression, consider the first case in which $r < 1/2$. The first term corresponds to voter r being a winner, the second captures her being a loser but the fraction of losers being too low to trigger redistribution, and the third reflects redistribution. In the second case, $r \geq 1/2$, the voter knows that either $L < 1/2$ in which case she is a winner or $L > 1/2$, guaranteeing redistribution.[8]

We contrast this expression with that for the naive voter, who holds a misspecified model that the probability of redistribution is independent of the fraction of losers.

[8] These expressions reveal a conflict in preferences across voters of different ranks: those below median fear that they may lose from policy B without benefiting from the safety net that comes from redistribution. By contrast, those above median rank know that if they lose from policy B, there is bound to be government redistribution that mitigates their losses.

Her expected payoff from policy B is

$$u(r, N) = \underbrace{\left(\frac{1}{2}\right)(r v_w + (1-r)\, v_\ell)}_{\text{No Redistribution}} + \underbrace{\left(\frac{1}{2}\right)\hat{\pi}}_{\text{Redistribution}} \quad .$$

Figure 1 depicts these payoffs alongside those of the sophisticated voter. Observe that for every interior rank $r \in (0,1)$, a sophisticated voter has a stronger preference for the policy gamble B than a naive voter at the same rank, a pattern that our general analysis confirms. The key idea is that a sophisticated voter values the insurance that comes from redistribution, recognizing that it is more likely to occur when she needs the help than when she does not. By contrast, the naive voter views redistribution to be haphazard and poorly targeted.[9]

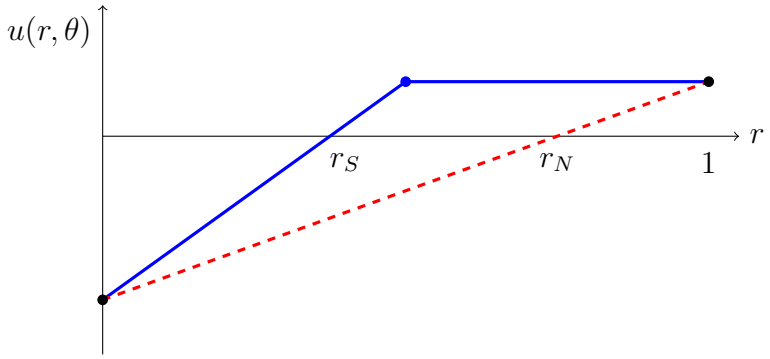


Figure 1: The above depicts the payoffs from policy B for each voter rank, with the solid blue showing that for sophisticated voters and the dashed red showing that for naive voters.

Naive voters also overestimate government waste. Recall that κ_N is their estimate of government waste, which they fit to match the average surplus following redistribution (by Assumption 2(b)):

$$\mathbb{E}[(1-\kappa_N)v_w + v_\ell] = \overline{\pi}.$$

Solving this equation yields $\kappa_N = \frac{1}{2}\left(1 + \frac{v_\ell}{v_w}\right) > 0$. The reason that naive voters incorrectly think the government is wasteful is that they do not recognize that redistribution happens in bad times—when a majority of voters are losers—and not in good ones. Thus, they are surprised by the low levels of surplus following redistribution. To reconcile this discrepancy, they come to see the government as wasteful.

[9] This insurance logic does not apply to voters at the extreme ranks, $r \in \{0, 1\}$ because such voters do not see policy B to be a gamble.

Putting all of this together, the probability that policy B passes depends on the fraction of sophisticated voters and where they are located. All voters whose ranks are above r_N or below r_S in Figure 1 have the same preferences regardless of their mental model: in these regions, sophisticated and naive voters have congruent policy rankings. By contrast, the ranks in (r_S, r_N) constitute a conflict region where a sophisticated voter at such a rank supports policy B but a naive voter would not. If the mass of sophisticated voters in the conflict region is λ, policy B passes whenever $\lambda + 1 - r_n \geq 1/2$.

3.2 General Redistributive Policies

For an arbitrary redistribution rule satisfying Assumption 1, government leakage $\kappa \geq 0$, and a continuous, strictly increasing CDF F over the proportion of losers, we have the following.

Proposition 1.

(a) *Naive voters overestimate government leakage:* $\hat{\kappa} > \kappa$.

(b) *At each rank, a naive voter has a weaker preference for policy B than a sophisticated voter at that rank (and strictly if and only if $r \in (0,1)$):* $u(r, N) \leq u(r, S)$.

Proof. (a) We first establish that $\mathbb{E}[\rho(L)\pi(L,\kappa)] < \mathbb{E}[\rho(L)]\mathbb{E}[\pi(L,\kappa)]$. Observe that

$$\begin{aligned}\mathbb{E}[\rho(L)\pi(L,\kappa)] &= (1-\kappa)v_w\mathbb{E}[\rho(L)] - ((1-\kappa)v_w + v_\ell)\mathbb{E}[\rho(L)L] \\ &< (1-\kappa)v_w\mathbb{E}[\rho(L)] - ((1-\kappa)v_w + v_\ell)\mathbb{E}[\rho(L)]E[L] \\ &= \mathbb{E}[\rho(L)]\mathbb{E}[\pi(L,\kappa)],\end{aligned}$$

where the equalities follow from direct calculation and the inequality follows from $Cov[\rho(L), L] > 0$, which is implied by Assumption 1. By Assumption 2(a), $\hat{\rho} = \mathbb{E}[\rho(L)]$ for every L and κ_N such that

$$\mathbb{E}[\hat{\rho}\pi(L,\kappa_N)] = \mathbb{E}[\rho(L)\pi(L,\kappa)] < \mathbb{E}[\rho(L)]\mathbb{E}[\pi(L,\kappa)].$$

Because $\hat{\rho} = \mathbb{E}[\rho(L)] > 0$ is a constant, we can divide both sides of the inequality by it to obtain that $\mathbb{E}[\pi(L,\kappa_N)] < E[\pi(L,\kappa)]$. Given that $\pi(\cdot,\kappa)$ is strictly decreasing in κ, we obtain that $\kappa_N > \kappa$.

(b) By Assumption 2,

$$u(r,S) - u(r,N) = \mathbb{E}\Big((\hat{\rho} - \rho)v(r,L)\Big)$$
$$= (v_w + v_l)F(r)\Big(\mathbb{E}(\rho) - \mathbb{E}(\rho|L \leq r)\Big)$$

where the first equality follows from 2(b) and the second from 2(a). Moreover, by Assumption 1, $\mathbb{E}(\rho) \geq \mathbb{E}(\rho|L \leq r)$ for all $r \in [0,1]$, with equality if and only if $r = 1$. Hence, $u(r,S) = u(r,N)$ for $r \in \{0,1\}$ and $u(r,S) > u(r,N)$ for $r \in (0,1)$. ■

For type $\theta \in \{N,S\}$, let

$$r^*_\theta = \begin{cases} \min\Big\{r \in [0,1] : u(r,\theta) \geq 0\Big\} & \text{if } u(1,\theta) \geq 0 \\ 1 & \text{otherwise} \end{cases}.$$

which is well-defined because $u(.,\theta)$ is continuous and non-decreasing. When $r^*_\theta \in [0,1)$, it is the minimum rank above which a voter of type θ supports policy B. Since $u(r,S) > u(r,N)$ for all $r \in (0,1)$, we have $r^*_S \leq r^*_N$; that is, if a naive voter at rank r would support policy B, a sophisticated voter at the same rank would also support policy B.

Proposition 2. *For any redistribution rule ρ, government waste κ, and CDF F, there exist $\underline{\gamma} > 0$ and $\overline{\gamma} > \underline{\gamma}$ such that $0 < r^*_S < \frac{1}{2} < r^*_N < 1$ if and only if $v_\ell/v_w \in (\underline{\gamma}, \overline{\gamma})$. Then policy B wins with strictly positive probability if $\mu\Big(\big\{\omega \in \Omega : [\frac{1}{2}, r^*_N) \subseteq S(\omega)\big\}\Big) > 0$, and policy A wins with strictly positive probability if $\mu\Big(\big\{\omega \in \Omega : [r^*_S, \frac{1}{2}] \subseteq N(\omega)\big\}\Big) > 0$.*

Proof. Let $\gamma := \frac{v_\ell}{v_w}$ and let $h(\gamma) := \frac{\gamma}{1+\gamma} - \frac{1+\gamma-\kappa}{1+\gamma}\mathbb{E}\Big(\rho(1-L)\Big)$. Since expected payoffs for naive and sophisticated voters are strictly increasing in rank, $0 < r^*_S < \frac{1}{2} < r^*_N < 1$ if and only if $u(\frac{1}{2}, N) < 0 < u(\frac{1}{2}, S)$; that is,

$$F(\tfrac{1}{2})\Big(1 - \mathbb{E}(\rho)\Big) < h(\gamma) < F(\tfrac{1}{2})\Big(1 - \mathbb{E}(\rho|L \leq \tfrac{1}{2})\Big),$$

Since h is continuous and strictly increasing with

$$\lim_{\gamma \to 0} h(\gamma) = -(1-\kappa)\mathbb{E}\Big(\rho(1-L)\Big) < F(\tfrac{1}{2})\Big(1 - \mathbb{E}(\rho)\Big), \quad \text{and}$$
$$\lim_{\gamma \to \infty} h(\gamma) = 1 - \mathbb{E}\Big(\rho(1-L)\Big) > F(\tfrac{1}{2})\Big(1 - \mathbb{E}(\rho|L \leq \tfrac{1}{2})\Big)$$

there exists unique $\gamma^*, \gamma^{**} \in \mathbb{R}_{++}$ with $\gamma^* < \gamma^{**}$ such that

$$h(\gamma^*) = F(\tfrac{1}{2})\Big(1 - \mathbb{E}(\rho)\Big) \quad \text{and} \quad h(\gamma^{**}) = F(\tfrac{1}{2})\Big(1 - \mathbb{E}(\rho | L \leq \tfrac{1}{2})\Big)$$

Let $\mathcal{I} = (\gamma^*, \gamma^{**})$. A voter with rank $r \in [r_N^*, 1]$ supports policy B regardless of their type, a voter with rank $r \in [0, r_S^*)$ supports policy A regardless of their type, while a voter with rank $r \in [r_S^*, r_N^*)$ supports policy B if and only if sophisticated. When $\gamma \in \mathcal{I}$, $r_S^* < \frac{1}{2} < r_N^*$, and so $[\frac{1}{2}, r_N^*) \subseteq S(\omega)$ implies that all voters with rank $r \geq \frac{1}{2}$ support policy B, which is sufficient for B to win with probability at least $\frac{1}{2}$; while $[r_S^*, \frac{1}{2}] \subseteq N(\omega)$ implies all voters with rank $r < \frac{1}{2}$ support policy A, which is sufficient for A to win with probability at least $\frac{1}{2}$. ■

4 Conclusion

TBA

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