Voting on Public Goods: Citizens vs. Shareholders

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Abstract

We study the interplay between a “one person-one vote” political system and a “one share-one vote” corporate governance regime. If shareholders push firms for more pro-social policies, political backlash may arise, undoing ESG initiatives. In a frictionless economy, shareholder democracy becomes irrelevant: the political system fully offsets shareholder influence. With public policy frictions, pro-social corporations can mitigate regulatory shortcomings and enhance corporate public goods provision. Nevertheless, shareholder democracy can hurt citizens due to the representation problem: it favors the preferences of the wealthy. Investor diversification, pass-through voting, and lobbying have important implications for these trade-offs of shareholder democracy.

Keywords: shareholder democracy, political democracy, socially responsible investing, public good, carbon tax, ESG, political backlash, wealth inequality, pass-through voting, universal owners

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1 Introduction

Concerns that public policy and regulation have been ineffective in addressing societal challenges such as climate change, due in part to political system shortcomings, have led financial markets to become more involved. Investor activism promoting socially responsible corporate practices, the rise in environmental and social (E&S) shareholder proposals, and the expansion of impact investing, all demonstrate how "shareholder democracy" is pushing companies to consider broader societal interests alongside profit maximization.

While the literature has made substantial progress in understanding the effects of such shareholder engagement taking the limitations of the political system as given, it is important not to overlook how it interacts with the political process itself. Increased investor involvement in E&S issues feeds back into the political system, prompting it to respond to these developments. A notable example is the growing politicization of ESG matters and the resulting backlash, evident in the introduction of anti-ESG bills in 37 states and the adoption of some form of anti-ESG legislation in 22 states.[1]

In this paper, we analyze the interplay between political democracy and shareholder democracy in the provision of public goods. How do political outcomes respond to the developments in financial markets? Do such responses enhance or diminish the effectiveness of shareholder democracy compared to a governance regime that prioritizes profit maximization by firms, as advocated by Friedman?[2] What is the role of wealth inequality and the divergent voting rules of political and shareholder democracy – one person-one vote vs. one share-one vote? And how are these dynamics affected by the degree of shareholder diversification and pass-through corporate voting systems?

Our analysis shows that considering the endogenous political response is essential to understanding the impact of shareholder democracy. In a frictionless economy, shareholder democracy is irrelevant: voting in political elections leads to policies that fully

[1]See, e.g., "Wave of 'Anti-ESG' Investing Legislation, New Study Found," *Forbes*, Aug 29, 2023, and the 2023 report by Pleiades Strategy, a climate risk consulting firm.

[2]See "A Friedman doctrine: The social responsibility of business is to increase its profits" by Milton Friedman, *The New York Times Magazine*, September 13, 1970.

offset the effects of shareholder engagement. However, with frictions in public policy, shareholder democracy and the Friedman doctrine are no longer equivalent. Shareholder democracy can fill the void of a dysfunctional regulatory system, reducing the deadweight costs of public policy and increasing public goods provision. Nonetheless, it may also prioritize the preferences of the wealthy, who have outsized influence in the one share-one vote corporate governance system. Delegated asset management, greater investor diversification, and the emergence of "universal owners" can further exacerbate the preference representation problem of shareholder democracy, resulting in strong ESG backlash.

We derive these insights using a model of public good provision (e.g., green investment) by firms. There is a large number of firms and households (citizens), who own shares in firms. In the first stage, households vote in political elections on a corrective subsidy to incentivize public good investments by firms. In the second stage, firms decide how much to invest in a public good. While we frame the problem as one of public good provision, it can equivalently be interpreted as discouraging firms from investing in a public bad (e.g., pollution) through a corrective tax, such as a carbon tax.

We compare two different firm mandates: (i) profit maximization, following Friedman, where firms exclusively focus on maximizing financial profits, and (ii) shareholder democracy, where firms incorporate shareholders' preferences for public good investments as expressed through shareholder votes. Under profit maximization, firms' investments in public goods are driven by financial incentives from subsidies, whereas under shareholder democracy, shareholders' direct utility from the public good and warm glow preferences may encourage public good investments alongside financial incentives.

In the model, there are two key sources of household heterogeneity. First, households are endowed with heterogeneous ownership shares in firms, which reflects wealth inequality. Wealth inequality implies that some households may hold outsized influence under the "one share-one vote" rule of shareholder democracy. Second, households have heterogeneous preferences regarding public good provision, reflecting differences in the marginal benefits from public goods and disagreements about social issues. As we show, both sources of heterogeneity imply that the median shareholder's preferred level of public good investments may differ from the median citizen's preference.

We show that while shareholder democracy can encourage firms to invest more in public goods, the endogenous response of the political system can offset the effects of shareholders' pro-social stance. For example, if shareholders are very pro-social, they may prompt firms to make public good investments that are excessive from the median citizen's perspective. Anticipating this, citizens support a smaller subsidy, reducing firms' financial incentives to invest in public goods. This mechanism resembles "ESG backlash:" the political system counteracts the pro-ESG efforts of the financial market. In fact, in a frictionless economy, this political response makes the firm's governance regime irrelevant: the equilibrium level of public good provision under shareholder democracy is the same as under profit maximization.

The irrelevance of shareholder democracy crucially relies on the absence of frictions in public policy provision. To capture the imperfections in public policy, we assume that the subsidy cannot be perfectly targeted to only encourage public good investments. Instead, it also incentivizes other costly activities that do not generate comparable social benefits.[3] This implies the subsidy can generate deadweight losses by encouraging excessive spending on socially wasteful activities alongside valuable public good investments.

With public policy imperfections, the political process does not fully offset the effects of shareholder influence, so shareholder democracy and profit maximization are no longer equivalent. The key benefit of shareholder democracy is its ability to achieve a higher level of public good provision with smaller deadweight losses. Intuitively, when firms incorporate shareholders' pro-social preferences, the endogenous response of the political system reduces equilibrium subsidies, thereby decreasing the deadweight losses associated with public policy. Thus, reduced political support for subsidies may look like a backlash against pro-social corporate investments, but may sometimes represent an efficient

[3] For example, to incentivize renewable energy production, the EU offers subsidies for biomass fuels. Such subsidies have been criticized by environmental activists, who point to large social costs due to biodiversity loss and medium-term adverse effects on carbon emissions. See "The EU's biomass dilemma: can burning trees ever be green?" *Financial Times*, July 1, 2021. For other examples, see "EU's proposed carbon removal rules open to greenwashing, say experts," *Financial Times*, November 28, 2022.

substitution for imperfect public policy when shareholders take a proactive stand. This benefit of shareholder democracy does not mean that it makes most citizens better off. The equilibrium level of public good provision is skewed toward what shareholders prefer, rather than what a typical citizen prefers. This preference representation problem arises due to the "one share-one vote" rule and highlights a potential cost of shareholder democracy. We show that a citizen is better off under shareholder democracy than under profit maximization only if the median shareholder's pro-social preferences are not significantly stronger than those of the citizen. If shareholders promote public good investments that are excessive from citizens' perspective, a typical citizen is worse off, and the reduced support for subsidies reflects a genuine backlash against pro-social corporate actions.

These trade-offs of shareholder democracy have important implications for key aspects of ownership distribution across firms: the concentration of ownership among wealthier households (reflecting wealth inequality), the level of investor diversification, and ownership through asset managers. We show that higher wealth inequality does not necessarily make shareholder democracy inferior. Instead, the effect of wealth inequality depends on the joint distribution of pro-social preferences and wealth. If wealthier citizens are not disproportionately more pro-social, then shareholder democracy benefits a typical citizen. In contrast, if wealthier citizens prefer a significantly higher level of public good provision, then shareholder democracy – favoring the wealthy due to their greater voting power – can make citizens worse off. Interestingly, the fact that wealthy investors not only have significant voting power but also have substantial economic stakes helps reduce the potential negative effect of wealth inequality: investors with large stakes internalize a larger share of the costs of public good provision by the firms they own, which reduces their incentives to be overly pro-social and increases the benefits of shareholder democracy.

The degree of investor diversification also plays a key role in these dynamics. More diversified shareholders hold smaller stakes in individual firms, internalizing less of the costs of public good provision, and thus push firms for greater public good investments (Broccardo et al., 2022). This underscores the potential of "universal owners" – diversified investors with a stake in the entire economy – to play a significant role in addressing issues like climate change. However, our analysis also reveals a new effect: Since citizens' preferences for aggregate public good provision depend on their overall stake in all firms in the economy, and not on their portfolio diversification, higher diversification can increase the wedge between citizens' and shareholders' preferences. This can exacerbate the preference representation problem, leaving a typical citizen at a further disadvantage. The political system then endogenously responds by implementing even deeper subsidy cuts. Thus, greater investor diversification can intensify ESG backlash. This result is consistent with the rise of index investing preceding the growth of ESG backlash as a political phenomenon, and with index funds often being the targets of anti-ESG regulation.[4]

In reality, many households own shares in companies through funds and do not vote directly, but instead delegate their votes to fund managers. Concerns about the influence of large asset managers on E&S issues have led to a heated debate and a move towards "pass-through voting," which returns voting power to the underlying fund investors (Fisch and Schwartz, 2023; Malenko and Malenko, 2024).[5] To study the effects of pass-through voting, in further analysis, we assume that a subset of households hold shares through a fund. Under delegation, the fund manager votes on behalf of these households, considering both their preferences and his own objectives, while under pass-through voting, households vote directly. We show that if the fund manager's own preferences are highly pro-social, pass-through voting can limit the preference representation problem, in line with the common rationale for this voting system. However, pass-through voting can also exacerbate the representation problem. This is because under delegation, the fund gains influence by voting the shares of many investors as a block, which "gives voice" to the interests of the underlying less wealthy households, who may otherwise hold stakes too small to influence outcomes. By disaggregating the votes, pass-through voting can decrease the representation of small investors in corporate decisions.

Our framework is flexible, allowing us to explore additional implications of shareholder

[4]See, e.g., "BlackRock and State Street Grilled by Texas Lawmakers in ESG Debate," *Bloomberg*, December 15, 2022. See Section 4.3.2 for additional examples.

[5]For examples, see the 2022 INDEX Act and BlackRock's implementation of pass-through voting.

democracy through model extensions. First, we consider the possibility that shareholders perceive some benefits from socially wasteful activities even though no welfare gains exist (for example, due to greenwashing). We show that the political system responds by cutting subsidies further, which results in lower public good provision and can decrease the benefits of shareholder democracy. Second, we analyze deviations from the "one person-one vote" rule of political democracy and find that they do not necessarily change the net benefits of shareholder democracy. In particular, if wealthy citizens exert outsized political influence, the trade-off between profit maximization and shareholder democracy remains unchanged, as the influence of the wealthy is relevant under both governance mandates. However, political frictions that directly interact with firms' choices can alter these trade-offs. For example, when firms can lobby for special treatment, shareholder democracy offers an additional advantage by curbing wasteful lobbying expenditures compared to profit maximization, which may help mitigate the negative effects of the potential representation problem. Finally, we explore several additional factors that may influence the representation problem and thereby the net benefits of shareholder democracy. As we discuss, low stock market participation, low voter turnout, and dual-class share structures can worsen the representation problem, whereas investor sorting into firms can alleviate the representation problem but nevertheless intensify political polarization.

Related Literature. Our paper contributes to the growing literature on socially responsible investing.[6] This literature highlights two key mechanisms of investor influence: exit (i.e., exclusion and divestment) and voice (i.e., engagement and voting). Our paper focuses on voice, and shareholder voting in particular. Within this literature, our work is more closely related to studies that explore the interaction between regulation and financial markets (Bensoussan et al., 2023; Biais and Landier, 2022; Döttling and Rola-Janicka, 2023; Huang and Kopytov, 2023; Inderst and Opp, 2025; Oehmke and Opp, 2022; Piatti

[6] See, e.g., Barbalau and Zeni (2023), Bisceglia et al. (2023), Chowdhry et al. (2019), Dangl et al. (2023), Green and Roth (2024), Edmans et al. (2023), Goldstein et al. (2024), Gupta et al. (2024), Heinkel et al. (2001), Landier and Lovo (2023), Morgan and Tumlinson (2019), Oehmke and Opp (2024), and Pástor et al. (2021). See Matos (2020) and Gillan et al. (2021) for reviews.

et al., 2023). Differently from these studies, our paper concentrates on the political dynamics that influence regulatory outcomes. Allen et al. (2024) and Carlson et al. (2023) also examine the relation between political processes and financial markets. Allen et al. (2024) study how the availability of sustainability-linked debt instruments affects agents' political support for carbon taxes. Carlson et al. (2023) examine an institution's decision to divest brown assets and show how divestment can increase stakeholders' political support to strand the asset through government regulation. Differently from these papers, we study the determinants of political backlash against corporate ESG initiatives and the net trade-offs of shareholder democracy for corporate public goods provision. This also distinguishes our paper from the existing political economy of finance literature, which examines how political regimes and the balance of power between various firm stakeholders shape equilibrium rules on corporate governance (Bebchuk and Neeman, 2010; Pagano and Volpin, 2005; Perotti and Von Thadden, 2006; Ševčík, 2012) and other institutional features of financial markets (Biais and Mariotti, 2009; Biais and Perotti, 2002; Rajan and Zingales, 2003; Ljungqvist et al., 2016).

We also contribute to the literature on shareholder voting,[7] including studies of voting on socially responsible policies (Broccardo et al., 2022; Geelen et al., 2024; Gollier and Pouget, 2022; Hart and Zingales, 2017; Levit et al., 2024a). This literature does not examine the interaction between shareholder voting and the political system, which is the focus of our paper. Furthermore, we add to this literature by studying very general ownership structures within a unified framework – both within firms (by analyzing shareholders with heterogeneous ownership stakes and preferences) and across firms (by exploring investor diversification and sorting). This allows us to examine how ownership distribution affects corporate outcomes and, in turn, feeds back into the political process. Our focus on the feedback between the political and corporate system also sets our paper apart from Wu and Zechner (2024), who study how investors' views on political issues shape firms' political stances.

[7]See, e.g., Bar-Isaac and Shapiro (2020), Dhillon and Rossetto (2015), Levit and Malenko (2011), Levit et al. (2024b), Maug (1999), Van Wesep (2014), Zachariadis et al. (2020), and Zwiebel (1995).

We also relate to the literature on public and "private politics," which studies how profit-oriented firms may choose to self-regulate when they face government regulation, activist groups and NGOs, or customers who value sustainable products (Baron, 2003, 2014; Besley and Ghatak, 2007; Besley and Persson, 2023; Egorov and Harstad, 2017; Maxwell et al., 2000). In contrast to this literature, we study the interaction between public politics and the firm's corporate governance regime, focusing on the role of firms' ownership structures and the effects of shareholder democracy.[8]

Finally, our results on the preference representation problem of shareholder democracy contribute to the literature on the relationship between economic and political inequality (e.g., Acemoglu and Robinson, 2008; Gilens, 2012; Olson, 1965). By studying how political decision-making interacts with shareholder democracy – an important mechanism through which the wealthy can promote their social preferences – we derive a rich set of implications for how recent trends in financial markets can mitigate or exacerbate unequal representation in the context of public good provision.

2 Model Setup

Consider an economy with m firms indexed by j and n households indexed by i. There are two stages. In the first stage, households vote in political elections as citizens. In the second stage, firms decide how much to invest in a public good. We focus on corporate public goods that are inseparable from the production process and therefore have to be produced inside firms.

Households have heterogeneous wealth ω_i, which they allocate across firms. We denote the stake held by household i in firm j by $\alpha_{ij} \in [0, 1]$.

Firm Technology and Household Preferences. Each firm can invest x_j in a public good at a convex cost $\Phi(x_j) = \frac{\phi}{2}x_j^2$. Individual firms' investments in the public good aggregate to $X = \sum_{j=1}^{m} x_j$.

[8]Our focus on two levels of decision-making, corporate and political, links to the literature on federalism (Oates, 2004), which studies how public good provision is determined by two levels of government.

Households get a utility benefit from the aggregate public good X. For instance, in the context of climate change, it could capture lower health costs due to fewer heat waves and reduced damage from flooding, whereas if X represents biodiversity loss prevention, the benefits may include food security and reduced risks of disease outbreaks.

Additionally, households may receive warm glow utility g_i from public good investments by the firms they own. Our results hold if $g_i = 0$ for all i, but we incorporate warm glow preferences given their empirical relevance (Bonnefon et al., 2025; Riedl and Smeets, 2017). Differences in warm glow capture disagreements about corporate social responsibility due to moral convictions. As common in the literature on socially responsible investing (e.g., Pástor et al., 2021), we assume that warm glow utility is proportional to the household's stake in the firm, so the total warm glow utility of household i is $\sum_{j=1}^{m} g_i x_j \alpha_{ij}$. Denoting i's consumption by C_i, the household's utility function is

$$U_i = \gamma_i X + \sum_{j=1}^{m} g_i x_j \alpha_{ij} + C_i. \tag{1}$$

Parameter $\gamma_i > 0$ measures i's marginal utility from the public good.[9] Overall, households can differ in their wealth ω_i and preferences γ_i and g_i. There are $K \geq 1$ distinct types of households indexed by k, where households of the same type have the same $(\omega_i, \gamma_i, g_i)$. We denote by $k(i)$ the type of household i.

First Stage: Public Policy. In the first stage, households participate in political elections to determine public policy, which involves a per-unit subsidy σ to incentivize public good provision by firms. In particular, two politicians compete in a majoritarian election by proposing specific subsidy levels, and households cast their votes for one of the two politicians.[10]

[9] This utility function implies that the aggregate marginal utility from the public good, $\sum_{i=1}^{n} \gamma_i$, becomes infinitely large as $n \to \infty$. In the main text we focus on finite n and m, and in Online Appendix C.7 we show that our setting can be adapted to also cover limit cases, by assuming that the combined mass of all firms in the economy is fixed at 1. The Online Appendix is available here.

[10] In practice, political voting is sometimes directly linked to climate policy, as in the 2010 California referendum, the 2016 and 2018 Washington carbon tax referendums, or the 2023 Swiss referendum (Heeb et al., 2024). In other instances, climate issues are very salient in political elections, even if they are not directly on the agenda (Ramelli et al., 2021; Burgess et al., 2024).

We assume that the subsidy is imperfect in that it cannot be perfectly targeted to only support valuable public good provision x_j. Instead, it also incentivizes other costly activities without comparable social benefits, which we denote by y_j. Specifically, firm j receives a total subsidy of $\sigma(x_j + y_j)$, where y_j comes at a quadratic cost $\Psi(y_j) = \frac{\phi}{2\delta} y_j^2$ to the firm. This assumption reflects imperfections in the enforcement technology that impair regulators' ability to narrowly define activities eligible for public policy support: regulators cannot verify whether a firm engages in valuable public good investments or wasteful spending, for example, due to contractual incompleteness. Spending on y_j can be interpreted as investments in lower-quality public goods, with the social and private benefit normalized to zero (see footnote 3 for examples). Parameter δ captures the cost of wasteful spending, reflecting the severity of public policy imperfections. The case $\delta = 0$ corresponds to the benchmark without frictions: there is no wasteful spending because it is prohibitively costly, representing a perfectly functioning regulatory system.

The total tax burden to fund the subsidy is $T = \sigma \sum_{j=1}^{m}(x_j + y_j)$, and we denote by τ_i the share of the total tax burden paid by household i. A balanced budget requires that $\sum_{i=1}^{n} \tau_i = 1$. We assume that the tax burden is equal to the average ownership share of household i, $\tau_i = \bar{\alpha}_i$, which can be interpreted as a wealth tax and ensures that there are no redistributive effects from the subsidy or taxes in our baseline model.[11] While we model the problem as incentivizing public good provision, it can equivalently be interpreted as implementing a corrective tax (e.g., a carbon tax) to discourage firms from creating a public bad such as pollution (see Online Appendix C.8).

Second Stage: Firm Investment. In the second stage, each firm chooses public good investment (x_j) and wasteful spending (y_j). Firm j's profits are given by

$$\Pi(x_j, y_j) = \pi + \sigma(x_j + y_j) - \Phi(x_j) - \Psi(y_j), \tag{2}$$

[11] As a result, when households vote on the subsidy at the political stage, they only consider how the subsidy affects the level of public good provision but not how it redistributes resources. This allows us to cleanly isolate how policy preferences are shaped by disagreements about the level of public good investments. We relax this assumption in an extension in Online Appendix C.5. We assume that politicians take as given the distribution of τ_i, reflecting predetermined and sticky rules on redistribution.

where π denotes the firm's revenue from business operations. In Online Appendix C.9, we show that our results can be extended to settings with general (non-quadratic) cost functions $\Phi(\cdot)$ and $\Psi(\cdot)$ and operating revenue π that depends on the firm's public good investments, $\pi(x_j)$. The latter captures the idea that corporate social responsibility could attract consumers, employees, and suppliers, and thereby boost profitability. In the baseline model, x_j should be interpreted as public good investments that go beyond what firms invest to maximize profits from operations. Profits are paid out to shareholders as dividends. Thus, household i's consumption is

$$C_i = \sum_{j=1}^{m} \Pi(x_j, y_j)\alpha_{ij} - \tau_i T.$$

We consider two different corporate governance mandates:

1. **Profit Maximization**: The firm's policies (x_j, y_j) are chosen to maximize shareholders' financial profits, $\Pi(x_j, y_j)$, as advocated by the Friedman doctrine.

2. **Shareholder Democracy**: The firm's policies (x_j, y_j) are chosen to also incorporate shareholders' preferences for public good investments.

Specifically, under shareholder democracy, policies (x_j, y_j) are determined by a shareholder vote. To ensure consistency in the way we model political and shareholder voting, we assume that in each firm, two candidates – the firm's manager and an activist investor – compete in a majoritarian election by committing to a policy (x_j, y_j).[12] Households that are shareholders in the firm choose between the two candidates to maximize their overall utility given by Eq. (1). Unlike political voting, where each household has one vote, a household's voting power in corporate elections is proportional to his ownership stake α_{ij}. While we focus on voting, engagement is another key mechanism through which shareholders exert influence (McCahery et al., 2016). This mechanism would have qualitatively similar effects, as long as a shareholder's influence increases with his stake.

[12] For example, in a proxy fight at Exxon, shareholders were picking between the incumbent management and an activist (Engine No. 1), who was proposing more environmentally-friendly policies. See "Exxon's Board Defeat Signals the Rise of Social-Good Activists," *The New York Times*, June 9, 2021.

We are interested in comparing profit maximization and shareholder democracy in the presence of public policy frictions. To isolate the impact of these frictions, our baseline model assumes no frictions in corporate decision-making. That is, shareholders can perfectly implement the mandated investment levels: x_j and y_j are set to maximize shareholders' profits under the profit maximization mandate and shareholders' financial and non-financial utility under the shareholder democracy mandate. The assumption that shareholders can discriminate between x_j and y_j reflects the advantage of residual control rights in the presence of contract incompleteness. In contrast, the regulator lacking such control rights relies on verifiable violations and is unable to perfectly discriminate between x_j and y_j when contracts are incomplete. In Sections 4.2.2 and 5, we discuss this assumption further and show how the model can be extended to introduce frictions in shareholders' decision-making. We also discuss why the mechanisms of our model would remain similar under alternative ways of modeling public policy frictions, such as reduced-form bureaucracy or enforcement costs.

Ownership Structures. We focus on two key characteristics of ownership: heterogeneity of ownership stakes across households (reflecting wealth inequality) and the degree of investor diversification. We analyze these ownership characteristics in a tractable unified framework, while assuming, for now, that firms have symmetric ownership in the following sense: all household types are equally distributed across firms, with K types per firm, so that the total number of households is $n = K \times m$. Since households of the same type have the same wealth and benefits from the public good, they share identical preferences over firm policies, so the symmetry assumption simplifies the analysis by leading all firms to adopt the same policies. We analyze asymmetric ownership structures and investor sorting in Online Appendix C.4 and discuss this extension in Section 4.3.4.

The degree of investor diversification is represented by the parameter μ. Specifically, each household owns shares in a fraction μ of firms, where μ can take any value in $\{\frac{1}{m}, \frac{2}{m}, ..., 1\}$ as long as $\frac{1}{\mu}$ is an integer.[13] A higher μ corresponds to greater diversifi-

[13]The assumption that $\frac{1}{\mu}$ is an integer implies that μ cannot take values $1/2 < \mu < 1$. Otherwise, it

cation. Each household divides his wealth equally among the μm firms in his portfolio: household i's stake in firm j is $\alpha_{ij} = \frac{\omega_i}{\mu m} > 0$ if firm j is in i's portfolio, and $\alpha_{ij} = 0$ otherwise. In Appendix A.1, we describe our assumptions on ownership in more detail and provide examples of different ownership distributions that the model can capture. In addition, we show that under our assumptions, ω_i is not only type i's wealth but also the share of each firm that is collectively owned by households of the same type as i.[14]

This setup allows us to cleanly isolate the effects of diversification because, irrespective of μ, household i's average stake across firms is $\bar{\alpha}_i \equiv \frac{1}{m}\sum_{j=1}^{m} \alpha_{ij} = \frac{1}{m}\mu m(\frac{\omega_i}{\mu m}) = \frac{1}{m}\omega_i$. There are two notable corner cases. The first is when each shareholder is completely undiversified and holds only one firm, $\mu = \frac{1}{m}$. The second corner case is $\mu = 1$, where shareholders are fully diversified universal owners who hold every firm in the economy.

3 Analysis

We solve the model by backward induction. We start with firms' investment decisions for any given subsidy level, and then analyze political voting on the subsidy.

3.1 Second Stage: Firms' Investments

This section derives the policies (x_j, y_j) chosen by each firm for a given subsidy σ.

Profit Maximization. Under profit maximization, shareholders have no say on E&S issues and managers pick (x_j,y_j) to maximize financial profits $\Pi(x_j, y_j)$ given by (2). The first-order conditions for x_j and y_j equate the marginal cost of production to the marginal benefit from the subsidy, $\Phi'(x_j) = \sigma$ and $\Psi'(y_j) = \sigma$, which implies optimal levels of

$$x^p(\sigma) = \frac{\sigma}{\phi}, \tag{3}$$

$$y^p(\sigma) = \frac{\delta\sigma}{\phi}. \tag{4}$$

is not restrictive for large m.

[14] In other words, $\sum_{r:k(r)=k(i)} \alpha_{rj} = \omega_i$. For simplicity, we assume that each firm's valuation is normalized to 1.

The superscript p stands for "profit maximization." Under this mandate, firms provide the public good only if incentivized by the subsidy. However, the subsidy also encourages firms to engage in wasteful spending, whenever the cost of doing so is not prohibitive, $\delta > 0$. This results in a deadweight loss $\Psi(y^p) = \frac{\delta\sigma^2}{2\phi}$, which increases in σ and δ.

Shareholder Democracy. Under shareholder democracy, households vote on (x_j, y_j) as shareholders. To find shareholder i's policy preference, we solve:

$$\max_{x_j, y_j} U_i = \gamma_i \sum_{j=1}^{m} x_j - \tau_i T + \sum_{j=1}^{m} \left[\Pi(x_j, y_j) + g_i x_j\right] \alpha_{ij}. \tag{5}$$

A balanced government budget implies an aggregate tax burden $T = \sigma \sum_{j=1}^{m}(x_j + y_j)$, of which household i pays a fraction τ_i. The first-order conditions for x_j and y_j are

$$\Phi'(x_j)\alpha_{ij} = \gamma_i + g_i\alpha_{ij} + \sigma\left(\alpha_{ij} - \tau_i\right), \tag{6}$$

$$\Psi'(y_j)\alpha_{ij} = \sigma\left(\alpha_{ij} - \tau_i\right). \tag{7}$$

The household's preferred level of public good investment is determined both by financial considerations related to the subsidies (the last term in (6)) and by intrinsic motives (the first two terms in (6)). The subsidy provides a financial incentive for investing in public goods, but because it is imperfectly targeted, it also motivates wasteful spending as a side effect. At the same time, shareholders internalize the impact of a higher subsidy on the tax bill T. Shareholder i benefits from a fraction α_{ij} of the subsidy and pays for a fraction τ_i of the tax bill. Therefore, the marginal benefit of the subsidy is $(\alpha_{ij} - \tau_i)$.

As noted in the setup, to abstract from the distributional effects of taxes, we assume $\tau_i = \bar{\alpha}_i = \frac{\omega_i}{m}$. Taking this into account, we can derive shareholder i's preferred level of public good investment and wasteful spending by firm j as, respectively,

$$x^s(\sigma, g_i, \gamma_i, \omega_i) = \frac{\frac{\gamma_i}{\alpha_{ij}} + g_i + \sigma\left(1 - \mu\right)}{\phi}, \tag{8}$$

$$y^s(\sigma) = \frac{\delta\sigma\left(1 - \mu\right)}{\phi}, \tag{9}$$

where the superscript s stands for "shareholder democracy." Warm glow preferences and the utility from the public good provide shareholders with intrinsic incentives to invest in public goods. To collect these intrinsic incentive effects, we define shareholder i's effective pro-socialness as

$$G_i^s \equiv \frac{\gamma_i}{\alpha_{ij}} + g_i = \frac{\gamma_i}{\omega_i/\mu m} + g_i, \tag{10}$$

and the shareholder's preferred public good investment (8) as $x^s(\sigma, G_i^s)$. Eq. (8) implies that public policy and shareholders' pro-socialness are substitutes in public good provision: the same level of x^s can be achieved by either increasing the subsidy or enhancing shareholder pro-socialness. Furthermore, if $\delta > 0$, they are imperfect substitutes: while the subsidy encourages wasteful spending, shareholders' pro-socialness does not.[15]

Free-Rider Problems and Stake Size. Eqs. (8)–(10) highlight two free-rider problems that determine to what extent shareholders internalize the costs and benefits of public good investments by a given firm. On the benefit side, a shareholder only internalizes his own utility gain γ_i, whereas the aggregate utility gain is $\sum_{i=1}^{n} \gamma_i$. This is the standard free-rider problem of public goods. However, when a shareholder does not own the entire firm, there is an offsetting free-rider problem on the cost side: a shareholder with a smaller stake α_{ij} has stronger incentives to invest in public goods, as he internalizes a lower share of the associated costs, effectively free-riding on the costs incurred by other shareholders (similar to the mechanism in Broccardo et al., 2022, Chowdhry et al., 2019, and Morgan and Tumlinson, 2019). The combination of these two effects explains the term γ_i/α_{ij} in G_i^s. This contrasts with a social planner, who values the larger aggregate benefits $\sum_{i=1}^{n} \gamma_i$, but also accounts for the aggregate costs without scaling them by ownership stakes (see Online Appendix B.2, where we derive the first-best allocation). The second term in G_i^s is the shareholder's warm glow utility. Because we assume that it scales with ownership, the effects of stake size on the benefit and cost sides cancel out, so the term g_i is not divided by α_{ij}.

[15] In Online Appendix C.1, we show that our mechanisms extend to a setting where shareholders perceive benefits from investments in y and shareholders' pro-socialness encourages some wasteful spending.

A key determinant of stake size is investor diversification. As μ increases, households spread their wealth across a larger number of firms (μm), and thus own smaller stakes in individual firms, which makes them endogenously more pro-social and increases G_i^s. A similar logic explains why diversification reduces the financial incentive effect of the subsidy in Eqs. (8)–(9). A smaller stake in each individual firm leads shareholders to internalize a smaller share of the subsidy, while fully internalizing that a higher subsidy results in a larger tax bill: $\sigma(\alpha_{ij} - \tau_i)/\alpha_{ij} = \sigma(1-\mu)$ declines as μ increases. In the limit, when shareholders are perfectly diversified, $\mu \to 1$, they do not respond to subsidies at all. In what follows, we will assume $\mu < 1$. The equilibrium for the case of $\mu = 1$ is derived in Online Appendix B.1, and we explicitly discuss this case in Section 4.3.2.

Shareholder Voting. Note that all shareholders have the same preferred level of $y^s(\sigma)$ and that we can rank the preferred $x^s(\sigma, G_i^s)$ along shareholders' effective pro-socialness G_i^s. Furthermore, Eq. (5) implies that shareholders' preferences are single-peaked in x. These properties imply that the median voter theorem applies, i.e., both competing candidates offer the policies preferred by the median shareholder. Since the share of votes owned by agents of the same type as i is ω_i, the firm adopts policies $x^s(\sigma, \widetilde{G}^s)$ and $y^s(\sigma)$, where $\widetilde{G}^s$ denotes the weighted-median G_i^s among shareholders weighted by ω_i. We refer to the corresponding shareholder as the "median shareholder."[16]

Given our assumption that household types are equally distributed among firms, the weighted-median $\widetilde{G}^s$ is the same across firms. Thus, all firms adopt identical policies. The following lemma summarizes these arguments and compares the two regimes.

Lemma 1 (Public Good Provision)**.**

1. For a given subsidy σ, each firm's public good investment and wasteful spending are $x^p(\sigma)$, $y^p(\sigma)$ under profit maximization, and $x^s(\sigma, \widetilde{G}^s)$, $y^s(\sigma)$ under shareholder democ-

[16]Figure 2a illustrates the median shareholder on an example with 43 household types. The first three represent wealthier households, while the remaining 40 represent less wealthy ones. In particular, $\omega_{(1)} = 0.25$, $\omega_{(2)} = 0.20$, $\omega_{(3)} = 0.15$, and $\omega_{(4)} = ... = \omega_{(43)} = 0.01$, where $\omega_{(k)}$ is type k's wealth. Thus, together, the first three types own 60% of any firm. The colors reflect households' effective pro-socialness, with darker green (brown) shades indicating higher (lower) pro-socialness. The figure shows that if $G_{(1)}^s > ... > G_{(43)}^s$, where $G_{(k)}^s$ is type k's pro-socialness, the median shareholder has type $k = 3$.

racy, as defined in Eqs. (3), (4), (8), and (9).

2. For any given level of public good investment x, if σ^p and σ^s are the subsidies required to implement x under profit maximization and shareholder democracy, respectively, then the difference in wasteful spending is $y^p(\sigma^p) - y^s(\sigma^s) = \frac{\delta}{\phi}\widetilde{G}^s$.

Shareholder democracy can implement a given level of public good provision with a smaller subsidy. A smaller subsidy implies lower wasteful spending y, which can reduce the associated deadweight losses. Intuitively, when firms incorporate shareholders' pro-social views $\widetilde{G}^s$, there is less need to incentivize public good provision through public policy, reducing the deadweight costs associated with a positive subsidy.

3.2 First Stage: Political Elections

In the first stage, households choose between two politicians who commit to a subsidy σ. To establish the equilibrium of this political game, we solve for the subsidy preferred by household i. A subsidy σ implies an aggregate tax burden $T = \sigma \sum_{j=1}^{m}(x_j + y_j)$, of which household i pays a fraction τ_i. Therefore, i's problem solves:

$$\max_{\sigma} \; U_i = \gamma_i X - \tau_i T + \sum_{j=1}^{m} \left[\Pi(x_j, y_j) + g_i x_j\right] \alpha_{ij}, \tag{11}$$

where x_j, y_j are the expected policies of firm j given subsidy σ.[17] Since firms have symmetric ownership structures, they have symmetric policies for any given governance regime (profit maximization or shareholder democracy): $x_j = x(\sigma)$ and $y_j = y(\sigma)$ for all j. In Appendix A.3, we solve the optimization problem (11) for general firms' strategies $x(\sigma), y(\sigma)$ and derive the following first-order condition for citizens' policy preference over

[17] Note that voters anticipate that the provision of public good by the firms they own will bring them warm glow utility in the future. That is, $\sum_{j=1}^{m} \alpha_{ij} g_i x_j$ enters their utility function in the first stage and affects their preferred level of the subsidy. We choose this as our baseline assumption because it is consistent with standard expected utility theory. In Online Appendix C.6, we relax this assumption and show that the main results remain qualitatively the same if warm glow is (partially) ignored in the first stage.

the subsidy σ:

$$[G_i^c - \Phi'(x(\sigma))] \frac{\partial x(\sigma)}{\partial \sigma} - \Psi'(y(\sigma)) \frac{\partial y(\sigma)}{\partial \sigma} = 0, \tag{12}$$

where G_i^c is citizen i's effective pro-socialness,

$$G_i^c \equiv \frac{\gamma_i}{\bar{\alpha}_i} + g_i = \frac{\gamma_i}{\omega_i/m} + g_i. \tag{13}$$

The key difference between shareholders' G_i^s in Eq. (10) and citizens' G_i^c in Eq. (13) is that G_i^c does not depend on diversification μ. This is because, when voting as a shareholder in a given firm, household i internalizes the costs of public good provision in that firm through his stake $\alpha_{ij} = \omega_i/\mu m$. In contrast, when voting in political elections, the household internalizes the aggregate costs and benefits from *all* firms in the economy. The aggregate costs faced by i are proportional to the average stake $\bar{\alpha}_i = \omega_i/m$, which is unaffected by μ. Intuitively, while higher diversification reduces the household's stake in each firm he owns (making him more pro-social at the firm level), this effect is counterbalanced by diversification increasing the number of firms in his portfolio (which raises the internalized aggregate cost, leaving the net effect unchanged). As we show below, accounting for this offsetting effect at the political stage is important for understanding the net impact of diversification on the effectiveness of shareholder democracy.[18]

Next, we combine Eq. (12) and the expressions for $x(\sigma), y(\sigma)$ under profit maximization and shareholder democracy characterized by Lemma 1, to derive citizens' preferred subsidies and the equilibrium public good provision in these two cases.

Profit Maximization. Eqs. (3), (4), and (12) imply that household i's preferred subsidy is

$$\sigma^p(G_i^c) = \frac{G_i^c}{1+\delta}, \tag{14}$$

[18]While in our model, all households have non-zero stakes $\omega_i > 0$, in reality, some households may not participate in the stock market, so that $\bar{\alpha}_i = \omega_i = 0$. From Eq. (13), it appears that these households would support infinite public good provision. However, as we show in Online Appendix C.5, this is not a general effect; it only arises due to our assumption that $\tau_i = \bar{\alpha}_i$, which means that these households do not pay any taxes. In general, households with $\tau_i > 0$ and $\omega_i = 0$ support finite public good provision.

We can rank citizens' preferred subsidy $\sigma^p(G_i^c)$ along their effective pro-socialness G_i^c. Appendix A.3 shows that preferences are single-peaked in σ, so that the median voter theorem applies. Thus, the equilibrium subsidy is $\sigma^p \equiv \sigma^p(\widetilde{G}^c)$, i.e., the subsidy preferred by the citizen with the median level of G_i^c, denoted by $\widetilde{G}^c$. Eqs. (3) and (4) imply that the equilibrium level of public good provision and wasteful spending are given by

$$x^p(\sigma^p) = \frac{\widetilde{G}^c}{(1+\delta)\phi}, \tag{15}$$

$$y^p(\sigma^p) = \frac{\delta\widetilde{G}^c}{(1+\delta)\phi}. \tag{16}$$

Shareholder Democracy. Eqs. (8), (9), and (12) imply that, for any $\mu < 1$, household i's preferred subsidy is

$$\sigma^s(G_i^c) = \frac{G_i^c - \widetilde{G}^s}{(1+\delta)(1-\mu)}. \tag{17}$$

The median voter theorem again applies, so the equilibrium subsidy is $\sigma^s \equiv \sigma^s(\widetilde{G}^c)$. Eqs. (8) and (9) imply that the equilibrium firm policies are

$$x^s(\sigma^s) = \frac{\widetilde{G}^c + \delta\widetilde{G}^s}{(1+\delta)\phi}, \tag{18}$$

$$y^s(\sigma^s) = \frac{\delta(\widetilde{G}^c - \widetilde{G}^s)}{(1+\delta)\phi}. \tag{19}$$

In contrast to profit maximization, the subsidy and public good provision are not only a function of the median citizen's preferences $\widetilde{G}^c$, but also of the median shareholder's preferences $\widetilde{G}^s$. Comparing Eq. (15)–(16) to (18)–(19) reveals that as long as $\widetilde{G}^s > 0$, shareholder democracy features higher equilibrium public good provision and lower y.

4 Main Results

We now present the main results and implications of our analysis. Section 4.1 shows that the interplay between the political and corporate governance systems produces "ESG backlash," which, in the absence of frictions, makes shareholder democracy irrelevant.

Section 4.2 analyzes the key trade-offs of shareholder democracy. Section 4.3 presents the implications of these trade-offs for the role of wealth inequality, investor diversification, ownership through funds, investor sorting, as well as limited stock market participation, voter turnout, and dual-class shares.

4.1 ESG Backlash and Irrelevance of Shareholder Democracy

How does the political system respond to shareholder democracy? To answer this question, we analyze how the equilibrium subsidy σ^s is affected by the governance mandate and changes in shareholders' effective pro-socialness.

Proposition 1 (ESG Backlash)**.** *Shareholder democracy results in "ESG backlash," i.e., the equilibrium subsidy σ^s decreases if shareholders' pro-socialness $\widetilde{G}^s$ increases. If the median shareholder is sufficiently pro-social, such that $\widetilde{G}^s > \mu\widetilde{G}^c$, shareholder democracy results in a smaller equilibrium subsidy compared to profit maximization: $\sigma^s < \sigma^p$.*

Proposition 1 highlights the two-way feedback between the political and corporate governance systems: the subsidy set by the political system affects shareholder voting and firms' public good investments, while firms' anticipated decisions shape citizens' political choices. In particular, if corporate decisions are based on shareholder democracy, the political system responds to shareholders' pro-social stance by taking a less pro-social stance, akin to ESG backlash. Such response resembles the UK Prime Minister's and the European Commission's 2023–2024 softening of climate regulations, which many argued was a tactic to gain electoral support.[19] More generally, ESG backlash can manifest through other policy responses, such as anti-ESG state-level legislation in the US targeting banks or retirement plan providers (Garrett and Ivanov, 2024; Rajgopal et al., 2024). We capture the key essence of ESG backlash: the political system reacts to shareholders' pro-social initiatives, making it costlier for firms to pursue pro-social policies.

In fact, if the median citizen views shareholders as overly pro-social, $\widetilde{G}^s > \widetilde{G}^c$, ESG backlash is so strong that the subsidy becomes negative, $\sigma^s < 0$. In this case, while firms

[19] See "Rishi Sunak's Self-Serving Climate Retreat," *The New Yorker*, September 21, 2023; and "EU set to water down climate rules to placate angry farmers," *Bloomberg*, March 14, 2024.

still invest in public goods ($x^s > 0$ in Eq. (18)), they also take costly actions to avoid appearing too pro-social: $y^s < 0$ in Eq. (19). For example, if $\sigma^s < 0$ is interpreted as a tax on public good provision, firms may take costly measures to reduce their tax burden. More broadly, $\sigma^s < 0$ represents regulations that make corporate social responsibility expensive. Anti-ESG state policies, which restrict pro-social asset managers and banks from managing state pensions or underwriting municipal bonds, serve as real-world examples of such deterrents. As we discuss in Section 4.2, this strong form of ESG backlash is conceptually different from a reduction in subsidies to a lower, but still positive level.

Given the endogenous response of the political system, an important question is whether shareholder democracy has an effect on equilibrium allocations at all.

Proposition 2 (Irrelevance of Shareholder Democracy)**.** *If $\delta = 0$, the equilibrium firm policies (x, y) under shareholder democracy and profit maximization are identical.*

Proposition 2 follows from comparing Eq. (18) to (15), and Eq. (19) to (16). If $\delta = 0$, the effects of shareholder democracy are perfectly offset by the endogenous public policy response. Note that while the equilibrium corporate policies are the same under both mandates, the equilibrium subsidies and firm profits are generally different. Thus, empirically identifying the causal impact of public policy on corporate investments requires careful consideration of the mandate under which firms operate.

While we derive the irrelevance result for a specific corporate governance process (majority voting), it holds more broadly. To see this, consider a different governance process (e.g., shareholder engagement), which results in firm investments $x(\sigma), y(\sigma)$ given subsidy σ. Suppose $\delta = 0$, so that the subsidy does not result in wasteful spending, $\frac{\partial y(\sigma)}{\partial \sigma} = 0$. The first-order condition (12) implies that as long as public good investments respond to subsidies (i.e., $\frac{\partial x(\sigma)}{\partial \sigma} \neq 0$), the subsidy preferred by household i satisfies $G_i^c = \Phi'(x(\sigma))$ regardless of the functional form of $x(\sigma)$. Thus, given majoritarian elections at the political stage, the equilibrium public good investment x^* by each firm satisfies $\widetilde{G}^c = \Phi'(x^*)$ for any governance process. This is the essence of the irrelevance result.[20]

[20] The irrelevance result relies on the assumption that when $\delta = 0$, a uniform corrective subsidy can

In contrast, if $\delta > 0$, public policy does not fully offset shareholder democracy (Eqs. (18) and (19)). Intuitively, public policy and shareholders' pro-socialness become imperfect substitutes. Hence, citizens balance achieving their preferred level of public good provision against the deadweight losses induced by public policy. As a result, with $\delta > 0$, the equilibrium public good provision shifts towards the preference of shareholders, represented by $\widetilde{G}^s$, and reflects the median citizen's preference $\widetilde{G}^c$ to a smaller degree. This highlights the preference representation problem of shareholder democracy, driven by the distinction between the "one share-one vote" and "one person-one vote" rules.

4.2 Costs and Benefits of Shareholder Democracy

A typical citizen may be better or worse off under shareholder democracy compared to profit maximization. The key benefit of shareholder democracy is that, through the endogenous response of the political system, it leads to a lower equilibrium subsidy, which may reduce the deadweight losses associated with imperfect public policy. In this sense, shareholder democracy fills the void left by the imperfect regulatory system.

The potential cost is the representation problem: the equilibrium level of public good provision is tilted towards the median shareholder's preference. The following result characterizes the welfare of a given household and overall utilitarian welfare under the two regimes, where we denote $\bar{\gamma}$ and $\bar{g}$ the average γ_i and weighted average g_i, respectively: $\bar{\gamma} \equiv \frac{1}{n}\sum_{i=1}^{n}\gamma_i$ and $\bar{g} \equiv \sum_{i=1}^{n} g_i\alpha_{ij}$ (which is the same for each firm j given symmetry).

Proposition 3 (Welfare)**.** *Under shareholder democracy, household i's utility (utilitarian welfare) increases in the median shareholder's pro-socialness if and only if* $G_i^c \geq \widetilde{G}^s$ *(*$n\bar{\gamma}+\bar{g} \geq \widetilde{G}^s$*). Moreover, if* U_i^s (W^s) *and* U_i^p (W^p) *denote household i's utility (utilitarian welfare) under shareholder democracy and profit maximization, respectively, then*

implement the first best, defined as the allocation that maximizes utilitarian social welfare in the absence of frictions. While this assumption effectively requires firms to be symmetric in their ownership structures (see Online Appendix C.4 for the analysis under asymmetric ownership), it still allows asymmetries in their production technologies, i.e. it permits $\Phi_j(x_j)$ and $\Psi_j(y_j)$. If the first best could not be implemented by a uniform public policy, shareholder democracy could have an advantage of being able to tailor public good provision to firm-specific characteristics.

$$U_i^s - U_i^p = \frac{\delta \widetilde{G}^s}{\phi(1+\delta)} \left(G_i^c - \frac{\widetilde{G}^s}{2} \right), \tag{20}$$

$$W^s - W^p = \frac{m\delta \widetilde{G}^s}{\phi(1+\delta)} \left(n\bar{\gamma} + \bar{g} - \frac{\widetilde{G}^s}{2} \right). \tag{21}$$

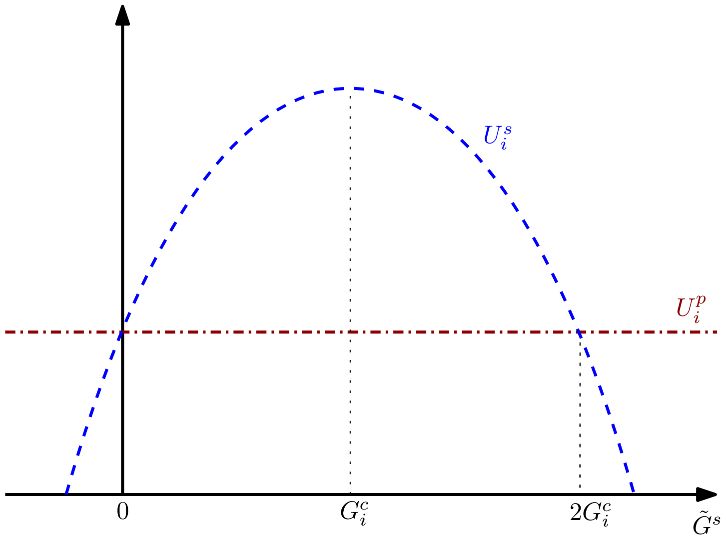
Figure 1 illustrates Proposition 3. It plots the utility of household i under shareholder democracy and profit maximization for different values of the median shareholder's pro-socialness $\widetilde{G}^s$. When $\widetilde{G}^s = 0$, the two regimes result in the same utility for each household, as Eq. (20) shows. Utility under profit maximization, U_i^p, is not affected by $\widetilde{G}^s$ because shareholders' pro-socialness does not influence firms' decisions under the profit maximization mandate. In contrast, utility under shareholder democracy, U_i^s, has an inverted U-shape relationship with $\widetilde{G}^s$ and peaks at $\widetilde{G}^s = G_i^c$. The welfare comparison between the two regimes in Proposition 3 follows from the relationship between U_i^s and $\widetilde{G}^s$ illustrated in the figure. To understand this relationship, note that

$$\frac{dU_i^s}{d\widetilde{G}^s} = \omega_i \left[G_i^c - \Phi'(x^s) \right] \frac{dx^s}{d\widetilde{G}^s} - \omega_i \Psi'(y^s) \frac{dy^s}{d\widetilde{G}^s}. \tag{22}$$

An increase in $\widetilde{G}^s$ has two effects reflected in Eq. (22). The first term is the net benefit of a higher level of public good provision. It reflects the trade-off between the household's utility from the public good and the reduced profitability of the firms in which the household owns shares. Hence, this net benefit is positive if and only if the marginal benefit G_i^c exceeds the marginal cost of public good production $\Phi'(x^s)$. The second term captures the effect on wasteful spending. The endogenous response of the political system leads to a lower equilibrium subsidy when shareholders are more pro-social: $\frac{d\sigma^s}{d\widetilde{G}^s} < 0$ (see Eq. (17)). To an outside observer, this may look like a backlash against pro-social corporate actions. However, as long as the subsidy is positive, the reduction in subsidies represents an efficient substitution for the shortcomings of public policy. A lower subsidy reduces public policy-induced wasteful spending and the associated deadweight costs, i.e., $\Psi'(y^s)\frac{dy^s}{d\widetilde{G}^s} < 0$. The reduction in deadweight costs benefits the household, regardless of G_i^c.

If household i is relatively pro-social, such that $G_i^c > \Phi'(x^s)$, he benefits from both

Figure 1. Utility of Household i as a Function of Shareholders' Pro-Socialness



The figure plots the equilibrium utility of household i under shareholder democracy, U_i^s (blue dashed line), and under profit maximization, U_i^p (brown dash-dotted line), as a function of the median shareholder's pro-socialness $\widetilde{G}^s$, where G_i^c is household i's pro-socialness as a citizen.

effects. In contrast, if $G_i^c < \Phi'(x^s)$, he benefits from the reduction in deadweight costs but not from the higher public good production. Proposition 3 shows that the overall effect of $\widetilde{G}^s$ on household i's utility is positive if and only if $G_i^c \geq \widetilde{G}^s$. If $\widetilde{G}^s$ exceeds G_i^c, shareholders are too pro-social and public good provision is too high from household i's point of view, reflecting the representation problem. As a consequence, if shareholders are sufficiently pro-social, such that $\frac{\widetilde{G}^s}{2} \geq G_i^c$, then household i is better off under profit maximization, as illustrated in Figure 1. The comparison of utilitarian welfare between the two regimes follows a similar logic: shareholder democracy decreases welfare if $\frac{\widetilde{G}^s}{2} \geq n\bar{\gamma} + \bar{g}$, i.e., the median shareholder is too pro-social relative to the average citizen.

The costs of shareholder democracy are amplified if shareholders are so pro-social that the equilibrium subsidy turns negative, $\sigma^s < 0$. This reduction in subsidies no longer represents an efficient substitution for imperfect public policy. Instead, citizens want regulators to take actions to counteract shareholders' pro-social stance, i.e., ESG backlash is now directed at pro-social corporations. In response to this strong backlash, firms take costly actions to avoid appearing overly pro-social: $y^s < 0$, leading to increased deadweight losses.[21] This effect reflects the idea that deadweight losses rise with the extent of regulatory intervention, regardless of whether it aims to promote or discourage pro-social behavior. While for parsimony, we model it as a tax on public good production, policymakers may curb firms' pro-social engagements through other means, such as the regulations targeting underwriters and asset managers discussed earlier (Garrett and Ivanov, 2024; Rajgopal et al., 2024). By limiting competition and shrinking the menu of options available to municipalities and state pension funds, such interventions may generate deadweight losses for the local economy, similar to the costs captured by $y^s < 0$ in our model. For instance, Garrett and Ivanov (2024) find that anti-ESG policies in Texas increase interest expenses on municipal bond issuance.

4.2.1 Negative Pro-Social Preferences

In our model, the costs of public good provision $\Phi(x)$ are borne by firms' shareholders. In reality, high public good investments may negatively affect other stakeholders, for example, through an increase in prices of consumer goods or a decline in employee wages. Such effects imply that some costs of public good provision may be incurred by households without substantial ownership stakes in firms. We can account for such costs in our framework by interpreting γ_i as the difference between the household's utility from the public good and the costs he incurs as a non-owner stakeholder (a consumer, employee, resident of a local community, etc.). Under this interpretation, the net utility benefit of the public good can turn negative for some households, $\gamma_i < 0$, implying that even households with no stakes in firms may be hurt by higher public good investments.

In addition, given the increased polarization and politicization of corporate social responsibility, some individuals may oppose public good provision and have negative warm glow utility, $g_i < 0$, even if they derive a positive utility benefit γ_i (e.g., oppose environmentally-friendly investments despite benefiting from reduced pollution). These forces imply that the effective pro-socialness of the median shareholder could be negative,

[21] As a result, $\Psi'(y^s)\frac{dy^s}{d\widetilde{G}^s} > 0$, so any household with $G_i^c < \Phi'(x^s)$ is unambiguously hurt by shareholders' pro-socialness. Households with a large enough G_i^c are still better off, as higher public good provision more than offsets these losses. Overall, Proposition 3 applies to this case as well.

$\widetilde{G}^s < 0$. In such cases, shareholder democracy makes it harder to incentivize public good provision and increases wasteful spending compared to profit maximization (Eqs. (8)–(9) and (15)–(16)). Proposition 3 then implies that shareholder democracy decreases welfare for all households whose $G_i^c > 0$, as illustrated by the negative-$\widetilde{G}^s$ region in Figure 1.

4.2.2 Frictions in Public Policy: Discussion

The key friction in our model is that public policy is imperfect. We model this by assuming that regulators cannot design a policy that discriminates between valuable public good provision (x) and wasteful spending (y). In contrast, corporate decision-making is frictionless: whether the firm's mandate is profit maximization or shareholder democracy, shareholders can achieve the mandated levels of x and y. This assumption captures the advantage of residual control rights in the context of contract incompleteness. Indeed, regulatory enforcement of public policy relies on verifiable violations that must be resolved through the judicial system. In contrast, shareholders, as owners, can enforce their preferred policies more directly, for example, because they can dismiss the firm's management without needing explicit cause or verifiable evidence of fiduciary breaches.

While our model focuses on the friction of imperfect verifiability, regulators' inability to discriminate between x and y could alternatively be due to an information friction. In this context, shareholders, especially blockholders and institutional investors, may have a better understanding of the business model and underlying firm-specific technologies, enabling them to more easily disentangle valuable public good investments from wasteful spending. Additionally, bureaucratic costs related to the provision of subsidies could represent another imperfection of public policy. These alternative ways of modeling public policy frictions would yield the same key mechanism as in our model: when shareholders directly push for public good investments, the political process leads to a reduction in subsidies, thereby decreasing the deadweight losses associated with public policy. Our model highlights that, despite such benefits, shareholder democracy can make a typical household worse off due to the representation problem.

Moreover, it may well be that shareholder democracy introduces additional costs and frictions into corporate decision-making. In Online Appendix C.1, we extend the baseline model to account for this possibility by assuming that shareholders perceive some benefits from investments in y, even though no welfare gains exist (see Section 5 for a discussion of this extension). In addition, in Section 4.3.3, we explore the scenario where corporate votes are cast by asset managers who may not fully represent the underlying shareholders' interests, reflecting another potential friction in shareholders' decision-making. As our analysis shows, while such frictions may weaken the case for shareholder democracy, the broad trade-offs highlighted in our baseline model remain intact.

4.3 Implications

Proposition 3 implies that the net benefits of shareholder democracy depend on how the median shareholder's preferences compare to those of a typical citizen, i.e., the extent of the representation problem. This, in turn, depends on the distribution of ownership in the economy. In this section, we examine three key characteristics of ownership: the degree of wealth inequality, reflected in the heterogeneity of households' ownership stakes ω_i; the level of diversification μ; and the extent to which households hold shares directly vs. through fund managers. For simplicity, in what follows, we assume that $\widetilde{G}^s > 0$.

4.3.1 Wealth Inequality

Wealthier households, by holding more shares, have greater voting power in corporate decisions. This can create a gap between the preferences of the median shareholder and those of the citizens. Nevertheless, as this section shows, greater wealth inequality does not necessarily imply that shareholder democracy yields worse outcomes.

We start by providing sufficient conditions under which the median citizen benefits from shareholder democracy.

Lemma 2. *The median citizen is better off under shareholder democracy than under profit maximization if either (a) all households have the same wealth, or (b) g_i and γ_i decrease with wealth.*

Condition (a) implies that in the absence of wealth inequality, the representation problem and the associated costs of shareholder democracy do not emerge. Intuitively, if all households have the same ownership stakes, the preferences of the median shareholder and the median citizen remain aligned, so the scenario where firms make significantly higher public good investments than what the median citizen prefers does not arise.

With wealth inequality, there can be a large gap between $\widetilde{G}^s$ and $\widetilde{G}^c$ (see Figure 2a for an illustration). However, this gap does not automatically make shareholder democracy inferior. This is because, as long as $\widetilde{G}^s \geq 0$, shareholder democracy only hurts a citizen if shareholders are too pro-social from his perspective, but not if they are insufficiently pro-social (Proposition 3 and Figure 1). Accordingly, part (b) of the lemma shows that shareholder democracy benefits the median citizen regardless of wealth distribution if wealthier households derive lower utility from the public good and lower warm glow than less wealthy ones.[22] In this case, $\widetilde{G}^s \leq \widetilde{G}^c$, so shareholder democracy does not result in excessive public good provision from the median citizen's perspective. Moreover, because the profit maximizing regime achieves even lower public good provision (along with more wasteful spending), it is unambiguously worse for the median citizen.

In contrast, if wealthier households prefer a higher level of public good provision, such that $\widetilde{G}^c < \widetilde{G}^s$ (i.e., the conditions of Lemma 2 are not satisfied) and the gap is sufficiently large, then the median citizen is worse off under shareholder democracy; see Figure 1. This scenario could arise if public good investments negatively impact lower-wealth households by increasing the prices of consumer goods or lowering employee wages, resulting in a positive correlation between γ_i and wealth. It can also occur if wealthier individuals possess more assets whose value is positively affected by public goods, or if they can afford to care relatively more about social issues, making social responsibility a "luxury good" (Andersen et al., 2024; Bansal et al., 2022; Döttling and Kim, 2024).

Even if γ_i and g_i increase with wealth through the mechanisms described above, the

[22] For example, in the context of climate change, lower-wealth households may be more vulnerable to natural disasters, causing γ_i to decrease with wealth. In addition, g_i could decrease with wealth if individuals with large stock holdings are less altruistic, consistent with survey evidence in Henkel and Zimpelmann (2022) showing that stockholders rate themselves as more greedy and selfish.

overall impact of wealth on households' pro-socialness is influenced by a third factor—their ownership in companies. This factor acts in the opposite direction: wealthier households hold larger stakes and thus bear a greater share of the costs of public good investments, making them reluctant to support such investments (see Eq. (10)). Formally, if households' utility from the public good and warm glow are some general functions of their wealth, $\gamma_i = \gamma(\omega_i)$, $g_i = g(\omega_i)$, then the effective pro-socialness of a shareholder with wealth ω is $G^s(\omega) = \frac{\gamma(\omega)}{\omega/\mu m} + g(\omega)$. Even if $\gamma(\cdot)$ and $g(\cdot)$ are increasing, the ownership effect counteracts this, causing $G^s(\omega)$ to decrease with ω if $\gamma'(\cdot)$ and $g'(\cdot)$ are small enough.

Overall, while wealth inequality can create the representation problem to begin with, it only makes shareholder democracy inferior if wealthier households favor significantly higher public good investments. Moreover, all else equal, high wealth inequality can mitigate the representation problem by decreasing the median shareholder's effective pro-socialness through the ownership effect. Effectively, large wealth and ownership have a dual role: the voting power linked to large ownership creates a representation problem, while the greater economic ownership reduces its negative effects. In Appendix A.6, we formalize this argument and provide an example in which the median citizen is worse off under shareholder democracy when wealth inequality is mild, but benefits from shareholder democracy when wealth inequality is strong, due to the ownership effect.

4.3.2 Investor Diversification

Another key characteristic of ownership is the degree of investor diversification μ. As this section shows, diversification can amplify both the costs and the benefits of shareholder democracy. In particular, denoting by $\widetilde{G}^s(\mu)$ the median shareholder's pro-socialness for a given μ, we obtain the following result.

Proposition 4 (Effect of Diversification)**.** *An increase in diversification from μ to $\mu' > \mu$:*

- *increases the effective pro-socialness of the median shareholder: $\widetilde{G}^s(\mu') > \widetilde{G}^s(\mu)$;*
- *makes household i worse off if $G_i^c < \widetilde{G}^s(\mu)$;*

- *increases "ESG backlash", i.e.* $\sigma^s(\mu') < \sigma^s(\mu)$, *if* $\widetilde{G}^c < \widetilde{G}^s(\mu)$.

The first effect of diversification is that it makes shareholders more pro-social due to their smaller stakes in individual firms. This increases public good provision x^s, similar to the mechanism in Broccardo et al. (2022).[23] Moreover, higher shareholder diversification also leads to a reduction in wasteful spending; see Eq. (19). In fact, if shareholders are perfectly diversified "universal owners" who own a stake in every firm in the economy ($\mu = 1$), firms do not engage in any wasteful spending (see Eq. (9)). As a result, as we show in Online Appendix B.2, if the median shareholder is a universal owner whose preferences represent the average citizen, shareholder democracy achieves the first best, i.e, the outcomes preferred by the utilitarian social planner.[24]

However, the interaction between shareholder and political democracy implies other important effects of diversification. Recall that unlike shareholders, citizens' pro-socialness $\widetilde{G}^c$ remains unaffected by diversification (because a household's preference for aggregate public good provision depends on his combined stake in all firms). This has several implications. First, if $\delta = 0$, any effect of diversification on shareholders' pro-socialness is fully offset by the political system, given that diversification does not change citizens' pro-socialness. Second, if $\delta > 0$, higher diversification can worsen the representation problem. In particular, if the median shareholder is already too pro-social from the median citizen's perspective, $\widetilde{G}^c < \widetilde{G}^s$, then a further increase in shareholder pro-socialness induced by higher diversification makes the citizen worse off. The political system then reacts by implementing deeper subsidy cuts, so ESG backlash intensifies in response to increased investor diversification. This result is consistent with the rise of index investing preceding the growth of ESG backlash as a political phenomenon, and with index funds often being the targets of the backlash: politicians have proposed restricting index funds'

[23] Another effect of higher μ is that x^s becomes less responsive to subsidies, see Eq. (8). However, the equilibrium subsidy accounts for this lower sensitivity (see Eq. (17)). As a result, the equilibrium level of x^s only depends on μ through its effect on $\widetilde{G}^s$; see Eq. (18).

[24] When $\mu = 1$, firms' policies do not respond to the subsidy, making citizens indifferent to the subsidy level (U_i in Eq. (11) does not depend on σ). Consequently, voting in the political stage cannot undo the policies implemented by shareholders, so the irrelevance result does not hold if shareholders are perfectly diversified universal owners. The equilibrium firm policies are then solely determined by shareholders' pro-social preferences and given by $x^s = \frac{\widetilde{G}^s}{\phi}$ and $y^s = 0$. See Online Appendix B.1 for details.

voting power and have withdrawn state funds' assets from certain fund managers.[25]

4.3.3 Ownership through Funds and Pass-Through Voting

Until now, we have assumed that shareholders cast their votes directly. In reality, many households hold shares through fund managers and, by default, delegate their voting rights to them. Fund managers typically vote all these shares as a block and may not do so in fund investors' interests (e.g., Zytnick, 2023). Recently, this system has come under pressure, generating a push towards "pass-through voting."[26] While there are different ways to implement pass-though voting (e.g., Blackrock, 2022; Malenko and Malenko, 2024), one proposed system involves the fund surveying investors about their preferences and voting each share in line with the underlying investor's preference (Fisch and Schwartz, 2023). Our baseline model is equivalent to such a system. In this section, we compare this pass-through voting system with the traditional system of vote delegation.

In particular, we extend the baseline model and assume that a subset of households hold shares via a fund and delegate their votes to the fund manager. The fund manager votes all shares in the fund as a block, maximizing a weighted average of his own and fund investors' utilities:

$$\max_{x_j, y_j} \ \nu U^{FM} + (1-\nu) U^{FI},$$

where $U^{FM} = g^{FM} \sum_{j=1}^{m} x_j$ is the fund manager's personal utility from investments in x_j, and U^{FI} is the weighted average of fund investors' utilities: $U^{FI} = \sum_{i \in fund} \zeta_i U_i$. This assumption reflects the idea that the fund manager has a fiduciary duty to his clients and aims to retain AUM, but may also pursue personal objectives. The general weights $\zeta_i \geq 0$ allow for the possibility that the fund may favor certain investors over others.

If the fund is the median shareholder, the equilibrium level of public good provision is equal to the fund manager's preferred level. In this case, as we show in Appendix A.8,

[25] For proposals restricting index funds' voting power see the 2023 House Committee on Financial Services bill and the 2022 INDEX Act. For an example of state funds' withdrawals, see "Texas schools fund pulls \$8.5 billion from BlackRock over ESG investing," *Reuters*, March 19, 2024.

[26] See "The real impact of the ESG backlash," *Financial Times*, December 4, 2023.

all the previous results continue to hold, with $\widetilde{G}^s$ substituted by

$$G^s_{fund} = \bar{G}^{FI} + \frac{\nu g^{FM}}{(1-\nu)\bar{\alpha}^{FI}_j}, \tag{23}$$

where $\bar{G}^{FI}$ captures the weighted-average pro-socialness of fund investors.

Comparing G^s_{fund} to $\widetilde{G}^s$ highlights two key forces that shape public good provision under delegation compared to pass-through voting: (i) aggregation of investors' preferences by the fund, reflected in the difference between $\bar{G}^{FI}$ and $\widetilde{G}^s$, and (ii) the agency conflict between investors and the fund, captured by $\frac{\nu g^{FM}}{(1-\nu)\bar{\alpha}^{FI}_j}$.

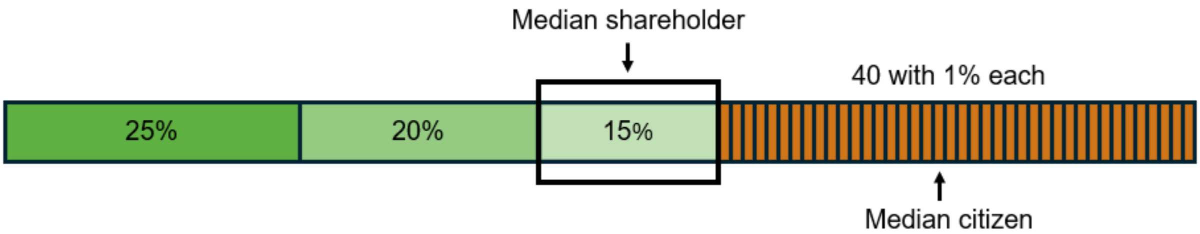
To understand the role of the agency conflict, suppose that $\bar{G}^{FI} = \widetilde{G}^s$ and $\nu > 0$, so that any difference between delegation and pass-through voting arises from the fund manager incorporating his own preferences when voting on x. If the fund manager is pro-social, $g^{FM} > 0$, public good provision under delegation is higher than under pass-through voting since $G^s_{fund} > \widetilde{G}^s$. This reduces household i's utility if $G^c_i < \widetilde{G}^s$ (see Figure 1) and can intensify ESG backlash. Thus, a high pro-social bias of the fund manager can exacerbate the representation problem, providing a rationale for pass-through voting.

However, delegation can influence outcomes even in the absence of an agency conflict ($\nu g^{FM} = 0$). This is because the fund combines the votes of many investors and casts them as a single block, which increases the fund's voting power and the likelihood that it becomes the median shareholder. This may allow for more effective representation of fund investors' interests than pass-through voting, where votes are disaggregated. As a result, delegation could reduce the representation problem relative to pass-through voting.

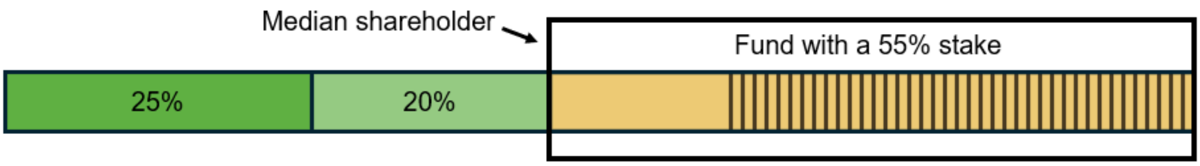
To see this, suppose that investors holding shares via the fund are those with wealth below some cutoff $\hat{\omega}$, and that pro-social preferences increase in wealth, as in the example in Section 4.3.1 (e.g., because social responsibility is a "luxury good"). Figure 2 shows such an example with $\hat{\omega} = 15\%$. Under pass-through voting (panel (a)), the median shareholder is the household type with a 15% stake. Under delegation (panel (b)), the fund holds 55% of the shares and becomes the median shareholder. As long as the fund attaches a positive weight, $\zeta_i > 0$, to its low-wealth investors, it is effectively less pro-

Figure 2. Median Shareholder and Median Citizen

(a) Median shareholder when households vote directly (pass-through voting).



(b) Median shareholder under delegated voting.



Panel (a) illustrates the median shareholder and the median citizen when households vote directly (as under pass-through voting) for the following example. In each firm, there are 40 shareholder types with a 1% stake each, who have low pro-socialness G_i^s, represented by dark brown shading. The three remaining (wealthier) shareholder types have stakes 25%, 20%, and 15%, and have higher G_i^s, i.e., stronger pro-social preferences, represented by green shading. Panel (b) illustrates the median shareholder under delegated voting, when the fund casts votes on behalf of 41 shareholder types. The light brown shading in panel (b) represents the pro-socialness of the fund $\bar{G}^{FI}$, which aggregates the preferences of fund investors.

social than the median shareholder under pass-through voting: $G_{fund}^s < \widetilde{G}^s$.

Thus, contrary to common intuition, pass-through voting can worsen the representation problem of shareholder democracy. Ultimately, whether pass-through voting benefits a typical citizen depends on the distribution of investors across funds and on the relative weight of investors' and fund managers' own preferences in funds' voting strategies.

4.3.4 Other Determinants of the Representation Problem

Several other financial market characteristics affect the extent of the representation problem and, consequently, the net benefits of shareholder democracy. In this section, we discuss the role of these characteristics, formalizing some of them in the Online Appendix.

Investor Sorting. Our baseline model assumes that household types are equally distributed across firms, leading all firms to adopt the same policies. Given the heterogeneity in households' pro-social preferences, they are likely to invest in firms they expect to align more with their moral values. For example, Bisceglia et al. (2023), Levit et al. (2024a,b), and Wu and Zechner (2024) explore such endogenous sorting in models of financial markets, showing how it creates feedback effects between trading, asset prices, and governance. Since our focus is on the link between governance and politics, we take sorting as exogenous and explore its interaction with voting on public policy. Specifically, in Online Appendix C.4, we assume that there are two types of firms that differ only in the composition of their shareholders. Then, under shareholder democracy, firms with more pro-social shareholders ("green") make higher investments in public goods than those with less pro-social shareholders ("brown"), for any level of the subsidy.

Due to sorting, citizens with preferences at either extremes are more aligned with the median shareholder of their respective firms. In this respect, the representation problem is attenuated under sorting, and if the median citizen holds shares in brown firms, this channel decreases ESG backlash relative to the benchmark model.

In addition, sorting gives rise to a new redistributive effect. Since green firms make higher public good investments, they benefit more from subsidies than brown firms. This redistribution creates an incentive for citizens who hold green (brown) firms to support high (low) subsidies. Consequently, this channel implies that investor sorting can amplify political polarization and, if the median citizen holds shares in brown firms, intensify ESG backlash. Importantly, this effect stems entirely from fiscal redistribution, rather than preferences over public good provision. Thus, stronger political support for subsidies by shareholders of green firms relative to those of brown firms may reflect not only green investors' stronger pro-social preferences, but also financial motives.

Limited Stock Market Participation. In the baseline model, all households own shares. In Online Appendix C.5, we extend the model to examine a scenario where some households do not participate in the stock market. To do so, we relax the assumption that taxes funding the subsidy are non-redistributive, i.e., $\tau_i = \bar{\alpha}_i$ (without this relaxation, households without share ownership, $\bar{\alpha}_i = 0$, would support infinite public good provision and subsidies). If $\tau_i > 0$ for households with $\bar{\alpha}_i = 0$, these households effectively face regressive taxes: they fund the subsidies, but do not own shares in firms that receive subsidies. Consequently, their political preferences reflect the redistributional effects of the subsidies, alongside their pro-social preferences. This redistribution motive may lead households with no ownership stakes to favor smaller subsidies and lower public good investments. If such households form a large share of the population, the representation problem may worsen, and ESG backlash may intensify.

Voter Turnout. In practice, voting one's shares requires attention and some effort. As a result, not all shareholders participate in the votes, especially if they hold small stakes. If less wealthy households with small stakes are less likely to participate in corporate votes, the representation problem is amplified, as the median shareholder among those participating in the vote would shift further towards the preferences of the wealthy.

Dual-Class Shares. Dual-class share structures can similarly amplify the representation problem by granting some shareholders, including corporate insiders, disproportionate voting power relative to their economic ownership. Unlike the "one share-one vote" system, where large economic stakes help mitigate the potential excess pro-socialness of shareholders with large voting power (see Section 4.3.1), dual-class structures lack this offsetting effect, making them likely to increase the costs of shareholder democracy.

5 Frictions in Shareholder and Political Decision-Making

In our baseline model, there are no frictions in shareholders' or citizens' decision-making. What happens if, in addition to frictions in public policy provision, shareholders' decision-making is imperfect, or the political system deviates from the "one person-one vote" rule? We explore these questions in several extensions, which we summarize below.

Shareholders' Utility from Wasteful Investments. In Online Appendix C.1, we introduce frictions into shareholders' decision-making by assuming they perceive benefits from investments in y, even though these investments produce no social welfare gains. This assumption may reflect agency or information frictions broadly associated with greenwashing. For example, some shareholders may obtain warm glow utility from y as it enables them to signal their pro-social stance, or asset managers may favor investments in y because it serves as a marketing tool that attracts flows from retail investors. Alternatively, if Y is interpreted as a lower-quality public good, the median shareholder may derive high utility from Y, while the majority of the population does not.

We show that when shareholders perceive benefits from wasteful spending, it can exacerbate the preference representation problem of shareholder democracy, as it motivates firms to overinvest in y from citizens' perspective. As a result, ESG backlash intensifies: to curb the overinvestment in y, citizens reduce subsidies even further. The subsidy reduction, in turn, lowers firms' investment in the true public good. At the same time, wasteful spending remains high, as the political response does not fully offset the effect of shareholders' preference for y. Thus, shareholders' perceived benefits from wasteful investments not only increase wasteful spending by firms but also, through political channels, reduce valuable investments in public goods. In this sense, frictions in shareholder decision-making generally weaken the case for shareholder democracy.

As long as shareholders' preferences for y are weaker than their preferences for true public goods x, the broad trade-offs between profit maximization and shareholder democracy remain unchanged. However, if shareholders' preferences for y are stronger than those for x, the net effect of shareholder democracy is unambiguously negative (as we show, this resembles the outcomes in the baseline model when $\widetilde{G}^s < 0$). In this scenario, rather than reducing the costs associated with imprecise public policy, shareholder democracy amplifies wasteful spending by empowering shareholders who find it beneficial.

This extension also allows us to study an alternative scenario, in which shareholders perceive disutility from investments in y, due to ethical considerations. As we show, this effect works in the opposite direction, reducing wasteful spending and enhancing the benefits of shareholder democracy.

Political Influence of the Wealthy. Given our focus on the interplay between politics and business, it is natural to explore the effects of shareholder democracy in political regimes that diverge from the "one person-one vote" rule. First, wealthier households may exert greater influence on policy, e.g., through political contributions. In Online Appendix C.2, we capture this influence by assuming that the equilibrium subsidy reflects the preferences of the weighted-median citizen, with weights increasing in citizens' wealth.[27] We show that the response of public policy to shareholder democracy is generally weaker than in the baseline model, since the preferences of the median shareholder and the citizen shaping political outcomes are more aligned. A typical citizen would want to offset the effects of shareholder democracy through smaller subsidies, but has little ability to do so. This creates an even stronger representation problem than under the "one person-one vote" political system, as neither subsidies nor public good investments by firms reflect the typical citizen's preferences.

Despite this, the costs and benefits of shareholder democracy remain the same as in the baseline model, and Proposition 3 still applies. Intuitively, the political influence of the wealthy affects the citizen's utility not only under shareholder democracy, but also under profit maximization. As a result, it does not change the relative comparison between the two systems, as well as the costs and benefits of greater shareholder pro-socialness.

Lobbying for Special Treatment. While the previous extension studies political influence on overall public policy (i.e., in the context of our model, the subsidy faced by all firms), political influence can also manifest as lobbying for special treatment after the baseline policy is set. In Online Appendix C.3, we model such lobbying by assuming that after the political system determines subsidy σ, but before firms make investment

[27] This reduced-form approach is similar to that adopted in some political economy papers (e.g., Benabou, 2000) and can be microfounded by a model where campaign contributions mobilize a political candidate's base, increasing supporter participation, as in Campante (2011).

decisions, each firm j can lobby the regulators and increase the subsidy, to firm j only, from σ to $\sigma + l_j$ at a cost $\frac{\lambda}{2} l_j^2$. This cost captures payments to lobbying consultants, political donations, or the time spent by management on engaging with regulators.

We show that firms' incentives to lobby increase with σ, i.e., when government intervention is more aggressive. However, at the political stage, citizens anticipate that larger subsidies will increase firms' lobbying efforts, leading them to vote for smaller subsidies. This political response ultimately leaves firms with lower subsides than what they would have received if lobbying was prohibited, and thus, with lower profits. As a result, lobbying harms the median citizen's welfare, both through deadweight costs associated with lobbying and by reducing firm profits.

Under shareholder democracy, firms engage in less lobbying compared to profit maximization. This is because shareholders internalize the tax burden associated with lobbying for higher subsidies, leading them to support lower lobbying efforts than those chosen by profit-maximizing managers. Thus, shareholder democracy can partially mitigate the adverse effects of lobbying, making its net benefits generally higher when corporations engage in lobbying. Together, these two extensions show that political frictions do not always change the net benefits of shareholder democracy, but they can do so if they directly interact with firms' choices.

6 Conclusion

This paper studies the two-way interaction between political and shareholder democracy in the provision of public goods. When shareholder pressure prompts firms to consider broader societal interests alongside profit maximization, the political system responds as well. The resulting ESG backlash reduces the effects of shareholder democracy and may undo corporate social responsibility measures. In fact, in the absence of frictions in public policy provision, the political system fully offsets any ramifications of shareholder influence, and shareholder democracy becomes irrelevant.

With public policy imperfections, the costs and benefits of shareholder democracy depend on the distribution of ownership across firms. While shareholder democracy can bolster public good provision and reduce the social costs of public policy, it may also prioritize the preferences of the wealthy due to its "one share-one vote" system, contrasting with the "one person-one vote" principle of political democracy. This preference representation problem can be exacerbated by greater investor diversification and the rise of universal owners: Diversified shareholders prompt firms to increase their provision of public goods, but in the presence of wealth inequality, this could potentially disadvantage a typical citizen and amplify ESG backlash. Our paper also contributes to the debate about the voting power of large asset managers and the increased use of pass-through voting. While pass-through voting prevents fund managers from using their influence to push their own agendas, it can also limit the broad representation of citizens' interests and exacerbate the preference representation problem of shareholder democracy.

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A Derivations and Proofs

A.1 Ownership Structures

This appendix provides additional details on how we model ownership structures, expanding on the discussion in the main text in Section 2. As explained in that section, each household owns shares in a fraction μ of firms, where μ can take any value in $\{\frac{1}{m}, \frac{2}{m}, ..., 1\}$ as long as $\frac{1}{\mu}$ is an integer. Household i's stake in firm j is $\alpha_{ij} = \frac{\omega_i}{\mu m} > 0$ if firm j is in i's portfolio, and $\alpha_{ij} = 0$ otherwise.

To preserve the symmetry in ownership structures, we assume that households are evenly distributed across firms. More specifically, we assume that all households of a given type are evenly split into $\frac{1}{\mu}$ groups, where each group has μm households and holds its own set of firms, which does not overlap with the firms held by other groups.

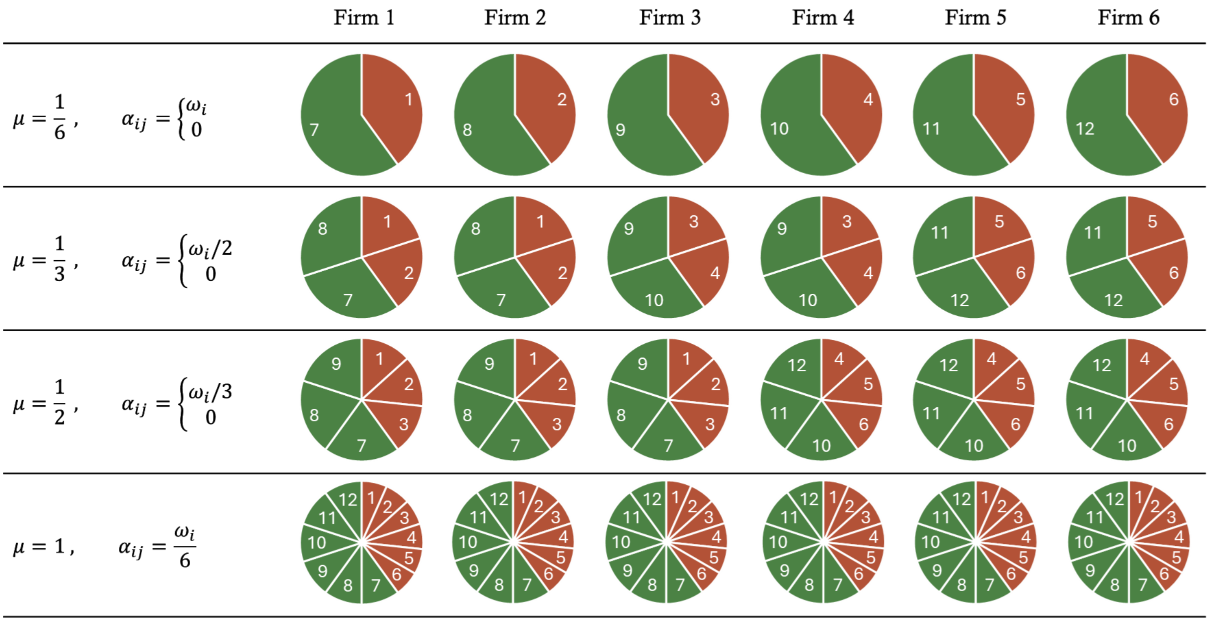
Figure A1 illustrates this setup using the following example. There are $m = 6$ firms and $K = 2$ types of households, B(rown) and G(reen), with $\omega_i = 0.4$ for brown types and $\omega_i = 0.6$ for green types. Overall, there are $n = 12$ households, of which $i \in \{1, ..., 6\}$ are of type B, and $i \in \{7, ..., 12\}$ of type G. If $\mu = \frac{1}{3}$, as in the second row of the figure, then households are split into $\frac{1}{\mu} = 3$ groups of 2 households each. The first two households of type B hold a stake $\alpha_{11} = \alpha_{12} = \alpha_{21} = \alpha_{22} = \frac{\omega_i}{6\times\frac{1}{3}} = 0.2$ in firms $j = 1, 2$, and no shares in firms $j = 3, 4, 5, 6$ ($\alpha_{1j} = \alpha_{2j} = 0$ for $j = 3, 4, 5, 6$). The next two households of type B hold a stake 0.2 in firms $j = 3, 4$, and no shares in firms $j = 1, 2, 5, 6$, and so on. Similarly, each household of type G holds exactly two firms, with a stake 0.3 in each.

This setup allows us to cleanly isolate the effects of diversification because, irrespective of μ, household i's average stake across firms is $\bar{\alpha}_i \equiv \frac{1}{m}\sum_{j=1}^{m} \alpha_{ij} = \frac{1}{m}\mu m(\frac{\omega_i}{\mu m}) = \frac{1}{m}\omega_i$ (see Figure A1). There are two notable corner cases. The first is when each shareholder is completely undiversified and holds only one firm, $\mu = \frac{1}{m}$ (as in the first row of Figure A1). The second corner case is $\mu = 1$, where shareholders are fully diversified universal owners who hold a stake in every firm in the economy. It is illustrated in the last row of Figure A1.

Mapping wealth to ownership stakes. We next show that if all firms' valuations are normalized to one, then the combined stake of household i in all firms, ω_i, also equals the share of each firm that is collectively owned by households of the same type as i. This is illustrated in Figure A1. In each row, the ownership shares across firms of a given brown-type household (e.g., $i = 1$) sum to $\sum_{j=1}^{m} \alpha_{ij} = \omega_i = 0.4$. At the same time, within a given firm, the ownership shares of all brown types also sum to $\sum_{i:k(i)=B} \alpha_{ij} = 0.4$.

To show this formally, in what follows, we will use subscript "(k)" to denote type

Figure A1. Illustration of Ownership Structure



This figure illustrates how our setup captures different ownership structures using an example with $m = 6$ firms and $K = 2$ types of households, B(rown) and G(reen). The color represents the household's type. All households of the same type have the same $(\omega_i, \gamma_i, g_i)$. In the example, $\omega_i = 0.4$ for brown types and $\omega_i = 0.6$ for green types. There are $n = mK = 12$ households, of which $i \in \{1, ..., 6\}$ are of type B, and $i \in \{7, ..., 12\}$ of type G. The figure illustrates how ownership shares are allocated for the four possible values that the diversification parameter μ can take in this case. The first row describes the case $\mu = 1/6$, in which households are fully undiversified. The second and third rows illustrate the cases $\mu = 1/3$ and $\mu = 1/2$ respectively. The last row illustrates the case $\mu = 1$, in which households are perfectly diversified. The pie charts plot the individual ownership shares α_{ij} of each household i in firm j. The numbers in the pie chart are the index i of the respective household.

k. For example, $\omega_{(k)}$ denotes the wealth of households of type k. Then, the combined ownership stake of all households of type k in firm j is

$$\sum_{i=1}^{n} \mathbf{1}_{k(i)=k}\alpha_{ij} = \frac{1}{m}\sum_{j=1}^{m}\sum_{i=1}^{n} \mathbf{1}_{k(i)=k}\alpha_{ij} = \frac{1}{m}\sum_{i=1}^{n} 1_{k(i)=k}\sum_{j=1}^{m}\alpha_{ij} = \frac{1}{m}\sum_{i=1}^{n} 1_{k(i)=k}\omega_i,$$

where the first equality follows from the fact that types are equally distributed across firms, the second follows from switching the summation order, and the third follows from the definition of ω_i. Because, among n households, there are m households of type k, $\sum_{i=1}^{n} 1_{k(i)=k}\omega_i = m\omega_{(k)}$, and hence $\sum_{i=1}^{n} \alpha_{ij}\mathbf{1}_{k(i)=k} = \omega_{(k)}$. Thus, for any household i, the combined ownership stake of all households of type $k(i)$ in firm j is ω_i, as required.

A.2 Proof of Lemma 1

Part 1 follows from the main text. To prove part 2, note that from Eq. (3), implementing a given level of public good $\hat{x}$ under profit maximization requires a subsidy $\sigma^p = \phi\hat{x}$, which results in wasteful spending $y^p(\sigma^p) = \delta\hat{x}$. Under shareholder democracy, from Eq. (8), implementing $\hat{x}$ requires a subsidy $\sigma^s = \frac{\phi\hat{x}-\widetilde{G}^s}{1-\mu}$. This implies $y^s(\sigma^s) = \delta\hat{x} - \delta\frac{\widetilde{G}^s}{\phi}$. Taking the difference between $y^p(\sigma^p)$ and $y^s(\sigma^s)$ yields part 2 of Lemma 1.

A.3 Political Stage

Recall that $x_j = x^*(\sigma)$ and $y_j = y^*(\sigma)$ for all j, and hence $X = mx^*(\sigma)$ and $T = m\sigma(x^*(\sigma) + y^*(\sigma))$, where $x^*(\sigma)$, $y^*(\sigma)$ are the equilibrium investments implemented in the second stage. Because $\tau_i = \bar{\alpha}_i = \omega_i/m$, and because $\alpha_{ij} = \omega_i/m\mu$ for each firm j out of the $m\mu$ firms household i owns, and $\alpha_{ij} = 0$ otherwise, we can write problem (11) as

$$\begin{aligned} U_i &= \gamma_i X - \tau_i T + \sum_{j=1}^{m} \left[\Pi(x_j, y_j) + g_i x_j\right] \alpha_{ij} \\ &= \gamma_i m x^*(\sigma) - \omega_i \sigma(x^*(\sigma) + y^*(\sigma)) \\ &\quad + \left[\pi + g_i x^*(\sigma) + \sigma(x^*(\sigma) + y^*(\sigma)) - \Psi(y^*(\sigma)) - \Phi(x^*(\sigma))\right] \omega_i \\ &= \gamma_i m x^*(\sigma) + \left[\pi + g_i x^*(\sigma) - \Psi(y^*(\sigma)) - \Phi(x^*(\sigma))\right] \omega_i. \end{aligned} \tag{A1}$$

The first-order condition with respect to σ is:

$$\gamma_i m \frac{\partial x^*(\sigma)}{\partial \sigma} + \left[g_i \frac{\partial x^*(\sigma)}{\partial \sigma} - \Psi'(y^*(\sigma)) \frac{\partial y^*(\sigma)}{\partial \sigma} - \Phi'(x^*(\sigma)) \frac{\partial x^*(\sigma)}{\partial \sigma}\right] \omega_i = 0.$$

Collecting terms yields (12)–(13) in the main text. We next use the different $x^*(\sigma)$ and $y^*(\sigma)$ under the two regimes.

Profit Maximization. Under profit maximization, $x^p(\sigma) = \frac{\sigma}{\phi}$ and $y^p(\sigma) = \frac{\delta\sigma}{\phi}$; see Eqs. (3) and (4). Thus, the general FOC (12) becomes

$$\left[G_i^c - \sigma\right] \frac{1}{\phi} - \frac{\delta\sigma}{\phi} = 0. \tag{A2}$$

Rearranging yields Eq. (14) in the main text.

Shareholder Democracy. Under shareholder democracy,

$$x^s(\sigma, \widetilde{G}^s) = \frac{\widetilde{G}^s + \sigma[1-\mu]}{\phi}, \quad y^s(\sigma) = \frac{\delta\sigma[1-\mu]}{\phi}.$$

Thus, the FOC (12) becomes:

$$\left[G_i^c - \widetilde{G}^s - \sigma[1-\mu]\right] \frac{[1-\mu]}{\phi} - \frac{\delta\sigma[1-\mu]^2}{\phi} = 0. \tag{A3}$$

Rearranging yields Eq. (17) in the main text.

Single-peaked Preferences. Notice that the left-hand side of (A2) monotonically increases in G_i^c and decreases in σ. The same is true for (A3) if $\mu < 1$ (if $\mu = 1$, the expression is independent of σ). This implies that the citizen's preferences are single-peaked under profit maximization for all μ, and under shareholder democracy if $\mu < 1$.

A.4 Proofs of Propositions 1 and 2

Proposition 1 follows from Eq. (14) and (17) applied to $G_i^c = \widetilde{G}^c$, and Proposition 2 follows from comparing Eq. (18) to (15), and Eq. (19) to (16).

A.5 Proof of Proposition 3

We start by deriving Eq. (20) and (21). Since firms are symmetric, all firms choose the same investments (x, y) under both mandates. Household $i's$ utility is

$$\begin{aligned} U_i &= \gamma_i m x^* + m\mu\left[\pi + g_i x^* + \sigma(x^* + y^*) - \frac{\phi(x^*)^2}{2} - \frac{\phi(y^*)^2}{2\delta}\right]\frac{\omega_i}{m\mu} - \frac{\omega_i}{m}\sigma(x^* + y^*)m \\ &= \gamma_i m x^* + \left[\pi + g_i x^* - \frac{\phi(x^*)^2}{2} - \frac{\phi(y^*)^2}{2\delta}\right]\omega_i, \end{aligned}$$

where under shareholder democracy, $(x^*, y^*) = (x^s, y^s)$, and under profit maximization, $(x^*, y^*) = (x^p, y^p)$. Therefore,

$$\begin{aligned} U_i^s - U_i^p &= \gamma_i m x^s + \left[g_i x^s - \frac{\phi(x^s)^2}{2} - \frac{\phi(y^s)^2}{2\delta}\right]\omega_i - \gamma_i m x^p - \left[g_i x^p - \frac{\phi(x^p)^2}{2} - \frac{\phi(y^p)^2}{2\delta}\right]\omega_i \\ &= \left[G_i^c(x^s - x^p) - \frac{\phi}{2}(x^s - x^p)(x^s + x^p) - \frac{\phi}{2\delta}(y^s - y^p)(y^s + y^p)\right]\omega_i \\ &= \frac{1}{\phi}\frac{\delta}{1+\delta}\widetilde{G}^s\left[G_i^c - \frac{1}{2}\frac{2\widetilde{G}^c + \delta\widetilde{G}^s}{1+\delta} + \frac{1}{2}\frac{2\widetilde{G}^c - \widetilde{G}^s}{1+\delta}\right]\omega_i \\ &= \frac{\delta\widetilde{G}^s}{\phi(1+\delta)}\left[G_i^c - \frac{\widetilde{G}^s}{2}\right]\omega_i, \end{aligned}$$

where the third equality uses Eq. (15)–(16) and Eq. (18)–(19).

Utilitarian Welfare. Summing up the above expressions for $U_i^s - U_i^p$ over all households, the difference between utilitarian welfare under shareholder democracy, W^s, and that under under profit maximization, W^p, is

$$W^s - W^p = \frac{\delta \widetilde{G}^s}{\phi(1+\delta)} \sum_{i=1}^{n} \left(G_i^c - \frac{\widetilde{G}^s}{2} \right) \omega_i. \tag{A4}$$

We can rewrite

$$\sum_i \left(G_i^c - \frac{\widetilde{G}^s}{2} \right) \omega_i = \sum_i \left(\frac{\gamma_i}{\omega_i/m} + g_i - \frac{\widetilde{G}^s}{2} \right) \omega_i = \sum_i \frac{\gamma_i}{\omega_i/m}\omega_i + \sum_i g_i\omega_i - \frac{\widetilde{G}^s}{2} \sum_i \omega_i.$$

Simplifying,

$$\sum_i \frac{\gamma_i}{\omega_i/m}\omega_i = m \sum_i \gamma_i = mn\bar{\gamma}.$$

Next, recall that households within the same type have the same g_i. Denote $g_{(k)}$ and $\omega_{(k)}$ the warm glow and wealth of a household of type k. Then $\sum_i g_i\omega_i = \sum_{k=1}^K \sum_{i:k(i)=k} g_{(k)}\omega_{(k)}$. Since there are K types and $n = Km$ households, there are m households of each type, so $\sum_{i:k(i)=k} g_{(k)}\omega_{(k)} = g_{(k)}m\omega_{(k)}$, and hence

$$\sum_i g_i\omega_i = \sum_{k=1}^{K} g_{(k)}m\omega_{(k)} = m\sum_{k=1}^{K} g_{(k)}\omega_{(k)}.$$

Recall that within a given firm j, the combined stake of households of type k is $\omega_{(k)}$. It follows that $\sum_{k=1}^K g_{(k)}\omega_{(k)} = \bar{g}$, where $\bar{g} = \sum_{i=1}^n g_i\alpha_{ij}$ (it is the same for each firm j since firms have symmetric ownership structures). Indeed,

$$\bar{g} = \sum_{i=1}^{n} g_i\alpha_{ij} = \sum_{k=1}^{K} \sum_{i:k(i)=k} g_i\alpha_{ij} = \sum_{k=1}^{K} g_{(k)} \sum_{i:k(i)=k} \alpha_{ij} = \sum_{k=1}^{K} g_{(k)}\omega_{(k)}. \tag{A5}$$

Also note that $\sum_{i=1}^n \omega_i = \sum_{k=1}^K \left(\sum_{i:k(i)=k} \omega_{(k)} \right)$. Since there are m households of each type, $\sum_{i:k(i)=k} \omega_{(k)} = m\omega_{(k)}$, and hence $\sum_{i=1}^n \omega_i = m\sum_{k=1}^K \omega_{(k)} = m$. Hence,

$$\begin{aligned} W^s - W^p &= \frac{\delta \widetilde{G}^s}{\phi(1+\delta)} \left[\sum_i \frac{\gamma_i}{\omega_i/m}\omega_i + \sum_i g_i\omega_i - \frac{\widetilde{G}^s}{2} \sum_i \omega_i \right] && \text{(A6)} \\ &= \frac{\delta m \widetilde{G}^s}{\phi(1+\delta)} \left[n\bar{\gamma} + \bar{g} - \frac{\widetilde{G}^s}{2} \right]. && \text{(A7)} \end{aligned}$$

The effect of changes in $\widetilde{G}^s$. Given that U_i^p is not a function of $\widetilde{G}^s$, we can evaluate whether U_i^s increases in $\widetilde{G}^s$ by differentiating the expression $U_i^s - U_i^p$ with respect to $\widetilde{G}^s$,

$$\frac{\partial(U_i^s - U_i^p)}{\partial \widetilde{G}^s} = \frac{\delta}{\phi(1+\delta)} \left[G_i^c - \widetilde{G}^s \right] \omega_i,$$

which is positive if and only if $G_i^c \geq \widetilde{G}^s$ as stated in the proposition. Using the same argument, $\frac{\partial(W^s - W^p)}{\partial \widetilde{G}^s}$ is positive if and only if $n\bar{\gamma} + \bar{g} \geq \widetilde{G}^s$, as stated in the proposition.

A.6 Derivations for Section 4.3.1

Suppose, without loss of generality, that types are ordered by wealth: $\omega_{(1)} \leq ... \leq \omega_{(K)}$.

Proof of Lemma 2. First, suppose all households have the same wealth, i.e., $\omega_{(k)} = \frac{1}{K}$ for all K. Then, if we order shareholders by their pro-socialness G_i^s within each firm, the wealth-weighted median shareholder $\widetilde{G}^s$ has the median G_i^s among all shareholders holding the firm. Since household types are evenly distributed across firms, this median is the same as the median G_i^s among all households in the economy. Noting that $G_i^c \geq G_i^s$ for any i then implies $\widetilde{G}^s \leq \widetilde{G}^c$. Indeed, for any i whose G_i^c is below the median $\widetilde{G}^c$,

$$\widetilde{G}^c \geq \frac{\gamma_i}{\omega_i/m} + g_i \geq \frac{\gamma_i}{\omega_i/\mu m} + g_i = G_i^s,$$

as long as $\gamma_i \geq 0$ for all i. Thus, $\widetilde{G}^c \geq G_i^s$ for at least 50% of households, and hence, indeed, $\widetilde{G}^s \leq \widetilde{G}^c$. Given (20), the median citizen is better off under shareholder democracy.

Second, suppose that citizens' utility benefit from the public good and warm glow utility are weakly decreasing in wealth: if $\omega_i \geq \omega_j$, then $\gamma_i \leq \gamma_j$ and $g_i \leq g_j$ for all i, j. In this case, $\frac{\gamma_i}{\omega_i}$ and g_i are weakly decreasing in wealth, and hence both shareholders' pro-social preferences G_i^s and citizens' pro-social preferences G_i^c are ordered by wealth. Hence, the median citizen (based on G_i^c) is the citizen with the median wealth. Denote his wealth by $\tilde{\omega}^c$ and his utility benefit from the public good and warm glow by $\tilde{\gamma}^c$ and $\tilde{g}^c$, respectively. Similarly, the median shareholder (based on G_i^s) is the citizen of type $\tilde{k}^s$ defined by the following property: $\omega_{(1)} + \omega_{(2)} + ... + \omega_{(\tilde{k}^s - 1)} < 0.5 \leq \omega_{(1)} + \omega_{(2)} + ... + \omega_{(\tilde{k}^s)}$. Denote the wealth of this median shareholder by $\tilde{\omega}^s$ and his utility benefit from the public good and warm glow by $\tilde{\gamma}^s$ and $\tilde{g}^s$, respectively. Note that $\tilde{\omega}^c \leq \tilde{\omega}^s$, and hence $\tilde{\gamma}^c \geq \tilde{\gamma}^s$ and $\tilde{g}^c \geq \tilde{g}^s$. This implies

$$\widetilde{G}^c = \frac{\tilde{\gamma}^c}{\tilde{\omega}^c/m} + \tilde{g}^c \geq \frac{\tilde{\gamma}^s}{\tilde{\omega}^s/m} + \tilde{g}^s \geq \frac{\tilde{\gamma}^s}{\tilde{\omega}^s/\mu m} + \tilde{g}^s = \widetilde{G}^s \geq \frac{\widetilde{G}^s}{2},$$

and hence, given (20), the median citizen is better off under shareholder democracy.

The ownership effect. Suppose the conditions in Lemma 2 are not satisfied, i.e., there is wealth inequality and either γ_i, or g_i, or both increase with wealth. While this makes it more likely that the median shareholder is more pro-social than the median citizen, the ownership effect counteracts this force, reducing the potential representation problem.

To see this, let $\gamma_i = \gamma(\omega_i)$ and $g_i = g(\omega_i)$ denote the mapping from wealth to the utility from the public good and warm glow preferences of households. The effective pro-socialness of a shareholder, $G_i^s = \frac{\gamma(\omega_i)}{\omega_i/\mu m} + g(\omega_i)$, decreases with wealth if and only if

$$\gamma'(\omega)\omega + \frac{1}{\mu m} g'(\omega)\omega^2 < \gamma(\omega).$$

Hence, even if $\gamma'(\cdot) > 0$ and $g'(\cdot) > 0$, shareholders' effective pro-socialness decreases with wealth if $g'(\cdot)$ and $\gamma'(\cdot)$ are small compared to $\gamma(\cdot)$, i.e., if they do not increase too quickly with wealth. This means that wealth inequality can potentially increase the relative benefits of shareholder democracy.

To show this, we next present an example in which the median citizen is worse off under shareholder democracy only if wealth inequality is not too strong. Denote by $\omega_{(k)}$ the wealth of households of type k (i.e., $\omega_i = \omega_{(k)}$ for all $i : k(i) = k$), and recall that $\omega_{(k)}$ is also the share of each firm collectively owned by households of type k. Suppose household types are ordered by wealth, $\omega_{(1)} < ... < \omega_{(K)}$, and there is wealth inequality: there exists $\hat{k} \geq \frac{K}{2} + 1$ such that

$$\sum_{k=\hat{k}}^{K} \omega_{(k)} > \frac{1}{2}. \tag{A8}$$

In other words, less than half of the citizens (those with types $k \geq \hat{k}$) collectively own more than a majority of the shares in each firm. Suppose that $g_i = 0$ for all i and that the more wealthy citizens, whose type is $k \geq \hat{k}$, have utility benefit of the public good γ_H, whereas the less wealthy citizens, whose type is $k < \hat{k}$, have utility benefit $\gamma_L \leq \gamma_H$. That is, citizens with γ_H collectively own the majority of the shares. Denote $\gamma_{(k)}$ the utility benefit parameter of type k.

Note that both citizens' and shareholders' pro-social preferences, G_i^c and G_i^s, are ordered by $\frac{\gamma_i}{\omega_i}$. Assume that

$$\frac{\omega_{(K)}}{\omega_{(1)}} < \frac{\gamma_H}{\gamma_L}, \tag{A9}$$

which is equivalent to $\frac{\gamma_L}{\omega_{(1)}} < \frac{\gamma_H}{\omega_{(K)}}$. Then, for $k < \hat{k}$, we have $\frac{\gamma_{(k)}}{\omega_{(k)}} = \frac{\gamma_L}{\omega_{(k)}} \leq \frac{\gamma_L}{\omega_{(1)}} < \frac{\gamma_H}{\omega_{(K)}}$, whereas for $k \geq \hat{k}$, we have $\frac{\gamma_{(k)}}{\omega_{(k)}} = \frac{\gamma_H}{\omega_{(k)}} \geq \frac{\gamma_H}{\omega_{(K)}}$. Since types $k < \hat{k}$ collectively own less than half of the shares, it follows that the median shareholder (based on G_i^s) has type $k \geq \hat{k}$ and utility benefit γ_H, whereas the median citizen has type $k < \hat{k}$ and utility benefit γ_L. Denote $\tilde{\omega}^s$ the wealth of the median shareholder, and $\tilde{\omega}^c$ the wealth of the median citizen. Then, Eq. (20) implies that the median citizen's utility is lower under shareholder democracy if and only if

$$\frac{\tilde{\omega}^s}{\tilde{\omega}^c} < \frac{\gamma_H}{\gamma_L}\frac{\mu}{2}. \tag{A10}$$

Condition (A10) implies that for the median citizen to be worse off under shareholder democracy, the median shareholder cannot be too wealthy. If the median shareholder is very wealthy, his high stake in the firm (and thus high exposure to the costs of public good provision) induces him to support a lower investment in the public good, so the median citizen's exposure to the preference representation problem is limited.

To see this more clearly and verify that this example holds for a non-empty set of parameters, consider the case of $K = 3$. We need to verify that there exist parameter values such that the following conditions are satisfied:

1. Eq. (A8), ensuring that the median shareholder has γ_H, becomes $\omega_{(3)} > \frac{1}{2}$.

2. Eq. (A9), ensuring that the median citizen has γ_L, becomes $\frac{\gamma_H}{\gamma_L}\omega_{(1)} > \omega_{(3)}$.

For simplicity, suppose $\omega_{(1)} = \omega_{(2)}$, so that $1 - \omega_{(3)} = 2\omega_{(2)}$. Then, these two conditions become $\frac{\gamma_H}{\gamma_L}\omega_{(1)} > \omega_{(3)} > \frac{1}{2}$, or equivalently, $\omega_{(3)} < \frac{r}{r+2}$ and $\omega_{(3)} > \frac{1}{2}$, where $r = \frac{\gamma_H}{\gamma_L}$. Together, they give a non-empty set of parameters if and only if $2 < r$. The median citizen is worse off under shareholder democracy if Eq. (A10) is satisfied, i.e., $\omega_{(2)}\frac{\gamma_H}{\gamma_L}\frac{\mu}{2} > \omega_{(3)}$, which is equivalent to $\omega_{(3)} < \frac{r}{r+4/\mu}$. For example, if $\mu = \frac{1}{2}$, this condition, together with (A8)-(A9), describes a non-empty set if $r > 8$. In this case, if $r = \frac{\gamma_H}{\gamma_L} > 8$ and $\frac{1}{2} < \omega_{(3)} < \frac{r}{r+2}$, we conclude that:

1. the median citizen is worse off under shareholder democracy if $\omega_{(3)} < \frac{r}{r+8}$, i.e., wealth inequality exists but is relatively weak; and

2. the median citizen is better off under shareholder democracy if $\frac{r}{r+8} < \omega_{(3)}$, i.e., wealth inequality is strong enough.

Overall, this analysis shows that even when wealthier households have stronger utility from the public good (higher γ_i or g_i), the ownership effect implies that stronger wealth inequality does not make shareholder democracy inferior.

A.7 Proof of Proposition 4

First, consider the effect of an increase in μ on shareholder i's preferences for public good provision and wasteful spending. Recall that they are given by (8) and (9), and the ranking of x_i^s preferred by each shareholder is driven by the ranking of $G_i^s = \frac{\gamma_i}{\omega_i/\mu m} + g_i$.

Let $\tilde{\gamma}^{s(\mu)}$, $\tilde{\omega}^{s(\mu)}$, and $\tilde{g}^{s(\mu)}$ denote the private benefit of the public good, wealth, and warm glow of a median shareholder when diversification is equal to μ, and let $\widetilde{G}^s(\mu) \equiv \frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/\mu m} + \tilde{g}^{s(\mu)}$. An increase in diversification to $\mu' > \mu$ changes the median shareholder's pro-social preferences by:

$$\Delta_{\widetilde{G}^s} \equiv \widetilde{G}^s(\mu') - \widetilde{G}^s(\mu) = \begin{cases} (\mu' - \mu)\frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} \text{ if the median is unchanged,} \\ \mu' \frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} - \mu \frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu')} - \tilde{g}^{s(\mu)} \text{ otherwise.} \end{cases} \tag{A11}$$

We next prove that $\Delta_{\widetilde{G}^s} > 0$. There are three cases. First, if the identity of the median shareholder remains the same, $\Delta_{\widetilde{G}^s} = (\mu' - \mu)\frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} > 0$. Second, if the identity of the median shareholder changes to a shareholder who was previously ranked below the median, it must be that:

$$\mu \frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu)} > \mu \frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} + \tilde{g}^{s(\mu')}, \tag{A12}$$

$$\mu' \frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} + \tilde{g}^{s(\mu')} > \mu' \frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu)}. \tag{A13}$$

Combining (A13) and $\mu' > \mu$, we get

$$\mu' \frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} + \tilde{g}^{s(\mu')} > \mu' \frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu)} > \mu \frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu)},$$

which, combined with (A11), implies $\Delta_{\widetilde{G}^s} > 0$.

Third, if the identity of the median shareholder changes to a shareholder who was previously ranked above the median, it must be that:

$$\mu \frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu)} < \mu \frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} + \tilde{g}^{s(\mu')}, \tag{A14}$$

$$\mu' \frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} + \tilde{g}^{s(\mu')} < \mu' \frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu)}. \tag{A15}$$

Combining (A14) and $\mu' > \mu$, we get

$$\mu \frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu)} < \mu \frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} + \tilde{g}^{s(\mu')} < \mu' \frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} + \tilde{g}^{s(\mu')},$$

which, combined with (A11), implies that $\Delta_{\tilde{G}^s} > 0$ in this case as well. This proves the first statement of the proposition.

Note also that since G_i^c does not depend on μ, the identity of the median citizen does not change with μ. Using these insights and Eqs. (18) and (19), the change in equilibrium public good provision and wasteful spending following an increase in μ is, respectively,

$$\Delta_{x^s} = \frac{\delta \Delta_{\tilde{G}^s}}{(1+\delta)\phi} > 0, \quad \Delta_{y^s} = -\frac{\delta \Delta_{\tilde{G}^s}}{(1+\delta)\phi} < 0. \tag{A16}$$

Next, we study the change in household i's utility. Using (A1) and (A16),

$$\begin{aligned} &U_i(\mu') - U_i(\mu) \\ &= (m\gamma_i + g_i\omega_i) \frac{\delta \Delta_{\tilde{G}^s}}{(1+\delta)\phi} + \omega_i \left[\Psi\left(y^{s(\mu)}\right) - \Psi(y^{s(\mu')}) + \Phi\left(x^{s(\mu)}\right) - \Phi(x^{s(\mu')}) \right], \end{aligned} \tag{A17}$$

where $x^{s(\mu)}$ and $y^{s(\mu)}$ denote the level of public good investment and wasteful spending when diversification is equal to μ. Note that

$$\Psi\left(y^{s(\mu)}\right) - \Psi(y^{s(\mu')}) = \frac{\phi}{2\delta}\left(y^{s(\mu)} - y^{s(\mu')}\right)\left(y^{s(\mu)} + y^{s(\mu')}\right) \tag{A18}$$

$$= -\frac{\phi}{2\delta}\Delta_{y^s}\left(y^{s(\mu)} + y^{s(\mu')}\right) = \frac{\Delta_{\tilde{G}^s}}{2(1+\delta)}\left(y^{s(\mu)} + y^{s(\mu')}\right) \tag{A19}$$

and

$$\Phi\left(x^{s(\mu)}\right) - \Phi(x^{s(\mu')}) = \frac{\phi}{2}\left(x^{s(\mu)} - x^{s(\mu')}\right)\left(x^{s(\mu)} + x^{s(\mu')}\right) \tag{A20}$$

$$= -\frac{\phi}{2}\Delta_{x^s}\left(x^{s(\mu)} + x^{s(\mu')}\right) = -\frac{\delta\Delta_{\tilde{G}^s}}{2(1+\delta)}\left(x^{s(\mu)} + x^{s(\mu')}\right) \tag{A21}$$

Combining (A19), (A21), and plugging in (18) and (19), we get

$$\Psi\left(y^{s(\mu)}\right) - \Psi(y^{s(\mu')}) + \Phi\left(x^{s(\mu)}\right) - \Phi(x^{s(\mu')}) = \frac{\Delta_{\tilde{G}^s}}{2(1+\delta)}\left[y^{s(\mu)} + y^{s(\mu')} - \delta x^{s(\mu)} - \delta x^{s(\mu')}\right]$$

$$= -\frac{\delta\Delta_{\tilde{G}^s}}{2(1+\delta)\phi}\left[G^s(\mu) + G^s(\mu')\right],$$

which together with (A17), gives

$$U_i(\mu') - U_i(\mu) = \omega_i \frac{\delta \Delta_{\widetilde{G}^s}}{(1+\delta)\phi} \left[G_i^c - \frac{G^s(\mu) + G^s(\mu')}{2} \right]. \tag{A22}$$

Thus, an increase in μ increases household's welfare if and only if $G_i^c > \frac{\widetilde{G}^s(\mu') + \widetilde{G}^s(\mu)}{2}$. In particular, if $G_i^c < \widetilde{G}^s(\mu)$, then the first statement of the proposition implies $G_i^c < \widetilde{G}^s(\mu')$, and thus, (A22) implies that i is worse off when μ increases. This proves the second statement of the proposition. Additionally, since $\widetilde{G}^s(\mu') > \widetilde{G}^s(\mu)$, we obtain the following sufficient conditions. As μ increases to μ', household i's welfare: (i) increases if $G_i^c > \widetilde{G}^s(\mu')$; and (ii) decreases if $G_i^c < \widetilde{G}^s(\mu)$.

Finally, consider the impact of changes in μ on $\sigma^s(\mu)$. Recall that the subsidy is set at the level preferred by the median citizen. From (17), citizen i's preferred subsidy is:

$$\sigma_i(\mu) = \frac{G_i^c - \widetilde{G}^s(\mu)}{(1+\delta)(1-\mu)}.$$

Notice that the ranking of σ_i depends only on the ranking of G_i^c, which does not depend on μ. Thus, changes in the level of diversification affect the equilibrium subsidy through changes in the median shareholder's pro-socialness $\widetilde{G}^s(\mu)$ and scaling of the preference wedge $1/[(1+\delta)(1-\mu)]$. An increase to μ' changes σ^s by:

$$\sigma^s(\mu') - \sigma^s(\mu) = \frac{\widetilde{G}^c - \widetilde{G}^s(\mu')}{(1+\delta)(1-\mu')} - \frac{\widetilde{G}^c - \widetilde{G}^s(\mu)}{(1+\delta)(1-\mu)} \tag{A23}$$

$$= -\frac{\Delta_{\widetilde{G}^s}(1-\mu) + (\mu' - \mu)\left[\widetilde{G}^s(\mu) - \widetilde{G}^c\right]}{(1+\delta)(1-\mu)(1-\mu')}. \tag{A24}$$

Suppose that $\widetilde{G}^s(\mu) > \widetilde{G}^c$. Combined with $\Delta_{\widetilde{G}^s} > 0$ (as shown above), (A24) implies that the increase from μ to μ' reduces the equilibrium subsidy, i.e., intensifies "ESG backlash."

A.8 Ownership through Funds

This section presents derivations for the extension in Section 4.3.3. We first derive the fund manager's preferred x_j and show that the fund manager's preferred y_j is still given by Eq. (9). Note that

$$\frac{\partial U^{FI}}{\partial x_j} = \sum_{i\in fund} \zeta_i\gamma_i + \sum_{i\in fund} \zeta_i g_i \alpha_{ij} + \sigma\left(\sum_{i\in fund}\zeta_i\alpha_{ij} - \sum_{i\in fund}\zeta_i\tau_i\right) - \Phi'(x_j)\sum_{i\in fund}\zeta_i\alpha_{ij},$$
$$\frac{\partial U^{FI}}{\partial y_j} = \sigma\left(\sum_{i\in fund}\zeta_i\alpha_{ij} - \sum_{i\in fund}\zeta_i\tau_i\right) - \Psi'(y_j)\sum_{i\in fund}\zeta_i\alpha_{ij}.$$

Rearranging and using the fact that $\alpha_{ij} = \omega_i/\mu m$ and $\tau_i = \bar{\alpha}_i = \omega_i/m$, we get:

$$\begin{aligned}\frac{\partial U^{FI}/\partial x_j}{\sum_{i\in fund}\zeta_i\alpha_{ij}} &= \frac{\sum_{i\in fund}\zeta_i\gamma_i}{\sum_{i\in fund}\zeta_i\alpha_{ij}} + \frac{\sum_{i\in fund}\zeta_i g_i\alpha_{ij}}{\sum_{i\in fund}\zeta_i\alpha_{ij}} + \sigma\left(1 - \frac{\sum_{i\in fund}\zeta_i\bar{\alpha}_i}{\sum_{i\in fund}\zeta_i\alpha_{ij}}\right) - \Phi'(x_j)\\ &= \frac{\sum_{i\in fund}\zeta_i\gamma_i}{\sum_{i\in fund}\zeta_i\omega_i/\mu m} + \frac{\sum_{i\in fund}\zeta_i g_i\omega_i}{\sum_{i\in fund}\zeta_i\omega_i} + \sigma(1-\mu) - \Phi'(x_j)\\ &= \frac{\bar{\gamma}^{FI}}{\bar{\omega}^{FI}/\mu m} + \bar{g}^{FI} + \sigma(1-\mu) - \Phi'(x_j) = \bar{G}^{FI} + \sigma(1-\mu) - \Phi'(x_j).\end{aligned}$$

where $\bar{\gamma}^{FI} \equiv \sum_{i\in fund}\zeta_i\gamma_i$, $\bar{\omega}^{FI} \equiv \sum_{i\in fund}\zeta_i\omega_i$, and $\bar{\alpha}_j^{FI} \equiv \sum_{i\in fund}\zeta_i\alpha_{ij}$ denote the weighted average γ_i, ω_i, and α_{ij} among fund investors (weighted by ζ_i), and $\bar{g}^{FI} \equiv \frac{\sum_{i\in fund}\zeta_i g_i\omega_i}{\sum_{i\in fund}\zeta_i\omega_i}$ is the weighted average g_i among fund investors (weighted by ζ_i and ω_i), and where we defined

$$\bar{G}^{FI} \equiv \frac{\bar{\gamma}^{FI}}{\bar{\omega}^{FI}/\mu m} + \bar{g}^{FI}. \tag{A25}$$

Using $\bar{\alpha}_j^{FI} = \sum_{i\in fund}\zeta_i\alpha_{ij}$ in the fund manager's first-order condition, we get

$$\nu\frac{\partial U^{FM}}{\partial x_j} + (1-\nu)\sum_{i\in fund}\zeta_i\alpha_{ij}[\bar{G}^{FI} + \sigma(1-\mu) - \Phi'(x_j)] = 0 \Leftrightarrow$$
$$\Phi'(x_j) = \bar{G}^{FI} + \sigma(1-\mu) + \frac{\nu}{(1-\nu)\bar{\alpha}_j^{FI}}\frac{\partial U^{FM}}{\partial x_j}.$$

Using the functional forms, the fund manager's preferred level of x_j is

$$x^{fund}(\sigma, \bar{G}^{FI}, g^{FM}) = \frac{\bar{G}^{FI} + \sigma(1-\mu)}{\phi} + \frac{\nu g^{FM}}{\phi(1-\nu)\bar{\alpha}_j^{FI}}. \tag{A26}$$

The fund's preferred $x^{fund}(\sigma, \bar{G}^{FI}, g^{FM})$ consists of two components. The first is analogous to shareholders' $x^s(\sigma, G_i^s)$, with $\bar{G}^{FI}$ taking the place of G_i^s. It arises because the fund aggregates the preferences of its investors. The second term reflects the fund manager's own preferences represented by g^{FM}; it becomes more significant as ν increases.

Analogously, for y_j, we have:

$$\nu\frac{\partial U^{FM}}{\partial y_j} + (1-\nu)\sum_{i\in fund}\zeta_i\alpha_{ij}[\sigma(1-\mu) - \Psi'(y_j)] = 0 \Leftrightarrow$$
$$\Psi'(y_j) = \sigma(1-\mu) + \frac{\nu}{(1-\nu)\bar{\alpha}_j^{FI}}\frac{\partial U^{FM}}{\partial y_j},$$

which gives Eq. (9) in the main text because $\frac{\partial U^{FM}}{\partial y_j} = 0$. Suppose the fund manager is the median voter. Using the fund manager's preferred x_j and y_j, the FOC (12) in the first stage becomes:

$$\left[G_i^c - \bar{G}^{FI} - \sigma(1-\mu) - \frac{\nu g^{FM}}{(1-\nu)\bar{\alpha}_j^{FI}}\right]\frac{(1-\mu)}{\phi} - \frac{\delta\sigma(1-\mu)^2}{\phi} = 0. \tag{A27}$$

Rearranging, we get citizen i's preferred subsidy:

$$\sigma^{fund}(G_i^c) = \frac{G_i^c - \bar{G}^{FI} - \frac{\nu g^{FM}}{(1-\nu)\bar{\alpha}_j^{FI}}}{(1+\delta)(1-\mu)}. \tag{A28}$$

As before, the median voter theorem applies. This implies an equilibrium subsidy level $\sigma^{fund}(\widetilde{G}^c)$, and equilibrium public good provision and wasteful spending of

$$x^{fund}(\sigma^{fund}) = \frac{\widetilde{G}^c + \delta\left(\bar{G}^{FI} + \frac{\nu g^{FM}}{(1-\nu)\bar{\alpha}_j^{FI}}\right)}{\phi(1+\delta)}, \tag{A29}$$
$$y^{fund}(\sigma^{fund}) = \frac{\delta\left(\widetilde{G}^c - \bar{G}^{FI} - \frac{\nu g^{FM}}{(1-\nu)\bar{\alpha}_j^{FI}}\right)}{\phi(1+\delta)}, \tag{A30}$$

Note that (A28)–(A30) are equivalent to (17)–(19) with $\widetilde{G}^s$ substituted by $G^s_{fund} = \bar{G}^{FI} + \frac{\nu g^{FM}}{(1-\nu)\bar{\alpha}_j^{FI}}$ given by (23). Hence, all previous results hold with $\widetilde{G}^s$ substituted by G^s_{fund}, as stated in the main text.

To see the effect of aggregation of investors' preferences by the fund, let $\widetilde{G}^s$ be the median shareholder's pro-socialness in the baseline model, i.e., under pass-through voting, and let $\tilde{\omega}^s$, $\tilde{\gamma}^s$, and $\tilde{g}^s$ denote this median shareholder's wealth and preference parameters. Suppose that g_i and γ_i/ω_i strictly increase with wealth (which in turn implies that shareholders' and citizens' pro-socialness, G_i^c and G_i^s, also strictly increase with wealth). Suppose also that fund investors include all shareholders with wealth $\omega_i \leq \tilde{\omega}^s$.

First, note that these assumptions imply that under delegation, the fund is the median shareholder. Next, we show that if the fund puts at least some positive weight on one of its smaller investors (i.e., $\zeta_i > 0$ for at least one i that satisfies $\omega_i < \tilde{\omega}^s$), and the agency conflict (νg^{FM}) is small enough, the fund is more pro-social than the median shareholder under pass-through voting: $G^s_{fund} < \tilde{G}^s$. To show this, suppose first that $\nu g^{FM} = 0$. Then $G^s_{fund} < \tilde{G}^s \Leftrightarrow \bar{G}^{FI} < \tilde{G}^s$, or equivalently,

$$\mu m \frac{\sum_{i \in fund} \zeta_i \gamma_i}{\sum_{i \in fund} \zeta_i \omega_i} + \frac{\sum_{i \in fund} \zeta_i g_i \omega_i}{\sum_{i \in fund} \zeta_i \omega_i} < \mu m \frac{\tilde{\gamma}^s}{\tilde{\omega}^s} + \tilde{g}^s.$$

Since $g_i \leq \tilde{g}^s$ for all i in the fund, with strict inequalities for smaller investors and $\zeta_i > 0$ for at least one of them, the second term on the left-hand side is strictly smaller than the second term on the right-hand side. Next, consider the first term on each side. We have:

$$\frac{\sum_{i \in fund} \zeta_i \gamma_i}{\sum_{i \in fund} \zeta_i \omega_i} < \frac{\tilde{\gamma}^s}{\tilde{\omega}^s} \Leftrightarrow \sum_{i \in fund} \zeta_i \omega_i \tilde{\omega} \left(\frac{\gamma_i}{\omega_i} - \frac{\tilde{\gamma}^s}{\tilde{\omega}^s} \right) < 0,$$

which is satisfied by the assumptions above. Together this proves $\bar{G}^{FI} < \tilde{G}^s$. By continuity, the same logic applies if νg^{FM} is positive but sufficiently small.

Proposition 3 then implies that if $\widetilde{G}^s > G^c_i$, delegation to the fund can increase household i's utility. Thus, if the agency conflict of the fund manager is not too strong, delegation can reduce the representation problem and make a typical household better off compared to pass-through voting.

The proofs for all additional results and extensions are in the Online Appendix, which is available here.

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