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. If public policy is frictionless, 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 corporate greenwashing have important implications for these trade-offs of shareholder democracy.

Keywords: shareholder democracy, political democracy, public good, irrelevance, carbon tax, socially responsible investing, 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. With frictionless public policy, shareholder democracy is irrelevant: voting in political elections leads to policies that

[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.

fully 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 in a model that analyzes public good provision by firms and the political process that shapes public policy. While corporate green investments and climate regulation offer a good example of the forces highlighted in the paper, our framework applies more broadly to other forms of corporate public good provision. Examples include investments in innovation, which generate knowledge spillovers that benefit society at large, and contributions to public health, such as the development of vaccines or health infrastructure, which help protect the broader population.

In our framework, there is a large number of firms and households, who own shares in firms. In the first stage, households vote as citizens 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' utility from the public good 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. 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. Thus, the political system counteracts the pro-ESG efforts of the financial market. In fact, absent frictions in public policy, this political response makes the firm's governance regime irrelevant: the equilibrium level of public good provision and citizens' welfare under shareholder democracy are the same as under profit maximization, meaning that shareholder democracy does neither harm nor good.

The irrelevance of shareholder democracy provides an important benchmark, but it 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—an inefficiency reminiscent of Okun (1975)'s "leaky bucket."

[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, and Gaarder et al. (2025), who find substantial inefficiencies in Norway's green investment subsidies.

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 can sometimes represent an efficient substitution for imperfect public policy when shareholders take a proactive stand.

Despite this benefit, shareholder democracy does not always make 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 benefits from shareholder democracy only if the median shareholder's pro-social preferences do not differ substantially from those of the citizen. For example, if shareholders promote public good investments that are excessive from citizens' perspective, the reduced political support for subsidies reflects a genuine ESG backlash against pro-social corporate actions, where citizens are willing to incur additional deadweight costs to counter shareholders' pro-social stance. In this case, citizens may prefer firms to operate under a profit maximization mandate.

These trade-offs of shareholder democracy have implications for key aspects of ownership structures: the concentration of ownership among wealthier households, investor diversification, and ownership through asset managers. We show that wealth inequality does not necessarily make shareholder democracy inferior. On the one hand, it creates a wedge between the preferences of the median citizen and those of the median shareholder, which, if sufficiently large, weakens the case for shareholder democracy. On the other hand, there can be an offsetting effect. For example, when this wedge stems from high intrinsic pro-socialness of wealthy individuals—perhaps because social responsibility

is a "luxury good"—their large economic stakes can counteract this tendency: investors with substantial ownership internalize more of the costs of public good provision by firms they own, reducing their incentives to be overly pro-social. Effectively, large wealth plays a dual role: while the voting power associated with large ownership gives rise to a representation problem, the accompanying economic exposure can help offset its effects.

The degree of investor diversification also plays a role in these dynamics. When investors spread their wealth across multiple firms, they 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 role of "universal owners" – diversified investors with a stake in the entire economy – 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, diversification can increase the wedge between citizens' and shareholders' preferences. This can intensify ESG backlash, consistent with the rise of index investing preceding the political pushback against ESG and with index funds often being the targets of anti-ESG regulation.[4]

Many households invest through funds, delegating their votes to large asset managers. Concerns that fund managers wield too much sway over E&S issues have led to a move towards "pass-through voting," which lets underlying investors vote directly (Fisch and Schwartz, 2023; Malenko and Malenko, 2024). In an extension, we assume that a subset of households holds shares via a fund. We show that if the fund manager's pro-social preferences are strongly misaligned with those of investors, pass-through mitigates the preference representation problem, in line with the rationale for this voting system. However, it can also exacerbate the representation problem. This is because under delegation, the fund votes as a block, "giving voice" to the less wealthy households, who may otherwise hold stakes too small to influence outcomes. Pass-through voting disaggregates these votes, reducing small investors' representation in corporate decisions.

[4]See, e.g., "BlackRock and State Street Grilled by Texas Lawmakers in ESG Debate," *Bloomberg*, December 15, 2022. See Section 5.1 for additional examples.

We explore several additional factors that affect 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 it, but nevertheless intensify political polarization. We also show that when shareholders perceive some benefits from socially wasteful activities (for example, due to greenwashing), the political system responds by further reducing subsidies, which results in lower public good provision and decreases the benefits of shareholder democracy.

Our baseline model abstracts from redistributive effects due to public policy. In additional extensions, we study how various redistributive effects shape political preferences and show that they can intensify the response to shareholder democracy. As a result, the governance mandate affects equilibrium outcomes even without public policy frictions. Thus, the absence of redistributive effects is another necessary condition for the irrelevance benchmark to hold, next to frictionless public policy.

Related Literature. Our paper contributes to the growing literature on socially responsible investing.[5] 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, 2025; Huang and Kopytov, 2023; Inderst and Opp, 2025; Oehmke and Opp, 2022; Piatti et al., 2023). Differently from these studies, our paper concentrates on the political dynamics that influence regulatory outcomes. Allen et al. (2024), Carlson et al. (2023), and Cassidy (2024) also examine the relation between political processes and financial markets. Allen et al. (2024) study how the availability of sustainability-linked debt in-

[5]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.

struments 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. Cassidy (2024) analyzes political elections as a signaling game where policy announcements shift market expectations, linking political agency to climate regulation and asset prices. 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. Our focus on the feedback between the political and corporate system and the role of shareholder voice also sets our paper apart from Yang (2024), who explores how two-dimensional non-pecuniary preferences of investors affect firms' policies through the cost of capital channel in the context of wealth inequality, and Wu and Zechner (2024), who study how investors' views on political issues shape firms' political stances. 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,[6] 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 analyzing very general ownership structures within a unified framework—capturing heterogeneity in shareholder stakes and preferences within firms, as well as investor diversification and sorting across firms. This allows us to examine how ownership affects corporate outcomes and, in turn, feeds back into the political process.

[6]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 in response to government regulation, activist groups, NGOs, or sustainability-conscious consumers (Baron, 2003, 2014; Besley and Ghatak, 2007; Besley and Persson, 2023; Egorov and Harstad, 2017; Gustafson and Wang, 2025; Maxwell et al., 2000), and in particular, to Ambec and De Donder (2022) and Calveras et al. (2007), who analyze self-regulation within industrial organization frameworks where climate policy emerges endogenously from political elections. 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.[7]

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 and n households, who hold shares in these firms. Household i's stake in firm j is denoted by $\alpha_{ij} \in [0,1]$, with $\sum_{i=1}^{n} \alpha_{ij} = 1$ for all j. We treat ownership structures as exogenous in the baseline model and endogenize them in Online Appendix C.5. There are two stages. In the first, households vote in political elections. In the second, firms decide how much to invest in a public good.[8]

[7] 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.

[8] We focus on corporate public goods that are inseparable from the production process and thus must be produced inside firms. In Online Appendix C.7, we extend the model to include government provision of public goods and discuss the implications in Section 5.4.3. The Online Appendix is available here.

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

Households derive utility from the aggregate public good X, with γ_i denoting i's marginal utility from X.[9] For instance, in the context of climate change, γ_i could capture reduced damage from flooding and lower health costs from fewer heat waves. In Section 5.1, we present a generalized model in which households also derive warm glow utility from public good investments by the firms they own. All our proofs use this general model, and we discuss the additional implications of warm glow preferences in Section 5.

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 subsidy levels, and households vote for one of the politicians.[10]

We assume that public policy is imperfect, in that the subsidy cannot be precisely targeted to only support valuable public good provision x_j. Instead, it also incentivizes other costly activities without comparable social benefits. Specifically, firm j receives a total subsidy of $\sigma(x_j + y_j)$, where y_j is wasteful spending, which 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. Parameter δ reflects 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

[9] This implies that the aggregate marginal utility, $\sum_{i=1}^{n} \gamma_i$, becomes infinitely large as $n \to \infty$. In the main text we focus on finite n and m, and in Online Appendix D.3 we show that our model can be adapted to limit cases, by fixing the total mass of all firms at 1.

[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).

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, $\tau_i = \bar{\alpha}_i \equiv \frac{1}{m} \sum_{j=1}^{m} \alpha_{ij}$, 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 D.4).

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

$$\Pi(x_j, y_j) = \pi + \sigma(x_j + y_j) - \Phi(x_j) - \Psi(y_j), \tag{1}$$

where π denotes the firm's revenue from operations. Online Appendix D.5 shows that our results extend 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 can enhance profitability by attracting consumers and employees. In the baseline model, x_j should be interpreted as public good investments that go beyond what firms invest to maximize operating profits.

Profits are paid out to shareholders as dividends, so household i's overall utility is

$$U_i = \gamma_i X + \sum_{j=1}^{m} \Pi(x_j, y_j)\alpha_{ij} - \tau_i T. \tag{2}$$

We consider two different corporate governance mandates:

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

[11] Equivalently, we could assume that firms pay a lump-sum tax of T/m from profits (see Online Appendix D.1). Focusing on taxes that ensure no redistributive effects of public policy implies that, when households vote in political elections, they only consider how the subsidy affects public good provision but not how it redistributes resources (Online Appendix C.6 analyzes redistributive taxes). This allows us to cleanly isolate how policy preferences are shaped by disagreements about the level of public good investments. We assume that politicians take as given the distribution of τ_i, reflecting predetermined and sticky rules on redistribution.

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 set 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 vote to maximize their utility (2). Unlike political voting, where each household has one vote, voting power in corporate elections is proportional to a household's ownership stake α_{ij}. While we focus on voting, engagement is another mechanism of shareholder influence (McCahery et al., 2016). This mechanism would have similar effects, as long as a shareholder's influence increases with his stake.

Our baseline model assumes that while regulators cannot design a policy that discriminates between valuable and wasteful investments, corporate decision-making is frictionless: regardless of the firm's mandate, 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. Regulatory enforcement of public policy relies on verifiable violations that must be resolved through the judicial system. In contrast, shareholders, as owners, can enforce the mandated policies more directly, for example, because they can dismiss the firm's management without needing explicit cause or verifiable evidence of fiduciary breaches. In Section 4.3.1, we discuss an extension that introduces frictions in shareholders' decision-making, e.g., due to corporate greenwashing.

Ownership Structures. The framework described above accommodates general ownership structures. To clarify the core mechanism, our baseline model focuses on the following simplified case. We assume that (1) each investor holds exactly one firm; and (2) ownership is symmetric across firms, meaning that the distribution of their shareholders' preferences is identical, leading to symmetric equilibrium corporate policies. We

[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.

relax the first assumption in Section 5.1, where we introduce the generalized model in which households can hold multiple firms. We relax the second assumption in Online Appendices C.4 and C.5, which study asymmetric ownership and endogenous investor sorting, and summarize these extensions in Section 5.4.2.

Formally, we assume there are $K \geq 1$ household types. Types are defined by preferences γ_i and wealth ω_i, so that households of the same type share the same (γ_i, ω_i). Since each household owns one firm, i's ownership stake is $\alpha_{ij} = \omega_i$ in that firm, and $\alpha_{ij} = 0$ in all others (we normalize each firm's valuation to 1 for simplicity). Symmetric ownership is ensured by assuming that types are evenly distributed across firms, with each firm having K distinct shareholders. The total number of households thus satisfies $n = K \times m$. This structure is illustrated in the first row of Appendix Figure A1.

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. Since households in our framework act as both citizens and shareholders, we use these terms interchangeably: 'citizens' when discussing political preferences and voting, 'shareholders' at the corporate stage, and 'households' when analyzing welfare.

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 (1). 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

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

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 maximize his utility function (2) with respect to x_j and y_j. A balanced government budget implies an aggregate tax burden $T = \sigma \sum_{j=1}^{m}(x_j + y_j)$, of which i pays a fraction τ_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, Appendix A.2 shows that i's preferred investments by firm j are, respectively,

$$x^s(\sigma, \Gamma_i^s) = \frac{\Gamma_i^s + \sigma\left(1 - \frac{1}{m}\right)}{\phi}, \quad y^s(\sigma) = \frac{\delta\sigma\left(1 - \frac{1}{m}\right)}{\phi}, \tag{4}$$

where the superscript s stands for "shareholder democracy" and

$$\Gamma_i^s \equiv \frac{\gamma_i}{\alpha_{ij}}, \tag{5}$$

reflects shareholder i's effective pro-socialness (we omit subscript j from Γ_i^s because α_{ij} equals ω_i for every i who is a shareholder in firm j). The shareholder's preferred level of public good investment is determined both by financial considerations related to the subsidies (the second term in x^s) and by intrinsic motives captured by Γ_i^s. Thus, Eq. (4) 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, shareholder pro-socialness does not.[13]

Free-Rider Problems and Stake Size. Eq. (4) highlights 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

[13] In Online Appendix C.2, we show that our mechanisms extend to a setting where shareholders perceive benefits from investments in y and shareholder pro-socialness encourages some wasteful spending.

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 $\Gamma_i^s = \gamma_i/\alpha_{ij}$ in (4). 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.4, where we derive the first-best allocation).

Note also that when the economy is large (i.e., the number of households, $n = Km$, and firms, m, is substantial), the term $\sigma(1 - \frac{1}{m})$ in (4) converges to σ, so the effect of the subsidy on a shareholder's preferred investments is identical to that in (3). Intuitively, when the firm's investments increase, shareholder i benefits from a fraction α_{ij} of the subsidy and pays for a fraction τ_i of the tax bill. But in a large economy, each individual's tax share is negligible, so he focuses solely on how the subsidy affects the firm's profits.

Shareholder Voting. Note that all shareholders have the same preferred level of $y^s(\sigma)$ and that we can rank the preferred $x^s(\sigma, \Gamma_i^s)$ along shareholders' pro-socialness Γ_i^s. Furthermore, Eq. (2) 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 household i's share of votes is ω_i, the firm adopts policies $x^s(\sigma, \widetilde{\Gamma}^s)$ and $y^s(\sigma)$, where $\widetilde{\Gamma}^s$ denotes the weighted-median Γ_i^s among shareholders weighted by ω_i. We refer to the corresponding shareholder as the "median shareholder."[14]

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

[14]Figure 2a illustrates the median shareholder on an example with $K = 43$ household types.

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 $x^s(\sigma, \widetilde{\Gamma}^s)$, $y^s(\sigma)$ under shareholder democracy, as defined in Eqs. (3) and (4).

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 $y^p(\sigma^p) - y^s(\sigma^s) = \frac{\delta}{\phi}\widetilde{\Gamma}^s$.

Intuitively, when firms incorporate shareholders' pro-social views $\widetilde{\Gamma}^s$, there is less need to incentivize public good investments through public policy. Thus, shareholder democracy can implement a given level of public good provision with a smaller subsidy, reducing wasteful spending y and the associated deadweight losses.

3.2 First Stage: Political Elections

In the first stage, households vote as citizens, choosing between two politicians who commit to a subsidy σ. To find the equilibrium of this political game, we solve for citizen i's preferred subsidy. A subsidy σ implies an aggregate tax burden $T = \sigma \sum_{j=1}^{m}(x_j + y_j)$, of which i pays a fraction τ_i. Therefore, i's problem is to pick σ that maximizes (2), where x_j, y_j are the expected policies of firm j given subsidy σ.

Since firms have symmetric ownership structures, they adopt identical 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.4, we solve the citizen's problem for general firm strategies $x(\sigma)$, $y(\sigma)$ and derive the following first-order condition for i's preferred σ:

$$[\Gamma_i^c - \Phi'(x(\sigma))]\frac{\partial x(\sigma)}{\partial \sigma} - \Psi'(y(\sigma))\frac{\partial y(\sigma)}{\partial \sigma} = 0, \tag{6}$$

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

$$\Gamma_i^c \equiv \frac{\gamma_i}{\bar{\alpha}_i}. \tag{7}$$

When voting on public policy in political elections, the household internalizes the aggre-

gate costs and benefits from all firms in the economy. Consequently, he scales his marginal benefit of public good γ_i by his average stake across all firms, $\bar{\alpha}_i$. In Section 5, we further explore why citizens and shareholders may differ in their effective pro-socialness.

Next, we combine Eq. (6) 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) and (6) imply that citizen i's preferred subsidy is

$$\sigma^p(\Gamma_i^c) = \frac{\Gamma_i^c}{1+\delta}, \tag{8}$$

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

$$x^p(\sigma^p) = \frac{\widetilde{\Gamma}^c}{(1+\delta)\phi}, \quad y^p(\sigma^p) = \frac{\delta\widetilde{\Gamma}^c}{(1+\delta)\phi}. \tag{9}$$

Shareholder Democracy. Eq. (4) implies that

$$\sigma^s(\Gamma_i^c) = \frac{\Gamma_i^c - \widetilde{\Gamma}^s}{(1+\delta)(1-\frac{1}{m})}. \tag{10}$$

The median voter theorem again applies, so the equilibrium subsidy is $\sigma^s \equiv \sigma^s(\widetilde{\Gamma}^c)$. Eq. (4) implies that the equilibrium firm policies are

$$x^s(\sigma^s) = \frac{\widetilde{\Gamma}^c + \delta\widetilde{\Gamma}^s}{(1+\delta)\phi}, \quad y^s(\sigma^s) = \frac{\delta(\widetilde{\Gamma}^c - \widetilde{\Gamma}^s)}{(1+\delta)\phi}. \tag{11}$$

In contrast to profit maximization, the subsidy and public good provision are not only a function of the median citizen's preferences $\widetilde{\Gamma}^c$, but also of the median shareholder's preferences $\widetilde{\Gamma}^s$. Comparing Eq. (9) to (11) reveals that as long as $\widetilde{\Gamma}^s > 0$ and $\delta > 0$,

shareholder democracy features higher equilibrium public good provision and lower y.

4 Main Results

4.1 Endogenous Political Response and Irrelevance

We start by analyzing how the political system responds to shareholder democracy.

Proposition 1. *The equilibrium subsidy σ^s decreases in shareholders' pro-socialness $\widetilde{\Gamma}^s$. If $\delta = 0$, this endogenous political response implies that the equilibrium firm policies (x_j, y_j) and household welfare U_i are identical under shareholder democracy and profit maximization, for all i and j.*

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' investments, while firms' anticipated actions shape citizens' political choices. In particular, under shareholder democracy, the political system responds to shareholders' pro-social stance by taking a less pro-social stance. This dynamics resembles the UK Prime Minister's and European Commission's 2023–2024 softening of climate regulations, which many argued was a tactic to gain electoral support.[15]

If $\delta = 0$, the public policy response fully offsets the effects of shareholder democracy, resulting in the same equilibrium investment and welfare as under profit maximization, thus rendering the governance mandate irrelevant. The median citizen implements his preferred level of public good provision by adjusting the subsidy, given the firms' best response under either mandate. Note that even though the equilibrium corporate policies and welfare are identical under both mandates, subsidies and firm profits are generally different. Thus, empirically identifying the impact of public policy on corporate investments requires careful consideration of the mandate under which firms operate.

While we derive the irrelevance result under a specific corporate decision-making process (majority voting), we show in Online Appendix B.1 that it holds more broadly:

[15] 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.

with frictionless public policy, the political system offsets shareholder actions under *any* corporate governance process. However, as we show in the extensions in Section 5.4.1, this irrelevance benchmark still relies on an additional assumption: the subsidy must be non-redistributive (which holds in the baseline model because we assume $\tau_i = \bar{\alpha}_i$).

4.2 ESG Backlash

With frictions in public policy, $\delta > 0$, public policy does not fully offset shareholder democracy (Eq. (11)). Intuitively, public policy and shareholders' pro-socialness become imperfect substitutes – higher pro-social preferences of shareholders imply that more public good can be provided without the need for costly public policy. Thus, citizens are willing to forgo implementing their preferred level of public good and instead rely on shareholders' preferences to reduce the deadweight losses of public policy. As a result, with $\delta > 0$, equilibrium public good provision shifts towards the preference of shareholders, represented by $\widetilde{\Gamma}^s$, and reflects the median citizen's preference $\widetilde{\Gamma}^c$ to a smaller degree. This highlights the potential preference representation problem of shareholder democracy, driven by the distinction between the "one share-one vote" and "one person-one vote" rules. As we show next, when $\widetilde{\Gamma}^s$ is sufficiently large, this can result in strong political backlash.

Proposition 2. *"ESG backlash," defined as $\sigma^s < 0$, arises if and only if $\widetilde{\Gamma}^s > \widetilde{\Gamma}^c$. Only in this case does a rise in $\widetilde{\Gamma}^s$ result in higher equilibrium deadweight costs.*

While higher $\widetilde{\Gamma}^s$ always leads to lower subsidies, the equilibrium subsidy remains positive as long as $\widetilde{\Gamma}^s \leq \widetilde{\Gamma}^c$. In this case, the political response reduces deadweight losses: a smaller but positive subsidy entails less wasteful spending $y^s(\sigma^s)$. This efficient substitution of imperfect public policy can be seen as pro-social shareholders "filling the void" left by a dysfunctional regulatory system.[16]

By contrast, if $\widetilde{\Gamma}^s > \widetilde{\Gamma}^c$, the median citizen views shareholders as overly pro-social, prompting such a strong political response that the subsidy becomes negative. This reduction in subsidies no longer represents an efficient substitution for imperfect public

[16]This effect is consistent with Ceccarelli et al. (2025), who find that investors increase their demand for green investments in response to anticipated weakening of government climate policies.

policy. While firms still invest in public goods ($x^s > 0$ in Eq. (11)), they also take costly actions to avoid appearing too pro-social ($y^s < 0$ in Eq. (11)), resembling behavior associated with ESG backlash. Consequently, in this region, the political response to an increase in shareholder pro-socialness $\widetilde{\Gamma}^s$ leads to higher, rather than lower, deadweight losses (recall that deadweight losses increase in the absolute value of y). 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 actions through other means, such as anti-ESG state-level legislation in the US targeting banks or retirement plan providers (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, 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. Another example of such costs may be firms hiring additional compliance officers to address government scrutiny of pro-social activities. 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.

To summarize, there are two distinct parameter regions: *efficient substitution*, where deadweight losses are reduced ($\widetilde{\Gamma}^s \leq \widetilde{\Gamma}^c$), and *ESG backlash* ($\widetilde{\Gamma}^s > \widetilde{\Gamma}^c$), where deadweight losses rise. We next discuss the welfare implications of these effects.

4.3 Costs and Benefits of Shareholder Democracy

The following result characterizes and compares the welfare of any given household and overall utilitarian welfare under shareholder democracy and profit maximization.

Proposition 3. *Under shareholder democracy, household i's utility (utilitarian welfare) increases in the median shareholder's pro-socialness if and only if $\Gamma_i^c \geq \widetilde{\Gamma}^s$ ($\sum_{i=1}^n \gamma_i \geq \widetilde{\Gamma}^s$). 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

$$U_i^s - U_i^p = \frac{\delta\widetilde{\Gamma}^s}{\phi\,(1+\delta)}\left(\Gamma_i^c - \frac{\widetilde{\Gamma}^s}{2}\right)\omega_i, \tag{12}$$

$$W^s - W^p = \frac{m\delta\widetilde{\Gamma}^s}{\phi\,(1+\delta)}\left(\sum_{i=1}^{n}\gamma_i - \frac{\widetilde{\Gamma}^s}{2}\right). \tag{13}$$

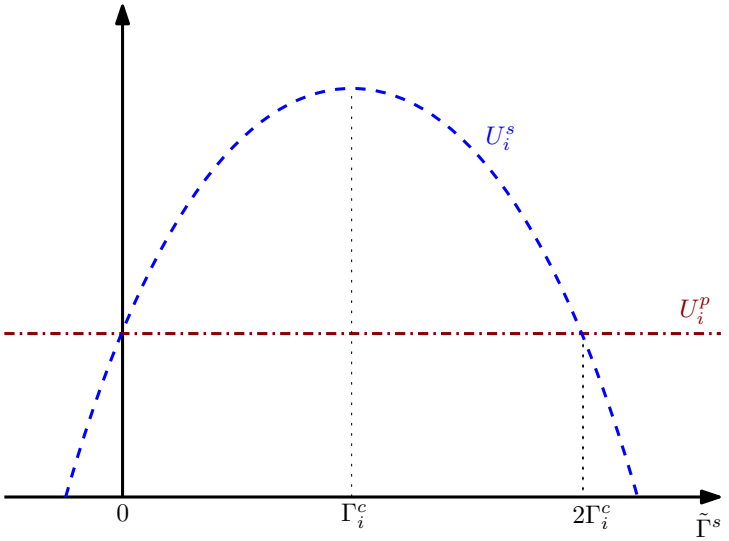
Figure 1 illustrates Proposition 3. It plots household i's utility under shareholder democracy and profit maximization as a function of the median shareholder's pro-socialness $\widetilde{\Gamma}^s$. When $\widetilde{\Gamma}^s = 0$, the two regimes result in the same utility, as Eq. (12) shows. Utility under profit maximization, U_i^p, is not affected by $\widetilde{\Gamma}^s$ because firms' decisions do not depend on shareholders' pro-socialness. In contrast, utility under shareholder democracy, U_i^s, is inverted U-shape in $\widetilde{\Gamma}^s$ and peaks at $\widetilde{\Gamma}^s = \Gamma_i^c$. To see the intuition, note that

$$\frac{dU_i^s}{d\widetilde{\Gamma}^s} = \omega_i\left[\Gamma_i^c - \Phi'(x^s)\right]\frac{dx^s}{d\widetilde{\Gamma}^s} - \omega_i\Psi'(y^s)\frac{dy^s}{d\widetilde{\Gamma}^s}. \tag{14}$$

An increase in $\widetilde{\Gamma}^s$ has two effects reflected in Eq. (14). The first term is the net benefit of greater public good provision that results from more pro-social shareholders ($\frac{dx^s}{d\widetilde{\Gamma}^s} > 0$). It reflects the trade-off between the household's utility from the public good and the reduced profitability of the firms it owns, and is positive if and only if the marginal benefit Γ_i^c exceeds the marginal production cost $\Phi'(x^s)$. The second term captures the effect on wasteful spending and deadweight losses. As shareholders become more pro-social, the endogenous political response lowers the subsidy (Proposition 1). As long as the subsidy remains positive, this represents an efficient substitution for the shortcomings of public policy, reducing policy-induced wasteful spending and benefiting the household: $\Psi'(y^s)\frac{dy^s}{d\widetilde{\Gamma}^s} < 0$. However, if shareholders' pro-socialness leads to ESG backlash, reflected in a negative subsidy, deadweight losses rise, hurting the household (Proposition 2).

These two effects explain the inverted U-shape in Figure 1. When $\widetilde{\Gamma}^s$ is sufficiently low, both effects work in the same direction: public good provision is limited, so the household benefits from a further increase in x^s, and the equilibrium lies in the efficient substitution region, where deadweight losses decline. Conversely, when $\widetilde{\Gamma}^s$ is sufficiently high,

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 $\widetilde{\Gamma}^s$, where Γ_i^c is household i's pro-socialness as a citizen.

shareholder pro-socialness leads to excessive public good provision from household i's perspective ($\Gamma_i^c < \Phi'(x^s)$) and also triggers ESG backlash—both effects reduce utility. In between, the two forces may act in opposite directions, and as we show in Appendix A.6, their net effect is that household i's utility is maximized precisely when $\widetilde{\Gamma}^s = \Gamma_i^c$.

Preferred Governance Mandate. Proposition 3 and Figure 1 show that, as a result of these forces, household i is worse off under shareholder democracy when his pro-social preferences are strongly misaligned with those of the median shareholder. This reflects a representation problem and can arise in two distinct scenarios.

The first occurs when the household derives positive utility from the public good, but the median shareholder is much more pro-social, $\frac{\widetilde{\Gamma}^s}{2} \geq \Gamma_i^c$. In Online Appendix C.1, we show that if this condition holds for the median citizen, $\frac{\widetilde{\Gamma}^s}{2} \geq \widetilde{\Gamma}^c$, the profit maximization mandate could arise endogenously: if citizens could vote on the governance mandate at the initial stage, the vote would favor profit maximization over shareholder democracy. This region thus represents an extreme form of ESG backlash: the political system not only counteracts pro-social shareholders by taxing public good production, but goes further by

mandating that firms ignore shareholder preferences altogether. Examples of such policy outcomes include state-level anti-ESG bills, which often explicitly prohibit institutional investors from voting to advance environmental or social goals, as well as the SEC's 2025 decision to ease the exclusion of E&S shareholder proposals from proxy ballots.[17]

The second scenario in which household i is harmed by shareholder democracy arises when Γ_i^c has the opposite sign of $\widetilde{\Gamma}^s$. This requires some households to have negative γ_i. To interpret a negative γ_i, note that in our model, the costs of public good investments $\Phi(x)$ are entirely borne by firms' shareholders, whereas in reality, such investments may negatively affect other stakeholders—for example, through higher consumer prices or lower employee wages. 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 (consumer, employee, or member of a local community). Under this interpretation, the net utility from the public good can turn negative, $\gamma_i < 0$. Proposition 3 then highlights the costs of misalignment: households with negative γ_i are harmed when the median shareholder is pro-social; likewise, households that benefit from the public good are harmed when shareholder pro-socialness is negative, $\widetilde{\Gamma}^s < 0$.

The implications for utilitarian welfare follow a similar logic: shareholder democracy dominates profit maximization as long as the median shareholder's pro-socialness $\widetilde{\Gamma}^s$ does not deviate too much from the social planner's, $\sum_{i=1}^n \gamma_i$. Two frictions play a role. First, the political process reflects the preferences of the median citizen, $\widetilde{\Gamma}^c$, rather than the average one—a classic tension in majoritarian politics. As a result, even without frictions in public policy implementation, the outcomes under profit maximization yield inefficient public good provision.[18] For example, if benefits from public goods are skewed, $\sum_{i=1}^n \gamma_i$ may be high while $\widetilde{\Gamma}^c$ is low, leading to underprovision. In such cases, if shareholders are more pro-social than the median citizen, shareholder democracy can shift public good

[17] For a discussion of voting restrictions in anti-ESG bills, see Simpson Thacher's June 2025 report "ESG Battlegrounds: How the States Are Shaping the Regulatory Landscape in the U.S.". For the SEC's policy changes, see SLB 14M and a broader discussion on the Harvard Law School Forum.

[18] Formally, as we show in Online Appendix B.4, if $\delta = 0$, the subsidy that emerges in political elections under profit maximization, $\sigma^p = \tilde{\Gamma}^c$, generally differs from the subsidy that implements the social planner's preferred outcome, $\sigma^{SP} = \sum_{i=1}^n \gamma_i$. The two coincide if all households are identical.

provision closer to the social optimum; see $x^s(\sigma^s)$ in (11).

However, this force alone is not sufficient. Absent frictions in public policy, the political system fully offsets any effect of shareholder preferences (Proposition 1). Importantly, this is no longer the case in the presence of policy-induced inefficiencies, such as wasteful spending from subsidies – a second friction in our framework. Then, shareholder democracy not only shifts public good provision away from the median citizen's preferences, but can also reduce policy-induced waste. It is the interaction of these two frictions—divergence between median and average preferences, and policy imperfections—that allows shareholder democracy to enhance utilitarian welfare if $\widetilde{\Gamma}^s$ is close enough to $\sum_{i=1}^{n} \gamma_i$. Online Appendix B.4 expands on this logic and derives the conditions under which the competitive equilibrium achieves the first-best under each mandate.

4.3.1 Frictions in Public Policy and Greenwashing

As discussed in Section 2, the key friction in our model is imperfect verifiability, which implies that public policy cannot discriminate between valuable public good provision (x) and wasteful spending (y). Alternatively, regulators' inability to discriminate between x and y could be due to an information friction, as regulators may lack the firm-specific knowledge that shareholders—particularly blockholders and institutional investors—may possess. Additionally, bureaucratic costs of administering subsidies could represent another public policy imperfection. These alternative ways of modeling public policy frictions would yield the same key mechanism: when shareholders push for public good investments, the political process leads to a reduction in subsidies, decreasing the deadweight costs of public policy. Our model highlights that, despite such benefits, shareholder democracy can make a typical household worse off due to the representation problem.

Moreover, shareholder democracy may introduce additional costs and frictions into corporate decision-making. In Online Appendix C.2, we model such frictions by assuming that shareholders 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. We show that this can exacerbate the

representation problem of shareholder democracy, as it motivates firms to overinvest in y from citizens' perspective. As a result, the political response intensifies: to curb overinvestment in y, citizens reduce subsidies even further. Thus, shareholders' perceived benefits from wasteful investments not only increase wasteful spending but also, through political channels, reduce valuable investments in public goods. In this sense, frictions in shareholder decision-making weaken the case for shareholder democracy. In the extreme case where shareholders' preferences for y are stronger than those for x, the net effect of shareholder democracy is unambiguously negative for a typical citizen (as we show, this resembles the outcomes in the baseline model when $\widetilde{\Gamma}^s < 0$ while $\Gamma_i^c > 0$). 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 y due to ethical concerns. This effect works in the opposite direction, reducing wasteful spending and enhancing the benefits of shareholder democracy.

5 Drivers of the Representation Problem

Our results so far show that the net benefit of shareholder democracy depends on the wedge between shareholders' and citizens' preferences. If this wedge is substantial, reflecting a strong representation problem, shareholder democracy harms a typical citizen and, if shareholders are excessively pro-social, generates ESG backlash. In this section, we use these insights and study how different characteristics of ownership structures and financial markets affect the extent of the representation problem and the political response. For ease of exposition, in what follows, we assume that $\gamma_i > 0$ for all i.

5.1 Generalized Model

While our baseline model adopts a simplified setting, all our results are derived within a more general framework, formalized in Appendix A.1, which extends it in two ways. First, instead of holding a single firm, each household owns shares in a fraction μ of all firms,

dividing wealth equally across them. Thus, i's stake in firm j is $\alpha_{ij} = \omega_i/(\mu m)$ if firm j is in i's portfolio, and zero otherwise. Higher μ implies greater investor diversification, with the baseline model corresponding to $\mu = 1/m$. Second, household i derives warm glow utility g_i from public good investments of firms in which he holds shares, in proportion to his ownership stake (as in, e.g., Pástor et al., 2021). Thus, i's overall utility (2) is augmented by the warm glow term $g_i \sum_{j=1}^{m} \alpha_{ij} x_j$. As we show, both investor diversification and warm glow preferences influence the extent of the representation problem.

Specifically, all our previous results continue to hold, with shareholders' and citizens' effective pro-socialness Γ_i^s and Γ_i^c, given by (5) and (7) in the baseline, now given by

$$\Gamma_i^s = \frac{\gamma_i}{\alpha_{ij}} + g_i, \qquad \Gamma_i^c = \frac{\gamma_i}{\bar{\alpha}_i} + g_i. \tag{15}$$

Eq. (15) implies that warm glow preferences g_i can exacerbate the representation problem when households differ substantially in the strength, or even the sign, of these preferences, as may occur given the growing polarization around corporate social responsibility.

In addition, (15) highlights the distinct effects of portfolio diversification on shareholders' and citizens' pro-socialness. When voting as a shareholder in a given firm, household i internalizes the costs of public good provision in that firm through his stake α_{ij}, which declines as he becomes more diversified, $\alpha_{ij} = \omega_i/\mu m$. Hence, diversification increases shareholders' pro-socialness Γ_i^s, similar to the mechanism in Broccardo et al. (2022). In contrast, when voting in political elections, the household internalizes the aggregate costs and benefits for *all* firms in the economy. The aggregate costs faced by i are proportional to the average stake $\bar{\alpha}_i = \frac{1}{m}\sum_{j=1}^{m} \alpha_{ij} = \frac{1}{m}\mu m \frac{\omega_i}{\mu m} = \frac{\omega_i}{m}$. Since $\bar{\alpha}_i$ is independent of μ, so is Γ_i^c. 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). This logic leads to the following result.

Proposition 4. *An increase in diversification μ increases the pro-socialness of the median shareholder, $\widetilde{\Gamma}^s$, but does not change the pro-socialness of the median citizen, $\widetilde{\Gamma}^c$.*

Because $\widetilde{\Gamma}^s$ increases in μ, greater shareholder diversification increases public good provision x^s for any level of σ. Since $\widetilde{\Gamma}^c$ is unaffected by μ, our main results imply that when shareholders are less pro-social than citizens, $\widetilde{\Gamma}^s < \widetilde{\Gamma}^c$, the endogenous political response ensures that diversification also curbs wasteful spending through the efficient substitution channel, benefiting the typical citizen.[19] This highlights the potential of highly diversified investors—"universal owners"—to help address issues like climate change. However, if the median shareholder is already more pro-social than the median citizen, $\widetilde{\Gamma}^s > \widetilde{\Gamma}^c$, then a further increase in shareholder pro-socialness due to diversification further widens the gap between them. This exacerbates the representation problem, reducing citizens' welfare and intensifying ESG backlash (see Online Appendix B.2). 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.[20]

5.2 Wealth Inequality

Wealth inequality is another factor behind the representation problem. As we show in Online Appendix B.5, if all households have the same wealth, the median citizen benefits from shareholder democracy. With unequal wealth, however, wealthier households hold more shares and voting power, creating a wedge between the preferences of the median shareholder and those of the citizens (Figure 2a). When this wedge is large, shareholder democracy harms the typical citizen (Proposition 3). This can occur, for example, if wealthier households favor substantially more public good provision—perhaps because they hold more assets that benefit from public goods; or because they can afford to care more about social issues, making social responsibility a "luxury good" (Andersen et al., 2024; Bansal et al., 2022; Döttling and Kim, 2024), or because such investments raise consumer prices or reduce wages for lower-wealth households.

[19] For example, g_i, and hence Γ_i^s, may be lower for shareholders 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.

[20] 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 from index funds, see "Texas schools fund pulls $8.5 billion from BlackRock over ESG investing," *Reuters*, March 19, 2024.

Even if γ_i and g_i increase with wealth through the mechanisms described above, the overall impact of wealth on shareholders' pro-socialness is influenced by another factor—their ownership stakes. 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 them (see Eq. (15)). Effectively, large wealth and ownership play a dual role: the voting power linked to large ownership creates a representation problem, while the greater economic ownership reduces its negative effects. In Online Appendix B.5, we formalize this argument and present an example in which the median citizen is worse off under shareholder democracy when wealth inequality is mild, but benefits when wealth inequality is strong, due to the ownership effect.

The effects of wealth inequality can be further influenced by two notable features of corporate elections that we abstract from in our model: limited voter participation and deviations from the "one share-one vote" system:

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.

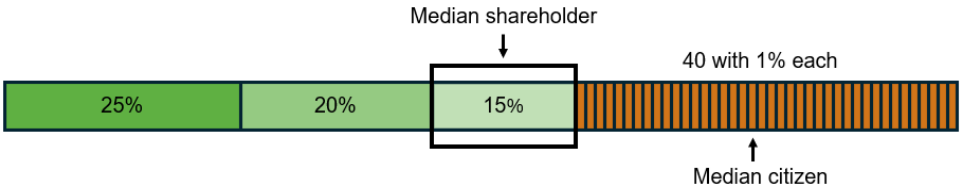
Dual-Class Shares. Dual-class share structures can similarly amplify the representation problem by granting some shareholders, including corporate insiders, disproportionate voting power relative to their economic ownership. Unlike the "one share-one vote" system, where large economic stakes help mitigate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

5.3 Ownership through Funds and Pass-Through Voting

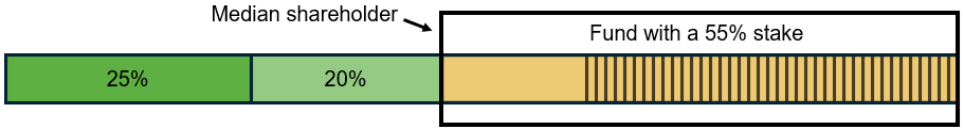
In reality, many households invest through funds and delegate voting rights to fund managers. In Online Appendix C.3, we extend the model to allow for vote delegation and com-

Figure 2. Median Shareholder and Median Citizen

(a) Median shareholder when households vote directly.



(b) Median shareholder under delegated voting.



Panel (a) illustrates the median shareholder and the median citizen for the following example with $K = 43$ shareholder types in each firm. There are 40 types with a 1% stake each, who have low pro-socialness Γ_i^s, represented by dark brown shading. The three remaining (wealthier) types have stakes 25%, 20%, and 15%, and have higher Γ_i^s, i.e., stronger pro-socialness, represented by green shading. This panel represents the case when households vote directly, as under pass-through voting. 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, which aggregates the preferences of fund investors.

pare it to our baseline model, where shareholders vote directly. This allows us to evaluate the impact of "pass-through" voting, which has been rapidly developing in recent years.[21]

Specifically, we assume that a subset of households hold shares via a fund and delegate their votes to the fund manager. The fund votes all shares as a block, maximizing $\nu U^{FM} + (1-\nu)U^{FI}$, where $U^{FM} \equiv g^{FM} \sum_{j=1}^{m} x_j$ is the fund manager's personal warm glow utility from public good investments and U^{FI} is a weighted average of fund investors' utilities. If the fund is the median shareholder, the equilibrium public good provision reflects the fund manager's preferences. Then, all our results continue to hold, with $\widetilde{\Gamma}^s$ replaced by the fund manager's effective pro-socialness Γ^s_{fund}, which combines the weighted average pro-socialness of fund investors with a term proportional to νg^{FM}.

Therefore, two forces shape outcomes under delegation. The first is the agency conflict between fund investors and the fund manager. If the fund manager puts a high weight ν

[21] While there are different ways to implement pass-though voting (Blackrock, 2022; Malenko and Malenko, 2024), one proposed system involves surveying investors about their preferences and voting each share accordingly (Fisch and Schwartz, 2023), which captures our baseline model.

on his own utility and his preferences diverge from those of a typical citizen, delegation can worsen the representation problem, providing a rationale for pass-through voting.

The second force is the aggregation of investor preferences by the fund. Since the fund pools many investors' votes, it is more likely than a small investor to become the median shareholder, which may allow for more effective representation of small investors' interests. To see this, consider the example in Figure 2, and suppose that all households with stakes of 15% and less invest through the fund. Under pass-through voting (panel (a)), the median shareholder is the household type with a 15% stake, whose preferences, represented by green shading, differ from those of small investors. Under delegation (panel (b)), the fund controls 55% of the votes and becomes the median shareholder. The light brown shading reflects the fund manager's pro-socialness Γ^s_{fund} if he assigns positive weight to all his investors and puts a small weight on his own utility. The comparison of (a) and (b) shows that low-wealth households are better represented under delegation.

Thus, contrary to common intuition, delegation may reduce the representation problem relative to pass-trough voting. 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' objectives.

5.4 Redistributive Effects

So far, we have abstracted from redistributive effects and focused on understanding how the representation problem is shaped by differences in pro-social preferences. We now consider extensions in which redistributive effects also influence citizens' public policy preferences and, in turn, the political response to shareholder democracy.

5.4.1 Redistributive Public Policy

In Online Appendix C.6, we relax the assumption that taxes funding the subsidy are non-redistributive ($\tau_i = \bar{\alpha}_i$). We show that the irrelevance result in Proposition 1 does not hold in this case, even if public policy is frictionless ($\delta = 0$). The reason is that citizens' political preferences reflect the redistributional effects of the subsidies alongside

their pro-social preferences, preventing them from targeting their preferred level of X in isolation. We note that this effect applies more generally: the irrelevance benchmark relies on the absence of broader redistributive forces, such as those arising from investor sorting and government-provided public goods discussed in the following two subsections.

This extension also allows us to study households who do not participate in the stock market ($\bar{\alpha}_i = 0$) but still pay taxes ($\tau_i > 0$). These households effectively face regressive taxes: they fund the subsidies, but do not own shares in firms that receive subsidies. This redistribution motive may lead households with no ownership stakes to favor smaller or even negative subsidies and lower public good investments. If such households form a large share of the population, the political response to shareholder democracy may intensify.

5.4.2 Investor Sorting and Endogenous Ownership

Our baseline model assumes that household types are evenly distributed across firms, resulting in symmetric corporate policies. However, households with heterogeneous preferences may gravitate toward firms aligned with their values. Under shareholder democracy, such sorting matters: firms with more pro-social shareholders ("green") invest more in public goods than those with less pro-social shareholders ("brown"), for any subsidy level.[22]

In Online Appendix C.5, we extend the model to examine when investor sorting emerges. After political elections, households allocate their portfolios, and firms then make public good investments based on the resulting ownership structures. We show that equilibrium ownership depends on the source of preference heterogeneity. When differences stem primarily from variation in marginal utilities of public goods (γ values), a symmetric ownership structure emerges, consistent with our baseline. In contrast, when heterogeneity is driven by warm glow preferences (g values), investor sorting occurs.

To study how investor sorting shapes the interplay between governance and politics, Online Appendix C.4 considers exogenous sorting into two firm types that differ only in

[22]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.

shareholder composition. This yields two key insights. First, sorting aligns citizens with more extreme preferences more closely with their firms' median shareholders, attenuating the representation problem. Second, it creates a new redistributive effect: since green firms invest more in public goods and thus benefit more from subsidies, holders of green (brown) shares have incentives to support high (low) subsidies. As a result, investor sorting can amplify political polarization. Notably, this effect stems from fiscal redistribution rather than public good preferences, suggesting that green investors' stronger support for subsidies may reflect not only pro-social preferences, but also financial motives.

5.4.3 Government-Provided Public Good

In Online Appendix C.7, we allow the government to provide a public good alongside firms. We assume the government has a fixed budget, which it allocates between subsidies and direct public good provision, without the ability to raise additional funds. In this setting, both shareholder and citizen preferences reflect a new trade-off, similar to the one under redistributive taxation. On the one hand, receiving subsidies through firm ownership constitutes a net fiscal transfer; on the other, subsidies reduce resources available for government provision of the public good. As a result, subsidies benefit a household only if his utility from the government-provided public good is not too high. Otherwise, this mechanism reduces citizens' political support for subsidies.

6 Conclusion

This paper studies how the two-way interaction between political and shareholder democracy affects corporate provision of public goods, such as investments in emissions reductions, innovation, national security, or public health. When shareholder pressure prompts firms to consider broader societal interests alongside profit maximization, the political system may respond to undo corporate social responsibility measures. In fact, in the absence of frictions and redistributive effects in public policy, the political system fully offsets any ramifications of shareholder influence, and shareholder democracy becomes irrelevant.

With public policy imperfections, shareholder democracy can increase public good provision and reduce the social costs of public policy, but may also prioritize the prefer-

ences of the wealthy due to its "one share-one vote" system. This representation problem can be exacerbated by rising wealth inequality, increasing investor diversification and universal ownership, and the adoption of pass-through voting.

Our irrelevance result provides a benchmark that can help guide future research. It shows that investor influence on corporate social responsibility matters only when public policy is imperfect or redistributive. While we focus on frictions in public policy provision, it is important to understand how other frictions shape equilibrium outcomes and the costs and benefits of shareholder democracy. The flexibility and simplicity of our framework make it suitable for studying broader questions beyond the scope of the current analysis. For example, what are the implications of shareholder democracy if the political process departs from the "one person-one vote" principle of political democracy? Or how do the results change if households act not only as citizens and shareholders, but also as consumers?

References

Acemoglu, D. and J. A. Robinson (2008). Persistence of power, elites, and institutions. *American Economic Review 98*(1), 267–293.

Allen, F., A. Barbalau, and F. Zeni (2024). Reducing carbon using regulatory and financial market tools. *Working paper*.

Ambec, S. and P. De Donder (2022). Environmental policy with green consumerism. *Journal of Environmental Economics and Management 111*, 102584.

Andersen, S., D. Chebotarev, F. Z. Filali-Adib, and K. M. Nielsen (2024). Rich and responsible: Is ESG a luxury good? *Working paper*.

Bansal, R., D. Wu, and A. Yaron (2022). Socially responsible investing in good and bad times. *Review of Financial Studies 35*(4), 2067–2099.

Bar-Isaac, H. and J. Shapiro (2020). Blockholder voting. *Journal of Financial Economics 136*(3), 695–717.

Barbalau, A. and F. Zeni (2023). The optimal design of green securities. *Working paper*.

Baron, D. P. (2003). Private politics. *Journal of Economics & Management Strategy 12*(1), 31–66.

Baron, D. P. (2014). Self-regulation in private and public politics. *Quarterly Journal of Political Science 9*(2), 231–267.

Bebchuk, L. A. and Z. Neeman (2010). Investor protection and interest group politics. *Review of Financial Studies 23*(3), 1089–1119.

Bensoussan, A., B. Chevalier-Roignant, N. Nguyen, and A. Rivera (2023). Financing green entrepreneurs under limited commitment. *Working paper*.

Besley, T. and M. Ghatak (2007). Retailing public goods: The economics of corporate social responsibility. *Journal of Public Economics 91*(9), 1645–1663.

Besley, T. and T. Persson (2023). The political economics of green transitions. *Quarterly Journal of Economics 138*(3), 1863–1906.

Biais, B. and A. Landier (2022). Emission caps and investment in green technologies. *Working paper*.

Biais, B. and T. Mariotti (2009). Credit, wages, and bankruptcy laws. *Journal of the European Economic Association 7*(5), 939–973.

Biais, B. and E. Perotti (2002). Machiavellian privatization. *American Economic Review 92*(1), 240–258.

Bisceglia, M., A. Piccolo, and J. Schneemeier (2023). Externalities of responsible investments. *Working paper*.

Blackrock (2022). It's all about choice. *Available at https://www.blackrock.com*.

Bonnefon, J.-F., A. Landier, P. Sastry, and D. Thesmar (2025). The moral preferences of investors: Experimental evidence. *Journal of Financial Economics 163*, 103955.

Broccardo, E., O. Hart, and L. Zingales (2022). Exit versus voice. *Journal of Political Economy 130*(12), 3101–3145.

Burgess, M. G., C. Suarez, A. Dancer, L. J. Watkins, and R. E. Marshall (2024). Climate change opinion and recent presidential elections. *A Center for Social and Environmental Futures Report*.

Calveras, A., J.-J. Ganuza, and G. Llobet (2007). Regulation, corporate social responsibility and activism. *Journal of Economics and Management Strategy 16*(3), 719–740.

Carlson, M., A. J. Fisher, and A. Lazrak (2023). Why divest? The political and informational roles of institutions in asset stranding. *Working paper*.

Cassidy, W. (2024). Elections have consequences: The impact of political agency on climate policy and asset prices. *Working paper*.

Ceccarelli, M., S. o Ramelli, A. Vasileva, and A. F. Wagner (2025). Socially responsible investing in the political context. *Working paper*.

Chowdhry, B., S. W. Davies, and B. Waters (2019). Investing for impact. *Review of Financial Studies 32*(3), 864–904.

Dangl, T., M. Halling, J. Yu, and J. Zechner (2023). Social preferences and corporate investment. *Working paper*.

Dhillon, A. and S. Rossetto (2015). Ownership structure, voting, and risk. *Review of Financial Studies 28*(2), 521–560.

Döttling, R. and S. Kim (2024). Sustainability preferences under stress: Evidence from COVID-19. *Journal of Financial and Quantitative Analysis 59*(2), 435–473.

Döttling, R. and M. Rola-Janicka (2025). Too levered for pigou: Carbon pricing, financial constraints, and leverage regulation. *Journal of Financial Economics 172*.

Edmans, A., D. Levit, and J. Schneemeier (2023). Socially responsible divestment. *Working paper*.

Egorov, G. and B. Harstad (2017). Private politics and public regulation. *Review of Economic Studies 84*(4), 1652–1682.

Fisch, J. and J. Schwartz (2023). Corporate democracy and the intermediary voting dilemma. *Texas Law Review 102*, 1–64.

Gaarder, I., M. Grindaker, T. G. Meling, and M. Mogstad (2025). Green waste: (mis)allocation of green investment subsidies. *Working paper*.

Garrett, D. and I. Ivanov (2024). Gas, guns, and governments: Financial costs of anti-ESG policies. *Working paper*.

Geelen, T., J. Hajda, and J. Starmans (2024). Sustainable organizations. *Working paper* (994).

Gilens, M. (2012). *Affluence and influence: Economic inequality and political power in America*. Princeton University Press.

Gillan, S. L., A. Koch, and L. T. Starks (2021). Firms and social responsibility: A review of ESG and CSR research in corporate finance. *Journal of Corporate Finance 66*, 101889.

Goldstein, I., A. Kopytov, L. Shen, and H. Xiang (2024). On ESG investing: Heterogeneous preferences, information, and asset prices. *Working paper*.

Gollier, C. and S. Pouget (2022). Investment strategies and corporate behaviour with socially responsible investors: A theory of active ownership. *Economica 89*(356), 997–1023.

Green, D. and B. Roth (2024). The allocation of socially responsible capital. *Journal of Finance, forthcoming*.

Gupta, D., A. Kopytov, and J. Starmans (2024). The pace of change: Socially responsible investing in private markets. *Forthcoming, Review of Financial Studies*.

Gustafson, M. and Z. Wang (2025). Venturing brown to subsidize green subsidies. *Working paper*.

Hart, O. and L. Zingales (2017). Companies should maximize shareholder welfare not market value. *Journal of Law, Finance, and Accounting 2*(2), 247–275.

Heeb, F., J. F. Kölbel, S. Ramelli, and A. Vasileva (2024). Sustainable investing and political behavior. *Working paper*.

Heinkel, R., A. Kraus, and J. Zechner (2001). The effect of green investment on corporate behavior. *Journal of Financial and Quantitative Analysis 36*(4), 431–449.

Henkel, L. and C. Zimpelmann (2022). Proud to not own stocks: How identity shapes financial decisions. *Working paper*.

Huang, S. and A. Kopytov (2023). Sustainable finance under regulation. *Working paper*.

Inderst, R. and M. M. Opp (2025). Sustainable finance versus environmental policy: Does greenwashing justify a taxonomy for sustainable investments? *Journal of Financial Economics, forthcoming*.

Landier, A. and S. Lovo (2023). ESG investing: How to optimize impact? *Working paper*.

Levit, D. and N. Malenko (2011). Nonbinding voting for shareholder proposals. *Journal of Finance 66*(5), 1579–1614.

Levit, D., N. Malenko, and E. Maug (2024a). Trading and shareholder democracy. *Journal of Finance 79*(1), 257–304.

Levit, D., N. Malenko, and E. Maug (2024b). The voting premium. *Working paper*.

Ljungqvist, A., L. Persson, and J. Tåg (2016). The incredible shrinking stock market: On the political economy consequences of excessive delistings. *Working paper* (458).

Malenko, A. and N. Malenko (2024). Voting choice. *Working paper*.

Matos, P. (2020). ESG and responsible institutional investing around the world: A critical review. *CFA Institute Research Foundation*.

Maug, E. G. (1999). How effective is proxy voting? Information aggregation and conflict resolution in corporate voting contests. *Working paper*.

Maxwell, J. W., T. P. Lyon, and S. C. Hackett (2000). Self-regulation and social welfare: The political economy of corporate environmentalism. *Journal of Law and Economics 43*(2), 583–618.

McCahery, J. A., Z. Sautner, and L. T. Starks (2016). Behind the scenes: The corporate governance preferences of institutional investors. *Journal of Finance 71*(6), 2905–2932.

Morgan, J. and J. Tumlinson (2019). Corporate provision of public goods. *Management Science 65*(10), 4489–4504.

Oates, W. E. (2004). An essay on fiscal federalism. In *Environmental Policy and Fiscal Federalism*, pp. 384–414. Edward Elgar Publishing.

Oehmke, M. and M. M. Opp (2022). Green capital requirements. *Working paper*.

Oehmke, M. and M. M. Opp (2024). A theory of socially responsible investment. *Review of Economic Studies, forthcoming*.

Okun, A. M. (1975). *Equality and Efficiency: The Big Tradeoff*. Brookings Institution Press.

Olson, M. (1965). *The Logic of Collective Action: Public Goods and the Theory of Groups*. Harvard University Press.

Pagano, M. and P. F. Volpin (2005). The political economy of corporate governance. *American Economic Review 95*(4), 1005–1030.

Pástor, L., R. F. Stambaugh, and L. A. Taylor (2021). Sustainable investing in equilibrium. *Journal of Financial Economics 142*(2), 550–571.

Perotti, E. C. and E.-L. Von Thadden (2006). The political economy of corporate control and labor rents. *Journal of Political Economy 114*(1), 145–175.

Piatti, I., J. A. Shapiro, and X. Wang (2023). Sustainable investing and public goods provision. *Working paper*.

Rajan, R. G. and L. Zingales (2003). The great reversals: the politics of financial development in the twentieth century. *Journal of Financial Economics 69*(1), 5–50.

Rajgopal, S., A. Srivastava, and R. Zhao (2024). Economic substance behind Texas political anti-ESG sanctions. *Working paper*.

Ramelli, S., A. F. Wagner, R. J. Zeckhauser, and A. Ziegler (2021). Investor rewards to climate responsibility: Stock-price responses to the opposite shocks of the 2016 and 2020 US elections. *Review of Corporate Finance Studies 10*(4), 748–787.

Riedl, A. and P. Smeets (2017). Why do investors hold socially responsible mutual funds? *Journal of Finance 72*(6), 2505–2550.

Ševčík, P. (2012). Financial contracts and the political economy of investor protection. *American Economic Journal: Macroeconomics 4*(4), 163–197.

Van Wesep, E. D. (2014). The idealized electoral college voting mechanism and shareholder power. *Journal of Financial Economics 113*(1), 90–108.

Wu, Y. and J. Zechner (2024). Political preferences and financial market equilibrium. *Working Paper*.

Yang, R. (2024). Socially responsible investing in a free and democratic society. *Working paper*.

Zachariadis, K. E., D. Cvijanovic, and M. Groen-Xu (2020). Free-riders and underdogs: Participation in corporate voting. *Working paper*.

Zwiebel, J. (1995). Block investment and partial benefits of corporate control. *Review of Economic Studies 62*(2), 161–185.

A Derivations and Proofs

All proofs are provided for the generalized model, outlined in Section A.1. The proofs for the baseline model are a special case.

A.1 Generalized Model

This appendix introduces the more general version of the model used in the main text. We generalize the baseline model in two dimensions: preferences and ownership structures.

Warm Glow Utility. In the generalized version of the model, households may receive warm glow utility g_i from public good investments by the firms they own. The model in the main text is nested as a special case with $g_i = 0$ for all i. We incorporate warm glow preferences in the general model 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 $\sum_{j=1}^{m} g_i x_j \alpha_{ij}$. That is, household i's utility function is given by

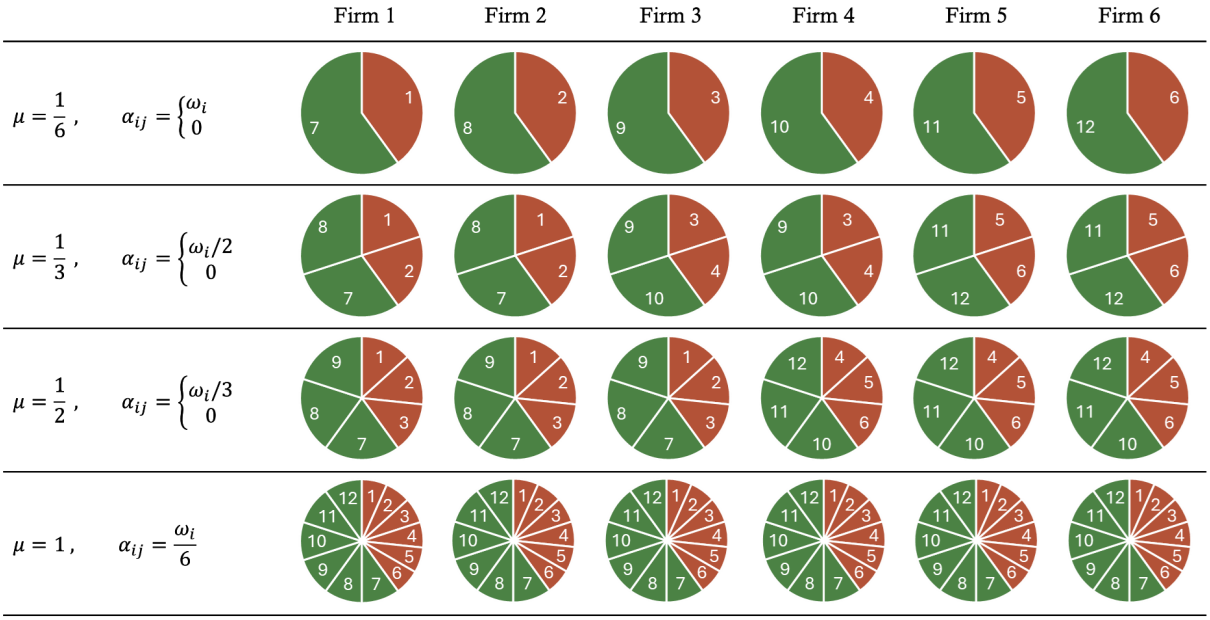
$$U_i = \gamma_i X + \sum_{j=1}^{m} g_i x_j \alpha_{ij} + C_i, \tag{A1}$$

where $C_i = \sum_{j=1}^{m} \Pi(x_j, y_j)\alpha_{ij} - \tau_i T$ is i's monetary payoff. 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 (ω_i,γ_i,g_i). We denote by $k(i)$ the type of household i.

Ownership Structures. In the main text, each household is fully undiversified and holds shares in one single firm. In the general version of the model, 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. Throughout our analysis, we focus on cases where $\mu < 1$, and we study the special case of full diversification separately in the Online Appendix B.3. 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. The baseline model is nested as a special case with $\mu = \frac{1}{m}$.

To preserve the symmetry in ownership structures, we assume that household types are evenly distributed across firms. More specifically, all households of a given type are

Figure A1. Illustration of Ownership Structure



This figure illustrates different ownership structures captured by our setup, 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 (ω_i,γ_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 corresponds to the baseline model, where each household only holds one firm, so that $\mu = 1/6$. 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.

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 baseline model in the main text, illustrated 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 $\sum_{i:k(i)=B} \alpha_{ij} = 0.4$ (where $k(i)$ denotes household i's type).

To show this formally, in what follows, we will use subscript "(k)" to denote type 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 uses the equal distribution of types 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, we have $\sum_{i=1}^{n} 1_{k(i)=k}\omega_i = m\omega_{(k)}$, and hence $\sum_{i=1}^{n} \alpha_{ij}\mathbf{1}_{k(i)=k} = \omega_{(k)}$. Thus, for any household i of type k, the combined ownership stake of all households of type k in firm j is ω_i, as required.

A.2 Firm Investment Stage

For any given subsidy σ, the levels of public good provision and wasteful spending under profit maximization follow from maximizing (1) and are given by (3). Below we derive investment levels under shareholder democracy.

The problem of shareholder i is to maximize (A1) with respect to x_j and y_j. Noting that a balanced government budget implies $T = \sigma\sum_{j=1}^{m}(x_j + y_j)$, of which i pays a

fraction τ_i, the first-order conditions for x_j and y_j are

$$\Phi'(x_j)\alpha_{ij} = \gamma_i + g_i\alpha_{ij} + \sigma\left(\alpha_{ij} - \tau_i\right), \tag{A2}$$

$$\Psi'(y_j)\alpha_{ij} = \sigma\left(\alpha_{ij} - \tau_i\right). \tag{A3}$$

Using $\tau_i = \bar{\alpha}_i = \frac{\omega_i}{m}$ and rearranging, yields the generalized version of Eq. (4):

$$x^s(\sigma, \Gamma_i^s) = \frac{\Gamma_i^s + \sigma\left(1-\mu\right)}{\phi}, \tag{A4}$$

$$y^s(\sigma) = \frac{\delta\sigma\left(1-\mu\right)}{\phi}, \tag{A5}$$

with Γ_i^s given by:

$$\Gamma_i^s \equiv \frac{\gamma_i}{\alpha_{ij}} + g_i = \frac{\gamma_i}{\omega_i/\mu m} + g_i. \tag{A6}$$

It is straightforward to verify that with $g_i = 0$ and $\mu = 1/m$, (A4)–(A6) simplify to (4)–(5) in the baseline model.

Eq. (A1) implies that shareholder preferences are single-peaked in x. Since, by (A5), all shareholders have the same optimal y, the median voter theorem applies. Shareholder preferences for x, defined in (A4), can be ordered according to Γ_i^s, defined in (A6), and we define the "wealth-weighted median," $\widetilde{\Gamma}^s$, as the weighted-median of Γ_i^s with weights given by ω_i. This wealth weighted-median corresponds to the median preference in elections that grant one vote to each share. The firm's public good investment is thus given by (A4), evaluated at $\Gamma_i^s = \widetilde{\Gamma}^s$: $x^s(\sigma, \widetilde{\Gamma}^s)$. Since all shareholders agree on the optimal $y^s(\sigma)$, the level of wasteful spending is pinned down directly by (A5).

Eq. (A4) and (A5) show that if $\mu = 1$, investments are independent of the subsidy: firms engage in no wasteful spending and their public good investments reflect only the median shareholder's pro-socialness. We discuss this case in Online Appendix B.3.

A.3 Proof of Lemma 1

The proof of part 1 of the Lemma follows from the derivation of investments by firms in Appendix A.2.

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. (A4), implementing $\hat{x}$ requires

a subsidy $\sigma^s = \frac{\phi\hat{x}-\widetilde{\Gamma}^s}{1-\mu}$. Using this in Eq. (A5) implies $y^s(\sigma^s) = \delta\hat{x} - \delta\frac{\widetilde{\Gamma}^s}{\phi}$. Taking the difference between $y^p(\sigma^p)$ and $y^s(\sigma^s)$ yields part 2 of Lemma 1.

A.4 Political Stage

Citizen i's preferred subsidy solves:

$$\max_{\sigma} \; U_i = \gamma_i X - \tau_i T + \sum_{j=1}^{m} \left[\Pi(x_j, y_j) + g_i x_j\right] \alpha_{ij}. \tag{A7}$$

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. This assumption is consistent with standard expected utility theory. In Online Appendix D.2, we relax it and show that the main results remain qualitatively the same if warm glow is (partially) ignored in the first 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 (A7) as

$$\begin{aligned} U_i &= \gamma_i m x^*(\sigma) - \omega_i \sigma(x^*(\sigma) + y^*(\sigma)) \\ &\quad + \left[\pi + g_i x^*(\sigma) + \sigma(x^*(\sigma) + y^*(\sigma)) - \Psi(y^*(\sigma)) - \Phi(x^*(\sigma))\right] \omega_i \\ &= \gamma_i m x^*(\sigma) + \left[\pi + g_i x^*(\sigma) - \Psi(y^*(\sigma)) - \Phi(x^*(\sigma))\right] \omega_i. \end{aligned} \tag{A8}$$

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 (6) in the main text with

$$\Gamma_i^c \equiv \frac{\gamma_i}{\bar{\alpha}_i} + g_i = \frac{\gamma_i}{\omega_i/m} + g_i, \tag{A9}$$

which simplifies to (7) for the special case of $g_i = 0$ that we focus on in the baseline model (note that the diversification parameter μ does not enter the expression for Γ_i^c). We next use the different $x^*(\sigma)$ and $y^*(\sigma)$ under the two regimes and plug them into the FOC (6).

Profit Maximization. Under profit maximization, $x^p(\sigma) = \frac{\sigma}{\phi}$ and $y^p(\sigma) = \frac{\delta\sigma}{\phi}$; see Eq. (3). Thus, the FOC (6) becomes

$$[\Gamma_i^c - \sigma]\,\frac{1}{\phi} - \frac{\delta\sigma}{\phi} = 0. \tag{A10}$$

Rearranging yields (8) in the main text.

Shareholder Democracy. Under shareholder democracy,

$$x^s(\sigma, \widetilde{\Gamma}^s) = \frac{\widetilde{\Gamma}^s + \sigma\,[1-\mu]}{\phi}, \quad y^s(\sigma) = \frac{\delta\sigma\,[1-\mu]}{\phi}. \tag{A11}$$

Thus, the FOC (6) becomes:

$$\left[\Gamma_i^c - \widetilde{\Gamma}^s - \sigma\,[1-\mu]\right]\frac{[1-\mu]}{\phi} - \frac{\delta\sigma\,[1-\mu]^2}{\phi} = 0. \tag{A12}$$

Rearranging yields:

$$\sigma^s(\Gamma_i^c) = \frac{\Gamma_i^c - \widetilde{\Gamma}^s}{(1+\delta)(1-\mu)}, \tag{A13}$$

which simplifies to (10) in the main text for the special case with $\mu = 1/m$.

Single-peaked Preferences. Notice that the left-hand side of (A10) monotonically increases in Γ_i^c and decreases in σ. The same is true for (A12) 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 $\mu < 1$.

Applying the median voter theorem yields the equilibrium subsidy σ^p and σ^s, given by (8) and (A13), each evaluated at the median Γ_i^c, that is, at $\Gamma_i^c = \widetilde{\Gamma}^c$. Plugging these equilibrium σ^p and σ^s into (3) and (A11), respectively, we get that the equilibrium public good provision and wasteful spending under profit maximization and shareholder democracy are given by (9) and (11), with $\widetilde{\Gamma}^c$ and $\widetilde{\Gamma}^s$ denoting, respectively, the median and the wealth-weighted median of (A6) and (A9). Note that (11) does not depend on μ directly, and only depends on μ through its effect on $\widetilde{\Gamma}^s$.[23]

[23] This is because while x^s is less responsive to the subsidy when μ is higher (see Eq. (A4)), the equilibrium subsidy accounts for this lower sensitivity (see Eq. (A13)) and offsets its effects.

A.5 Proofs of Propositions 1 and 2

Proof of Proposition 1. The first statement follows from (A13). Next, evaluating Eqs. (9) and (11) at $\delta = 0$ proves the equivalence of (x, y) under the two mandates. Finally, given that $\tau_i = \bar{\alpha}_i$, we have $\sum_{j=1}^{m} \alpha_{ij}\sigma(x_j + y_j) = \sigma(X + Y)\frac{1}{m}\sum_{j=1}^{m} \alpha_{ij} = \tau_i T$. This, in turn, implies that a household's utility, defined in Eq. (A1), depends only on the values of (x, y) and hence, since (x, y) are the same under the two mandates, proves that the equilibrium U_i is equal under the two mandates for all i.

Proof of Proposition 2. The first statement follows from (A13) evaluated at $\Gamma_i^c = \widetilde{\Gamma}^c$. The second follows from the fact that the deadweight cost is given by $\Psi(y^s(\sigma^s)) = \frac{\delta(\widetilde{\Gamma}^s - \widetilde{\Gamma}^c)^2}{2(1+\delta)^2\phi}$, which increases in $\tilde{\Gamma}^s$ if and only if $\widetilde{\Gamma}^c < \widetilde{\Gamma}^s$.

A.6 Proof of Proposition 3

We start by deriving Eq. (12) and (13). Since firms are symmetric, all firms choose the same investments (x, y) under both mandates. Household $i's$ utility is

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

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

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

where the third equality uses Eq. (9) and Eq. (11).

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

$$W^s - W^p = \frac{\delta \widetilde{\Gamma}^s}{\phi\,(1+\delta)} \sum_{i=1}^{n} \left(\Gamma_i^c - \frac{\widetilde{\Gamma}^s}{2} \right) \omega_i. \tag{A14}$$

We can rewrite

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

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,

$$\bar{g} = \sum_{i=1}^{n} g_i \alpha_{ij} = \sum_{k=1}^{K} \sum_{i:k(i)=k} g_i \alpha_{ij} = \sum_{k=1}^{K} g_{(k)} \sum_{i:k(i)=k} \alpha_{ij} = \sum_{k=1}^{K} g_{(k)} \omega_{(k)}. \tag{A15}$$

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,

$$\begin{aligned} W^s - W^p &= \frac{\delta \widetilde{\Gamma}^s}{\phi\,(1+\delta)} \left[\sum_i \frac{\gamma_i}{\omega_i/m} \omega_i + \sum_i g_i \omega_i - \frac{\widetilde{\Gamma}^s}{2} \sum_i \omega_i \right] && \text{(A16)} \\ &= \frac{\delta m \widetilde{\Gamma}^s}{\phi\,(1+\delta)} \left[\sum_{i=1}^{n} \gamma_i + \bar{g} - \frac{\widetilde{\Gamma}^s}{2} \right], && \text{(A17)} \end{aligned}$$

which simplifies to Eq. (13) for the special case $g_i = 0$ for all i studied in the main text.

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

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

which is positive if and only if $\Gamma_i^c \geq \widetilde{\Gamma}^s$, as stated in the proposition. Using the same argument, $\frac{\partial(W^s - W^p)}{\partial \widetilde{\Gamma}^s}$ is positive if and only if $\sum_{i=1}^n \gamma_i + \bar{g} \geq \widetilde{\Gamma}^s$, yielding the condition stated in the proposition for the special case of $g_i = 0$ for all i.

A.7 Proof of Results on Diversification in Section 5.1

In this section we prove Proposition 4. Online Appendix B.2 derives additional results discussed in Section 5.1, concerning how increased diversification affects households' welfare and the intensity of ESG backlash.

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 Eqs. (A4) and (A5), and the ranking of x_i^s preferred by each shareholder is driven by the ranking of $\Gamma_i^s = \frac{\gamma_i}{\omega_i/\mu m} + g_i$.

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

$$\Delta_{\widetilde{\Gamma}^s} \equiv \widetilde{\Gamma}^s(\mu') - \widetilde{\Gamma}^s(\mu) = \begin{cases} (\mu' - \mu)\frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} \text{ if the median is unchanged,} \\ \mu'\frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} - \mu\frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu')} - \tilde{g}^{s(\mu)} \text{ otherwise.} \end{cases} \tag{A18}$$

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

$$\mu\frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu)} > \mu\frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} + \tilde{g}^{s(\mu')}, \tag{A19}$$

$$\mu'\frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} + \tilde{g}^{s(\mu')} > \mu'\frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu)}. \tag{A20}$$

Combining (A20) 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 (A18), implies $\Delta_{\tilde{\Gamma}^s} > 0$.

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

$$\mu \frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu)} < \mu \frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} + \tilde{g}^{s(\mu')}, \tag{A21}$$

$$\mu' \frac{\tilde{\gamma}^{s(\mu')}}{\tilde{\omega}^{s(\mu')}/m} + \tilde{g}^{s(\mu')} < \mu' \frac{\tilde{\gamma}^{s(\mu)}}{\tilde{\omega}^{s(\mu)}/m} + \tilde{g}^{s(\mu)}. \tag{A22}$$

Combining (A21) 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 (A18), implies that $\Delta_{\tilde{\Gamma}^s} > 0$ in this case as well. Note also that since Γ_i^c does not depend on μ, the identity of the median citizen does not change with μ. This completes the proof of Proposition 4.

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