

Voting on Public Goods: Citizens vs Shareholders

Robin Döttling¹ Doron Levit² Nadya Malenko³ Magdalena Rola-Janicka⁴

3rd Sir Oliver Hart Conference on
Sustainable Investing

December 2025

¹ Erasmus University Rotterdam

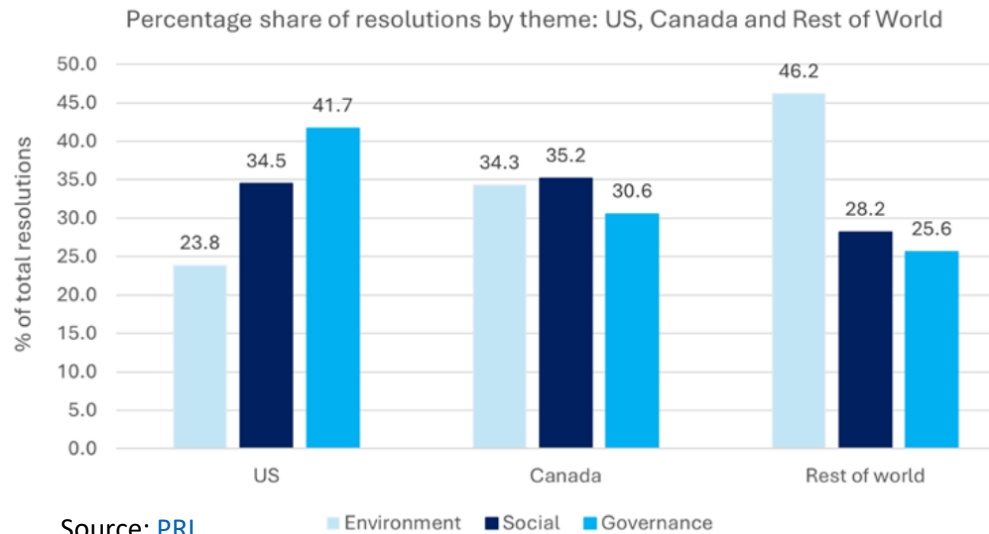
² University of Washington

³ Boston College

⁴ Imperial College London

Shareholder democracy

Shareholder proposals in 2025



More Investors Vote Against Corporate Directors Over Climate Change

Directors at businesses seen as behind the curve on climate change are getting less shareholder support. In some cases, changes have followed.

Major shareholder revolt against BP chairman amid climate clash

Thursday 17 April 2025

Shell suffers investor revolt over gas production impact on climate plans

Rebecca Speare-Cole and Callum Parke
20 May 2025 • 4 min read

Shareholder democracy

Externalities typically a domain of **regulation** (shaped by **political processes**)

Debate over how much influence
shareholders should have in this context

Shareholder democracy

Political democracy

Regulation

Shareholder democracy and political democracy

FORTUNE The anti-ESG backlash is not just an American phenomenon as Europe waters down its sustainability agenda



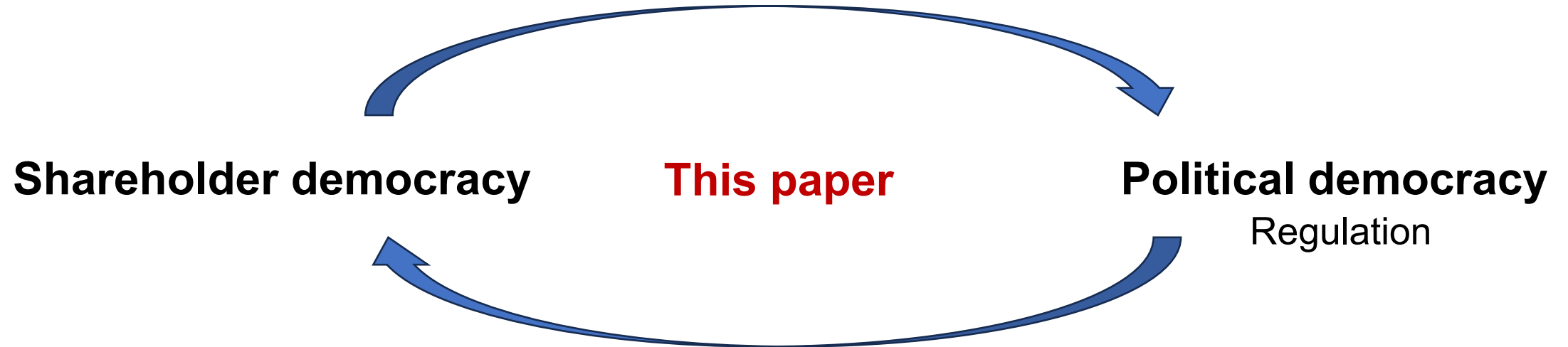
Shareholder democracy

Political democracy

Regulation

Shareholders respond to environmental regulations (or lack thereof)

Shareholder democracy and political democracy



This paper

What we do

- Model of corporate public good provision (e.g., green investments, green production technology)
- Public policy determined through **political elections** (e.g., green subsidies, carbon tax)
- Given public policy, firms make public good investments
 - **shareholder democracy**
 - profit maximization ~ Friedman doctrine

This paper

What we do

- Model of corporate public good provision
- Public policy determined through **political elections: 1 person – 1 vote**
- Given public policy, firms make public good investments
 - **shareholder democracy: 1 share – 1 vote**
 - profit maximization ~ Friedman doctrine

This paper

Questions we ask

What are the effects of **shareholder democracy** vis-à-vis **Friedman doctrine** on:

- political process and public policy
- public good investments by firms
- citizens' welfare

Results

- No frictions in public policy provision \Rightarrow governance mandate is **irrelevant**
- If shareholder democracy \uparrow public good provision \Rightarrow
Political system responds \Rightarrow \downarrow regulations incentivizing public goods
 - + More public good with **less deadweight costs** from regulations
 - Preference **representation problem** due to “1 share - 1 vote” \rightarrow **ESG backlash**

 Implications

Wealth inequality

Universal owners

Pass-through voting

Political polarization

Model overview

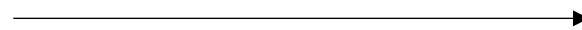
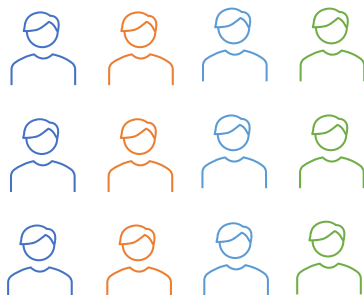
Stage 1: Households **vote** in **political elections**

- Determine subsidy for public good

Stage 2: Households **vote** as **shareholders**

- Determine firm investments in public good

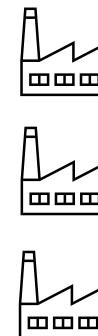
n households



own shares



m firms



Frictions in public policy

Firms receive a subsidy σ for investing in public goods

Regulation is **imperfect**:

- subsidy cannot discriminate between **valuable public goods** & **wasteful spending**
 $= x$ $= y$

United Kingdom Hands Billions More in Subsidies to Drax for Tree-Burning Bioenergy



FINANCIAL TIMES



Climate change

EU's proposed carbon removal rules open to greenwashing, say experts

Draft plan accused of lacking detail on critical issue of verified, permanent solutions to limit emissions

Frictions in public policy

Firms receive a subsidy σ for investing in public goods

Regulation is **imperfect**:

- subsidy cannot discriminate between **valuable public goods** & **wasteful spending**

= x

= y

Firm's production costs:

$$\frac{\phi}{2} x^2$$

$$\frac{\phi}{2\delta} y^2$$



Firm's profit:

$$\Pi(x, y) = \pi + \sigma(x + y) - \frac{\phi}{2} x^2 - \frac{\phi}{2\delta} y^2$$

- **Deadweight** costs of public policy
- Frictionless benchmark: $\delta = 0$

Households' preferences

- Utility of household i is

$$U_i = \gamma_i X + \sum_{j=1}^m \underbrace{\Pi(x_j, y_j)}_{\text{profit}} \underbrace{\alpha_{ij}}_{\text{stake}} - \underbrace{\tau_i T}_{\text{tax}}$$

Utility from public good

$$X = \sum_j x_j$$

(e.g., aggregate emissions)

Households' preferences

- Utility of household i is

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

- **Heterogeneity**

- Utility from public good γ_i
 - Wealth $\omega_i \rightarrow$ stake size α_{ij}
- } **Disagreement** about optimal level of x_j

Households' preferences

- Utility of household i is

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

Balanced budget: $T = \sigma(X + Y)$

$\tau_i = \bar{\alpha}_i$ proportional to stakes/wealth
 \Rightarrow **no fiscal redistribution**

- **Heterogeneity**

- Utility from public good γ_i
- Wealth $\omega_i \rightarrow$ stake size α_{ij}

} Disagreement about
optimal level of x_j

Mechanisms

Second stage: Firms' investments

Profit maximization: $x^p = \frac{1}{\phi} \sigma$ $y^p = \frac{\delta}{\phi} \sigma$

Subsidy σ encourages wasteful spending

$\sigma \uparrow \Rightarrow$ deadweight costs \uparrow

Second stage: Firms' investments

Profit maximization: $x^p = \frac{1}{\phi} \sigma$ $y^p = \frac{\delta}{\phi} \sigma$

Shareholder democracy: shareholder i 's preferred policies are

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

Effective pro-socialness of shareholder i Financial incentive from subsidy

$$\Gamma_i^s = \frac{\gamma_i}{\alpha_{ij}}$$

- preferences (γ_i) ~ benefits from public good
- stake size (α_{ij}) ~ share of the costs

Second stage: Firms' investments

Profit maximization: $x^p = \frac{1}{\phi} \sigma$ $y^p = \frac{\delta}{\phi} \sigma$

Shareholder democracy: shareholder i 's preferred policies are

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

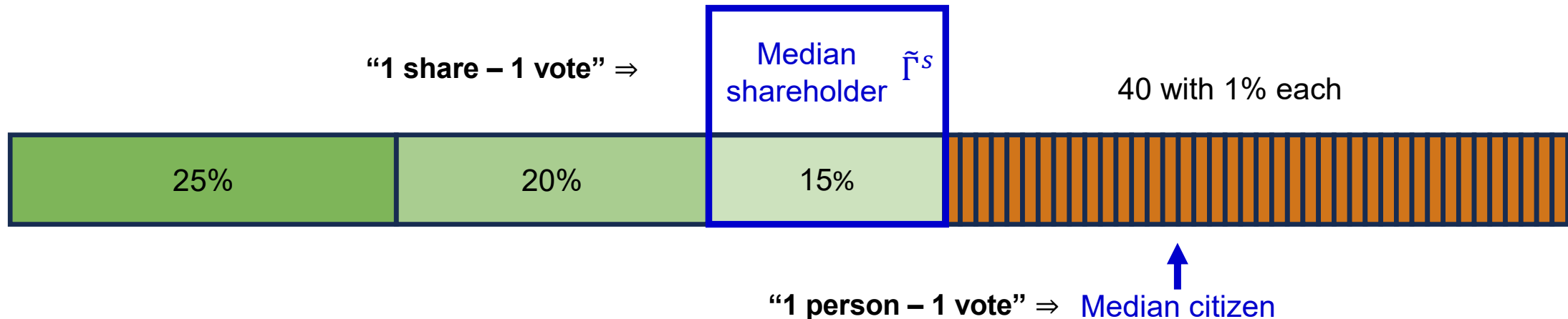
- Shareholders' **pro-socialness** and **subsidy** are **substitutes** in public good provision
- Subsidy encourages wasteful spending \Rightarrow **imperfect substitutes**

Second stage: Firms' investments

Profit maximization: $x^p = \frac{1}{\phi} \sigma$ $y^p = \frac{\delta}{\phi} \sigma$

Shareholder democracy: wealth-weighted median shareholder's preferred policies

$$x^s = \frac{1}{\phi} \left(\tilde{\Gamma}^s + \sigma \left(1 - \frac{1}{m} \right) \right) \quad y^s = \frac{\delta}{\phi} \sigma \left(1 - \frac{1}{m} \right)$$



First stage: Political elections

- Citizen i 's preferred public policy (σ) maximizes U_i , accounting for firms' response
- Citizens vote \Rightarrow equilibrium subsidy reflects **median citizen's** pro-socialness $\tilde{\Gamma}^c$

Under profit maximization:

$$\sigma^p = \frac{\tilde{\Gamma}^c}{(1 + \delta)}$$

Under shareholder democracy:

$$\sigma^s = \frac{\tilde{\Gamma}^c - \tilde{\Gamma}^s}{(1 + \delta)(1 - 1/m)}$$

- Citizens **offset** shareholders' pro-socialness with lower subsidy
 - **ESG backlash**: if $\tilde{\Gamma}^s$ large, policy disincentivizes public good: $\sigma^s < 0$

Anti-ESG policies in the US (Garrett, Ivanov 2024; Rajgopal et al. 2024)

UK and EU softening of climate regulations 2023-2025

Equilibrium public good investment

Under profit maximization:

$$x^p = \frac{\tilde{\Gamma}^c}{(1 + \delta)\phi}$$

Under shareholder democracy:

$$x^s = \frac{\tilde{\Gamma}^c + \delta\tilde{\Gamma}^s}{(1 + \delta)\phi}$$

Without frictions ($\delta = 0$), shareholder democracy is fully undone by public policy response

- Governance mandate is **irrelevant**
- Equilibrium policies reflect median citizen's preferences only
- **Conditions for irrelevance:** public policy is (i) frictionless and (ii) non-redistributive

Equilibrium public good investment

Under profit maximization:

$$x^p = \frac{\tilde{\Gamma}^c}{(1 + \delta)\phi}$$

Under shareholder democracy:

$$x^s = \frac{\tilde{\Gamma}^c + \delta\tilde{\Gamma}^s}{(1 + \delta)\phi}$$

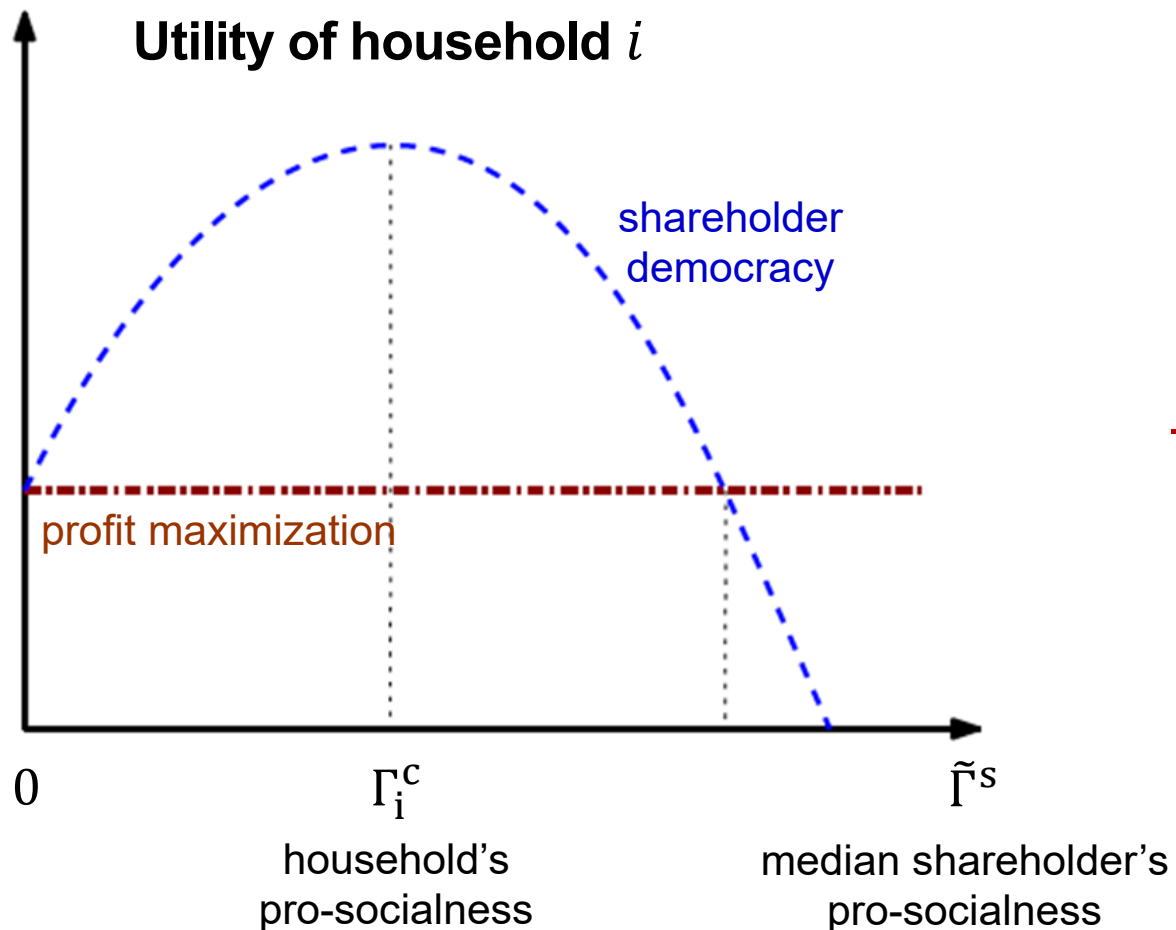
Without frictions ($\delta = 0$), shareholder democracy is fully undone by public policy response

- Governance mandate is **irrelevant**

With frictions ($\delta > 0$), shareholder democracy \neq profit maximization

- **Intuition:** pro-social preferences of shareholders & subsidy are **imperfect substitutes**
- Equilibrium X reflects preferences of median citizen & median shareholder

Costs and benefits of shareholder democracy

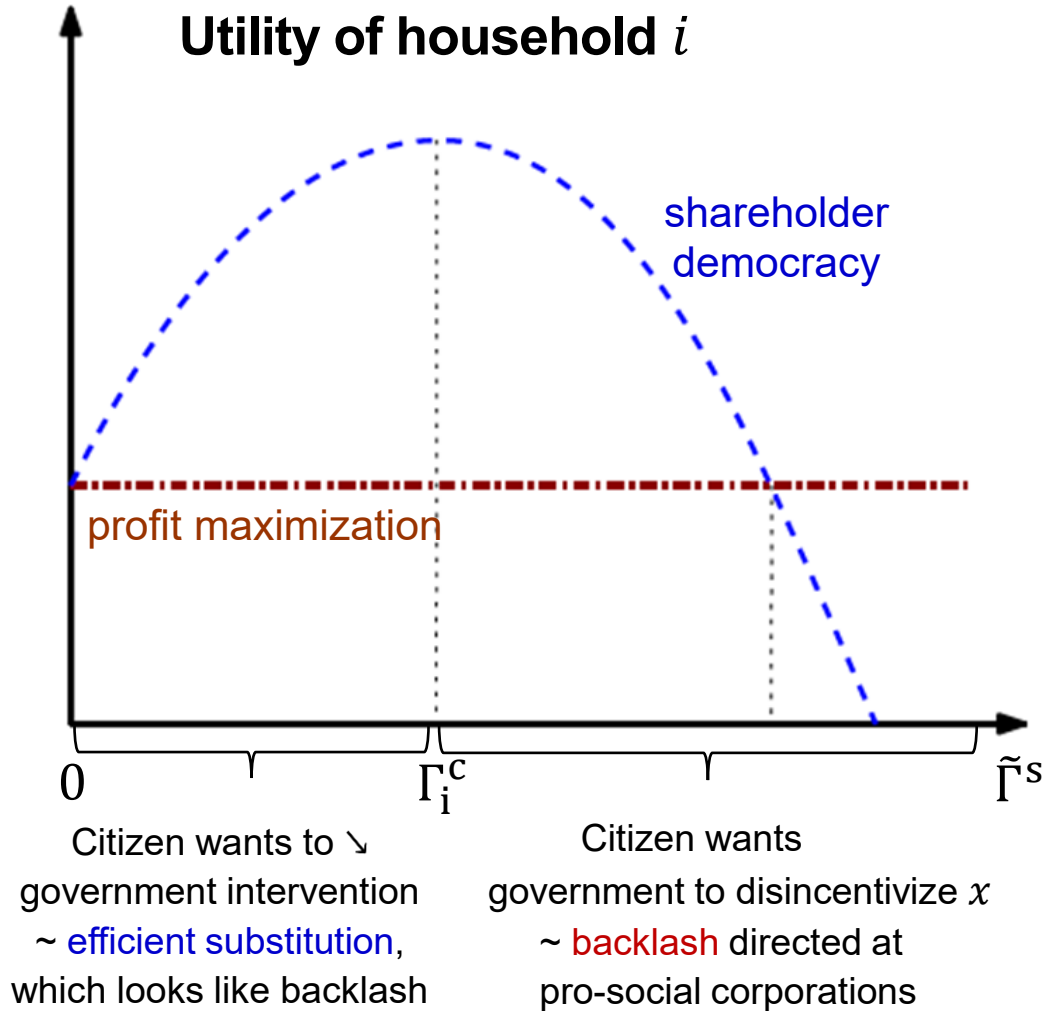


+ More public good with less deadweight loss

$$\tilde{\Gamma}^s \nearrow \Rightarrow \sigma^* \searrow \Rightarrow \text{deadweight loss} \searrow$$

- Pro-social shareholders “**fill the void**” of a dysfunctional regulatory system
- Too much public good if $\Gamma_i^c < MC(x)$
 - **Preference representation problem** if shareholders are too pro-social

Costs and benefits of shareholder democracy

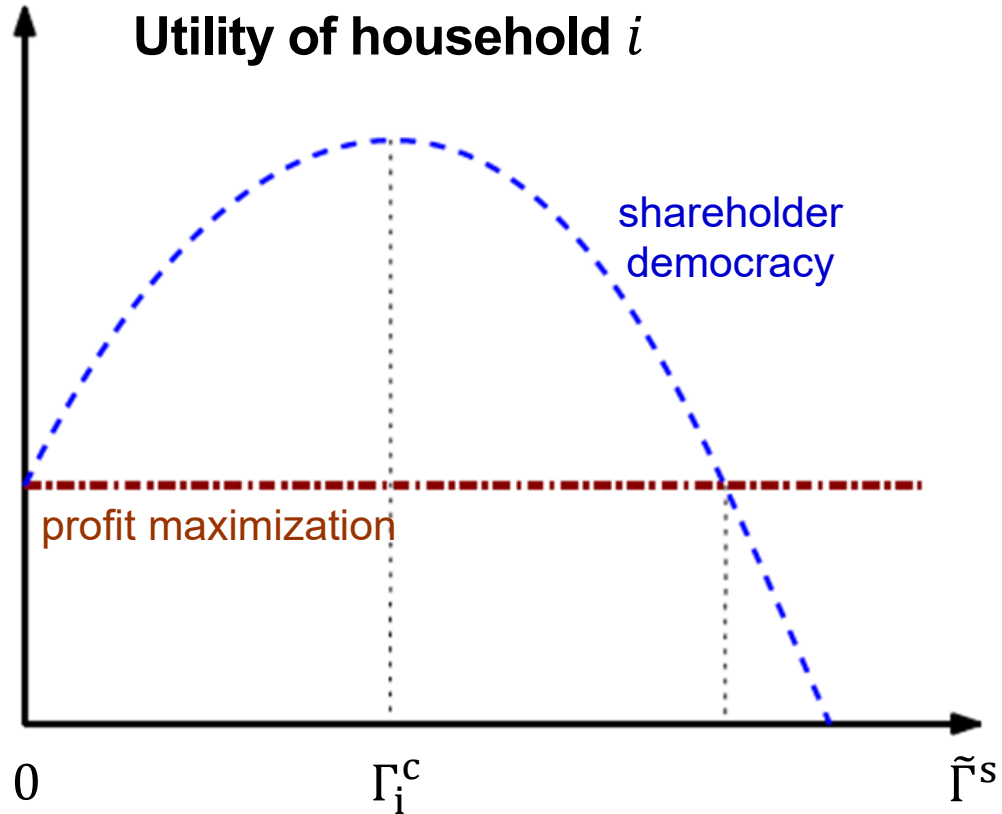


+ More public good with less deadweight loss

$$\tilde{\Gamma}^s \nearrow \Rightarrow \sigma^* \searrow \Rightarrow \text{deadweight loss} \searrow$$

- Pro-social shareholders “**fill the void**” of a dysfunctional regulatory system
- Too much public good if $\Gamma_i^c < MC(x)$
 - **Preference representation problem** if shareholders are too pro-social
 - Backlash increases deadweight losses

Costs and benefits of shareholder democracy



+ More public good with less deadweight loss

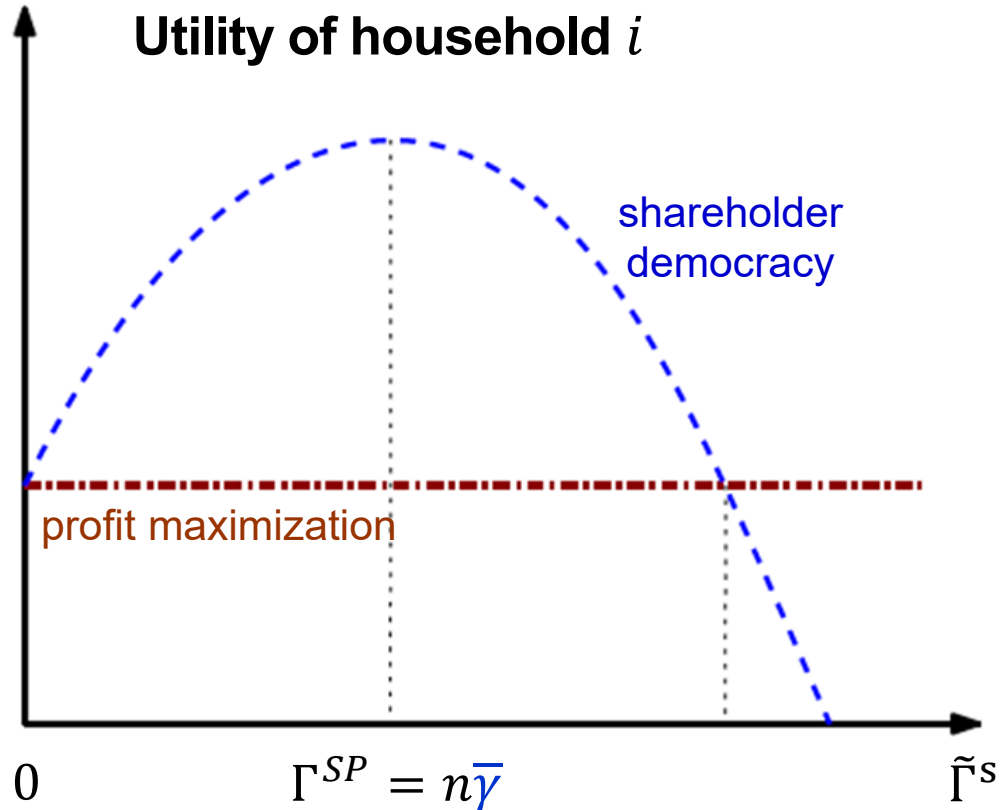
$$\tilde{\Gamma}^s \nearrow \Rightarrow \sigma^* \searrow \Rightarrow \text{deadweight loss} \searrow$$

- Pro-social shareholders “**fill the void**” of a dysfunctional regulatory system

– Too much public good if $\Gamma_i^c < MC(x)$

- **Preference representation problem** if shareholders are too pro-social
- **Extension** (\sim *greenwashed shareholders*): shareholders perceive **benefits** from y \Rightarrow stronger backlash \Rightarrow additional **costs**

Costs and benefits of shareholder democracy

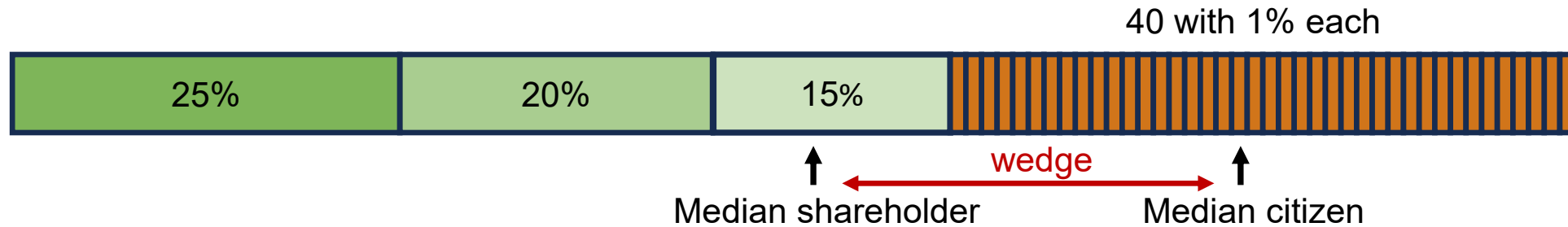


- Same trade-offs for **utilitarian welfare**
- Two inefficiencies under profit maximization
 - median citizen \neq average citizen
 - deadweight loss from subsidies

Implications

The role of wealth inequality

Wealth inequality \Rightarrow representation problem

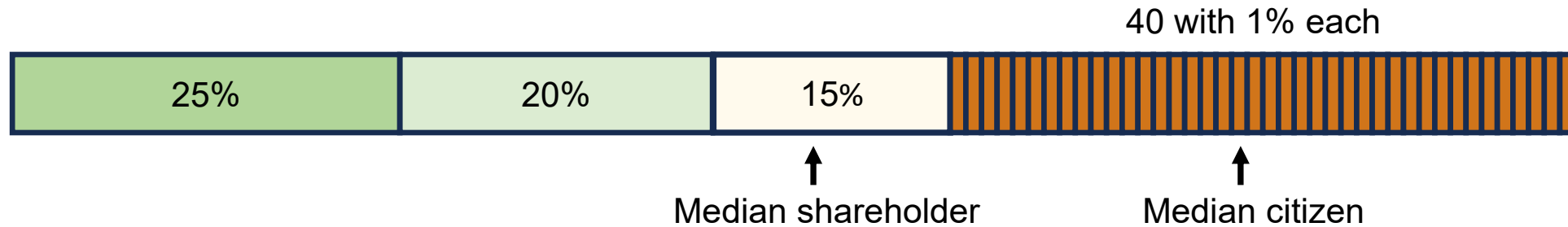


- **Problem** only if large gap in pro-social preferences (e.g., wealthy have high γ_i)
 - e.g., if ESG is a “luxury good”
 - ... or if wealthy less exposed to negative GE effects

$$\Gamma_i^s = \frac{\gamma_i}{\alpha_{ij}}$$

The role of wealth inequality

Wealth inequality \Rightarrow representation problem



- Problem only if large gap in pro-social preferences (e.g., wealthy have high γ_i)

- e.g., if ESG is a “luxury good”
- ... or if wealthy less exposed to negative GE effects

$$\Gamma_i^s = \frac{\gamma_i}{\alpha_{ij}}$$

- Counteracting effect of wealth inequality: larger stake \Rightarrow internalize costs more \Rightarrow lower pro-socialness

Investor sorting

Investors **sort** into firms if large enough **heterogeneity** in **warm glow** utility

Firms with **more pro-social investors** invest **more in public goods**

Redistributive taxation:

- “Green” firms get disproportionately more subsidies



⇒ ↗ **support for subsidies by green investors** + ↗ **backlash by brown firm holders**

- amplified political polarization
- support for subsidies looks like pro-socialness, but reflects financial incentives

As investor diversification increases...

- When **voting as shareholders**, households become **more pro-social**
 - smaller stakes \Rightarrow internalize less the costs in each firm
- When **voting as citizens** (on subsidies), households **do not** become more pro-social
 - internalize the costs for all firms in their portfolios

$$\Gamma_i^s = \frac{\gamma_i}{\alpha_{ij}}$$



- + More public good provision and less wasteful spending
- But can exacerbate representation problem & ESG backlash



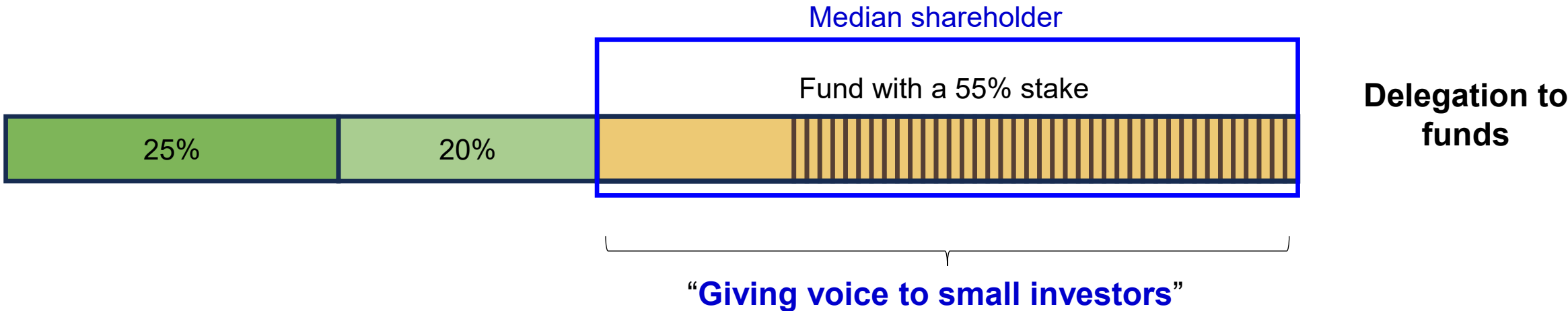
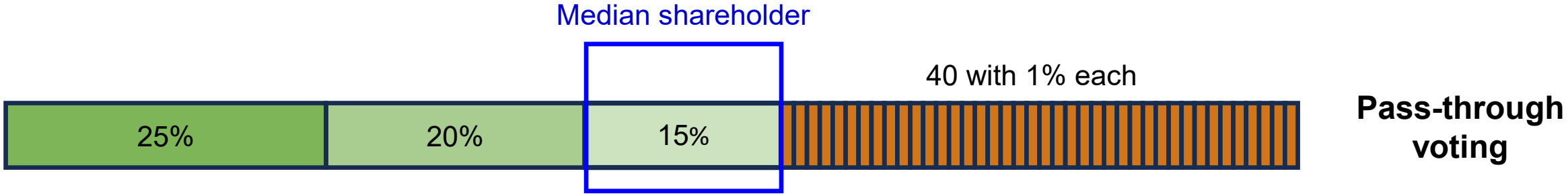
Delegation vs. Pass-through voting

- Baseline model = households vote directly
- In reality, votes typically delegated to fund managers
- Concern that funds do not represent investors \Rightarrow move to **pass-through voting**

Does pass-through voting reduce the representation problem?

- **Yes**, if fund managers put a **large weight** on their **own preferences**
- **Counteracting effect**: delegation to funds **increases small investors' power**

Delegation vs. Pass-through voting



Conclusion

- Interaction between **shareholder democracy** and **political democracy**
- Political system **responds** to corporate governance regime ~ ESG backlash
- Considering this political response is important to understand the implications of shareholder democracy