Political Preferences and Financial Market Equilibrium

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Financial markets "infected" by political preferences

- **Corporations:**
  - Members of executive teams of large US firms are increasingly affiliated with the same party (Fos, Kempf, Tsoutsoura, 2023);
  - 228 CEOs co-sign letter urging U.S. Senate to pass legislation against gun violence;
  - 180+ CEOs co-signed letter opposing restrictions of women's reproductive healthcare;
  - May 2024: 30 German firms start campaign against political extremism.
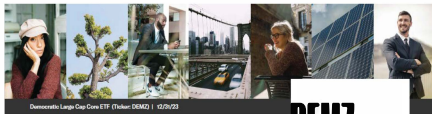- **Households:**
  - portfolio strategies significantly correlated with voting behavior (Pan et. al 24).
- **Asset management industry**:
  - increasing number of mutual funds, ETFs, hedge funds which follow partisan or value-based strategies (e.g. 1789 Capital, DEMZ ETF, MAGA ETF, etc.)

"Politically Responsible Investing"

Research Questions

- How do investors' political preferences affect their investment decisions and firm valuations?

- How are firms' political stances, market values, expected stock returns, and ownership allocations jointly determined in equilibrium?

- How does the equilibrium depend on the structure of financial markets and the rules governing the choice of corporate political stance?
  - Competitive market vs. existence of market power
  - Firm value maximization vs. preference matching

- How is firm value maximization related to welfare maximization when investors have conflicting political preferences?

Literature

- Increasing partisanship and polarization in Corporate America (Fos et al. (2023), Cassidy and Kempf (2022)); Clientele effect in investing (Hong and Kostovetsky (2012), Bonaparte et al. (2017), Mkrtchyan et al (2023), Pan et al (2024)).
    - We show **theoretically** how these phenomena can arise **endogenously**.

- Equilibrium effects of social preferences: Heinkel et al (2001), Pastor et al (2021), Pedersen et al (2021), Berk and van Binsbergen (2024), Dangl et al (2024a,b)...
    - We examine effects of **conflicting political preferences**.

- Political activities and shareholder value: Fisman (2001), Akey (2015), Borisov et al (2015), Brown and Huang (2020)...
    - We study **investor preference** channel instead of **cash flow** channel.

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Investors' portfolio decisions

- N all-equity firms with a vector of jointly normally distributed cash flows $\tilde{\mu}$ with a vector of means μ and a covariance matrix V.

- Two types of investors, L and R, with CARA utility and aggregate risk tolerance τ_L and τ_R.

- Each representative investor type j maximizes expected utility of consumption, $\tilde{C}_j$:

$$\max_{\alpha_j} E[U_j(\tilde{C}_j)] = E[-\tau_j \ e^{-\frac{\tilde{c}_j}{\tau_j}}].$$

where consumption is defined as $\tilde{C}_j = \tilde{w}_j + d_j$. I.e. consumption has two components:

- physical consumption equal to investor j's end-of-period wealth, $\tilde{w}_j = (\alpha_j^0 - \alpha_j) \ P + \alpha_j \tilde{\mu}$, where α_j^0 and α_j denote the vectors of j's share holdings before and after the trade at the beginning of the period, P is the vector of share prices and

- non-pecuniary consumption due to political preferences, d_j.

Investors' political preferences

- $\hat{\theta}_j =$ investor j's political preference: $\hat{\theta}_L = 0$; $\hat{\theta}_R = 1$.
- $\Theta_i =$ corporate political stance.
    - $\Theta_i = 0$: firm i perfectly aligned with type L.
    - $\Theta_i = 1$: firm i perfectly aligned with type R.
- Non-pecuniary payoffs: linear, symmetric, and dependent on investors' shareholdings (Bonnefon et al. (2022)):

$$d_{j,i} = \alpha_{j,i}\Pi_{j,i}\delta(\frac{1}{2} - |\Theta_i - \hat{\theta}_j|),$$

- $\Pi_{j,i} =$ preference intensity of type j wrt firm i,
- $\delta =$ distance between $\hat{\theta}_L$ and $\hat{\theta}_R$.
- Perceived externality from a politically neutral firm is zero.

- Since no firm has an incentive to choose $\Theta_i < 0$ or $\Theta_i > 1$

$$d_{L,i} = \alpha_{L,i}\Pi_{L,i}\delta(\frac{1}{2} - \Theta_i),$$

$$d_{R,i} = \alpha_{R,i}\Pi_{R,i}\delta(\Theta_i - \frac{1}{2}).$$

Political preferences: Illustration

$$d_{j,i} = \alpha_{j,i}\Pi_{j,i}\delta(\tfrac{1}{2} - |\Theta_i - \hat{\theta}_j|) : \delta = 1, \alpha_{j,i} = \tfrac{1}{2}, \Pi_{L,i} = 10, \Pi_{R,i} = 20$$
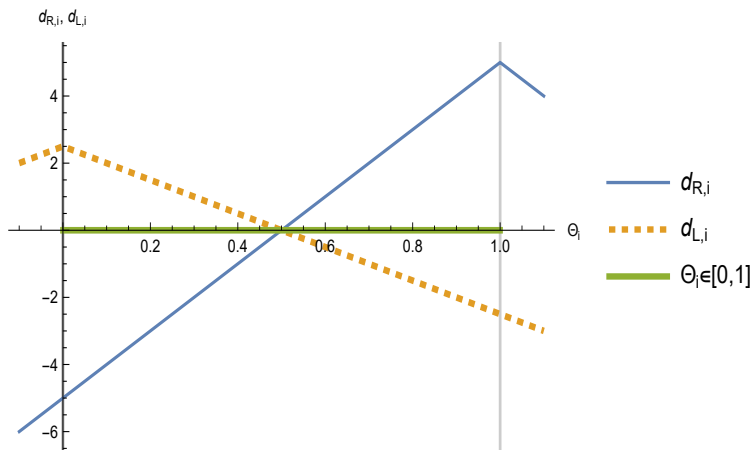
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Competitive Equilibrium for given Corporate Political Stance

- Both types of investors maximize their expected utilities, taking share prices and corporate political stances as given:

$$\max_{\alpha_j} E[U_j(\tilde{C}_j)] = E[-\tau_j \, e^{-\frac{\alpha_j \tilde{\mu} + d_j}{\tau_j}}].$$

.

Notation:

- $\lambda_j = \frac{\tau_j}{\tau_R + \tau_L} =$ optimal risk-sharing weight for $j \in \{R, L\}$,
- $\gamma =$ aggregate risk aversion: $\gamma \equiv \frac{1}{\tau_R} + \frac{1}{\tau_L} = \frac{\tau_R + \tau_L}{\tau_R \tau_L}$,
- $\Pi =$ vector of aggregate political preference intensities:

$$\Pi \equiv \Pi_R + \Pi_L. \tag{1}$$

Equilibrium features: price premium or discount

- Prices can be higher or lower than in an equilibrium without political preferences.
- ΔP=vector of price differences to equilibrium without political preferences. For $\delta = 1$, each element is given by :

$$\Delta P_i = (\lambda_R \Pi_{R,i} - \lambda_L \Pi_{L,i})(\Theta_i - \frac{1}{2}).$$
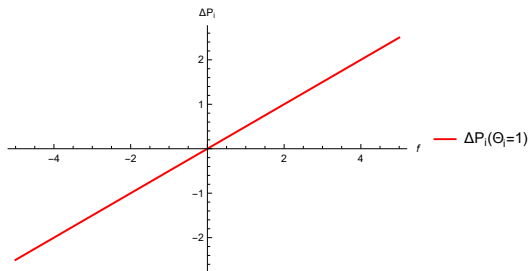
x-axis: $f \equiv \lambda_R \Pi_{R,i} - \lambda_L \Pi_{L,i}$

- Expected stock returns higher or lower for non-neutral firms than for comparable politically neutral firms.

Equilibrium features: clientele effect

- $\Delta\alpha_R$ = vector of deviations from optimal risk sharing weights λ_R.
- Investors give more weight to firms with political stances closer to their own:

$$\frac{\partial \Delta\alpha_{R,i}}{\partial \Theta_i} > 0, \tag{2}$$

- Clientele effect increases in **aggregate** political preference intensity and degree of polarization and decreases in **aggregate** risk aversion

$$\frac{\partial^2 \Delta\alpha_{R,i}}{\partial \Theta_i \partial \Pi_i} > 0, \frac{\partial^2 \Delta\alpha_{R,i}}{\partial \Theta_i \partial \delta} > 0, \frac{\partial^2 \Delta\alpha_{R,i}}{\partial \Theta_i \partial \gamma} < 0, \tag{3}$$

  - Tension between **risk sharing** and **political preferences**.
  - Suppose R overweights stock i. As L's political preferences become stronger, R's overweight **increases**, since Π_i increases!

Effects of correlations for given political stances
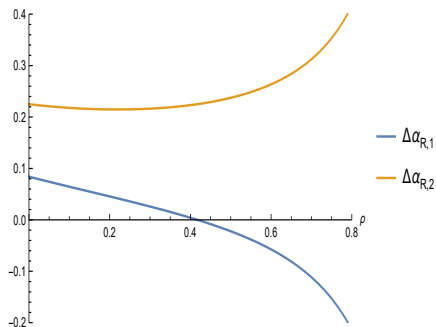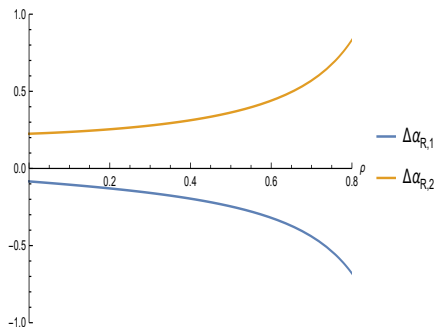
Figure: Two firms: $\Theta_1 = 0$, $\Theta_2 = 1$

Figure: Two firms: $\Theta_1 = \Theta_2 = 1$

- Opposite political stance: correlation makes clientele effect more extreme.
- Same political stance: sufficiently high correlation leads to a breakdown of the clientele effect in one firm.

$\tau_L=30$, $\tau_R=50$, $\Pi_{L,1}=2$, $\Pi_{L,2}=5$, $\Pi_{R,1}=5$, $\Pi_{R,2}=10$, $V_1=500$, $V_2=400$, $\delta=1$, $\mu_1=100$, $\mu_2=90$.

Competitive Equilibrium with Value-maximizing firms

- As before, both types of investors maximize their expected utilities, conjecturing given prices and corporate political stances:

$$\max_{\alpha_j} E[U_j(\tilde{C}_j)] = E[-\tau_j \ e^{-\frac{\alpha_j \tilde{\mu} + d_j}{\tau_j}}].$$

.

- Now: firms choose political stance to maximize value, conjecturing shareholder ownership structure

$$\max_{\Theta_i} P(\Theta_i, \Theta_{-i}, \alpha_L, \alpha_R) \quad \forall i$$

where Θ_{-i} is the conjectured political stance of all other firms, i.e. excluding i.

- In equilibrium, all conjectures are confirmed.

Corporate partisanship: intuition and empirical implication

- **Catering effect:** Value maximizing firms cater to the clientele with higher **risk tolerance-weighted preference intensity** $\lambda_j \Pi_{ji}$.
- When political stance is chosen by value-maximizing firms, **partisan firms always have lower expected returns, ceteris paribus:**

Figure: Value maximizing firms and price premium of partisan firms
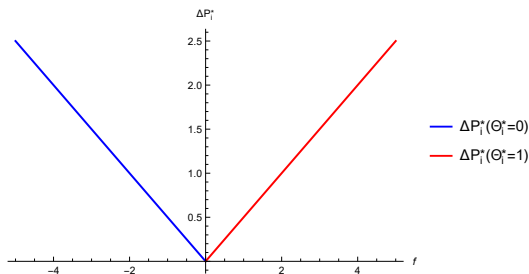
x-axis: $f \equiv \lambda_R \Pi_{R,i} - \lambda_L \Pi_{L,i}$

Competitive Equilibrium and Social Welfare

- Aggregate utility of investors:

$$
\begin{aligned}
U &= U_R + U_L \qquad\qquad\qquad\qquad\qquad\qquad (7)\\
&= e'\mu - \frac{1}{2\tau_R}\alpha_R' V \alpha_R - \frac{1}{2\tau_L}(e-\alpha_R)' V(e-\alpha_R)\\
&\quad + \alpha_R'[\delta\Pi_R \circ (\Theta - \frac{1}{2}e)] + (e-\alpha_R)'[\delta\Pi_L \circ (\frac{1}{2}e - \Theta)].
\end{aligned}
$$

Proposition

- *The competitive equilibrium achieves utilitarian first best if cash flows are uncorrelated across firms and $\lambda_R \Pi_{R,i} \neq \lambda_L \Pi_{L,i} \, \forall i$.*

- *If cash flows are correlated, the competitive equilibrium does not necessarily achieve utilitarian welfare optimum.*

Correlation and welfare: Example with 2 firms
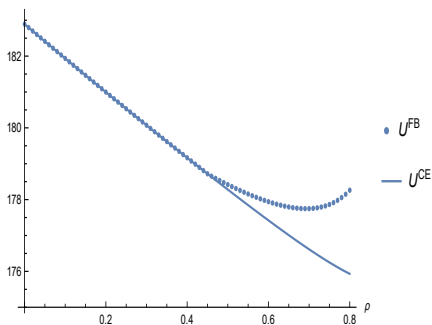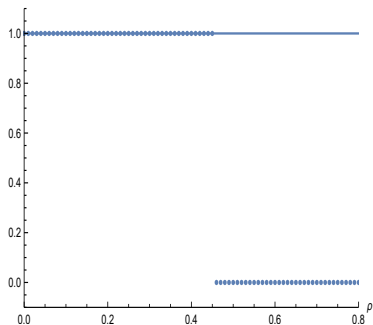
- Value maximization: both firms choose stance $\Theta_i = 1$, since risk-tolerance-weighted preference of type R dominates.

- Social planner: realizes that for high correlations, L investors hold a large fraction of shares in firm 1 and therefore chooses stance $\Theta_1 = 0$.

- High correlations: value-maximization does not lead to utilitarian first-best.

$\tau_L=30,\ \tau_R=50,\ \Pi_{L,1}=2,\ \Pi_{L,2}=5,\ \Pi_{R,1}=5,\ \Pi_{R,2}=10,\ V_1=500,\ V_2=400,\ \delta=1,\ \mu_1=100,\ \mu_2=90.$

Extensions: Cash Flow Effects of Partisanship

- A corporate political stance may involve donations to political campaigns etc.; it may affect consumers' decisions; it may affect workers' satisfaction etc.

- In this case expected cash flows are:

$$\hat{\mu}_i(\Theta_i) = \mu_i - k_i^L 1_{\Theta_i < \frac{1}{2}} - k_i^R 1_{\Theta_i > \frac{1}{2}}, \tag{8}$$

Proposition

If $k_i^R + k_i^L \geq 0$, then in the competitive equilibrium with value-maximizing firms, political stance of any firm i is:

$$\Theta_i^* = \begin{cases} 1 & \text{if } \lambda_R \Pi_{R,i} - \lambda_L \Pi_{L,i} > \frac{2}{\delta} k_i^R, \\ \frac{1}{2} & \text{if } \lambda_R \Pi_{R,i} - \lambda_L \Pi_{L,i} \in [-\frac{2}{\delta} k_i^L, \frac{2}{\delta} k_i^R], \\ 0 & \text{if } \lambda_R \Pi_{R,i} - \lambda_L \Pi_{L,i} < -\frac{2}{\delta} k_i^L. \end{cases} \tag{9}$$

Cash Flow Effects of Partisanship ctd

- Note: firms may choose a polarized political stance, even if this is financially costly.

  Maximizing PV(cash flows)$\neq$ Maximizing share price

- If non-pecuniary effects are aligned with cash flow effects, CEO has strong incentive to align corporate political stance with that of stakeholders ("stakeholder alignment theory" – e.g. Hambrick and Wowak (2021)).

- Financial costs of partisanship reduces the fraction of firms taking polarized stances, and **amplifies** the expected return gap between polarized firms and neutral firms.

Price premium when partisanship is costly
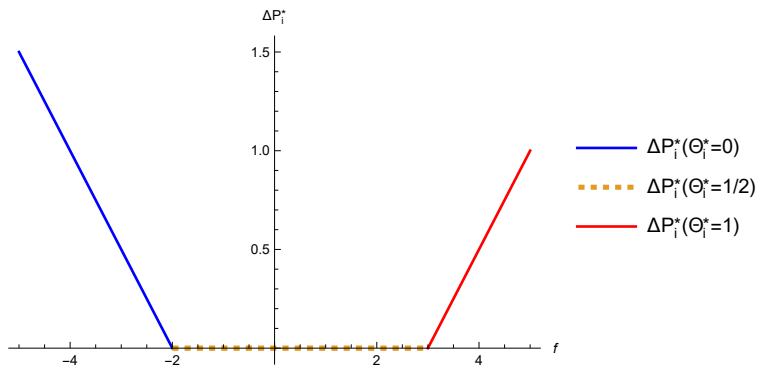
(a) Cash flow-decreasing Θ_i^*

x-axis: $f \equiv \lambda_R \Pi_{R,i} - \lambda_L \Pi_{L,i}$

Extensions: Centrist Investors

- Centrist investors perceive negative payoffs from firms' deviation from neutrality.

- Their existence
    - reduces the fraction of firms taking polarized stances and
    - **reduces** expected return gap between partisan firms and neutral firms by reducing price premium.

- If centrist investors become apolitical (preference intensity goes to zero), small groups of investors with political preference can change corporate behavior

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Equilibrium with a strategic investor

- One type (R) is a large, strategic investor, the other type (L) remains atomistic.

- Three cases:
  - The large shareholder is politically non-strategic.
  - The large shareholder is politically strategic.
  - A politically strategic investor under a preference-matching rule.

Results

- R **is politically non-strategic:**
  - R trades less aggressively in response to changes in a firm's political stance (i.e. lower price impact).
  - value-maximizing manager gives less weight to R's preference.
- R **is politically strategic:**
  - R can threaten to divest if $\Theta_i = 0$ and commit to acquire a sufficiently large stake if $\Theta_i = 1$.
  - R can thereby induce $\Theta_i = 1$ even when this leads to substantial utility losses for L.
- **Preference matching rule** $\Theta = \alpha_R$:
  - Prevents managers from ignoring (minority) shareholders' preferences.
  - Desire to influence Θ_i induces R to hold more shares $\rightarrow$ higher stock price.
  - Can be welfare-improving compared to value-maximization.

Agenda

1. Introduction
2. The Model
3. Equilibrium with competitive investors
4. Equilibrium with a strategic investor
5. **Conclusion**

Conclusion (1)

- Corporate partisanship and polarization arise endogenously when value-maximizing firms choose political stances and investors have heterogeneous political preferences.
- Clientele effects:
  - Zero correlation: an investor overweights a firm if and only if it caters to their political preferences.
  - Correlation: this does not hold.
- Value maximizing firms always cater to shareholders with larger risk-tolerance-weighted political preferences – even when this shareholder group only holds a small fraction of the firm $\to$ may not be socially first-best.

Conclusion (2)

- In a competitive equilibrium, partisan firms always have lower expected returns than those that are politically neutral.
- Large shareholders' strategies to influence corporate political stances hurt small investors.
- Since value maximizing political stances do not always maximize social welfare, there is a role for alternative governance mechanisms.

Extra Slides: Difference between political vs ESG preferences

- Ceteris paribus, better ESG performance always goes with higher firm values whereas non-neutral political stance may be associated with higher or lower firm value.

- Stronger ESG preferences push all firms to become greener whereas stronger political preferences of opposite investor groups push more firms to take a polarized stance.

- Pro-ESG investors can affect welfare of non-ESG investors only via impact on stock prices and cash flows whereas investors with opposite political preferences can impose welfare losses on each other directly by affecting corporate political stance.

Extra Slides: Comparison of equilibria

Four Equilibria

- Competitive equilibrium with value-maximizing firms (CE)

- Non-Competitive equilibrium with a politically passive large investor (NE1)

- Non-Competitive equilibrium with a politically active large investor (NE2)

- Non-Competitive equilibrium with a politically active large investor under the preference-matching rule (NE3)

- Consider a firm with a cash flow uncorrelated with those of other firms
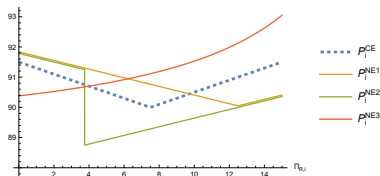
Figure: **Corporate political stance, R's ownership share, stock price as functions of R's preference intensity**
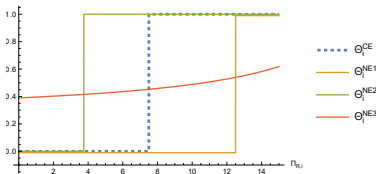
(a) Θ_i as a function of $\Pi_{R,i}$
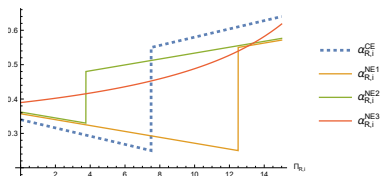

(b) $\alpha_{R,i}$ as function of $\Pi_{R,i}$

(c) Stock price as a function of $\Pi_{R,i}$

$\tau_R = 20; \tau_L = 30; \delta = 1; \Pi_{R,i} = 10; \Pi_{L,i} = 5; \alpha_{R,i}^0 = 0.4; c = 1.5$

Observations

- **Catering**: $\Theta_i = 0 (= 1)$ when $\Pi_{R,i}$ is small (large).
  - As R's political preference increases, value-maximizing Θ_i switches from 0 to 1 first in NE2, then in CE, then in NE1 (politically passive R delays the switch, while politically active R expedites it).
- **Clientele effect** under value maximization: $\alpha_{R,i}$ first $\downarrow$ and then $\uparrow$ as $\Pi_{R,i} \uparrow$.
  - As R's political preference increases, $\alpha_{R,i}$ jumps upward first in NE2, then in CE, then in NE1.
- There is a kink in stock price when θ_i switches in CE and NE1 but no discrete jump: because the switch is optimized by the firm.
  - Price is the lowest at the switching point.
- Price drops discretely in NE2 when R starts to engage in influence activity: deadweight losss, loss in risk-sharing efficiency
- Under the **preference-matching** rule, Θ_i, $\alpha_{R,i}$ and stock price all increases smoothly as R's preference intensity increases.
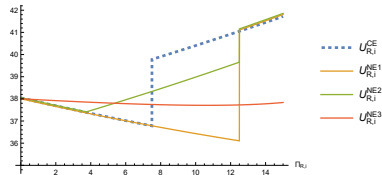
Figure: **Equilibrium welfare**
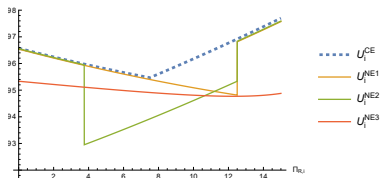
(a) Aggregate welfare and $\Pi_{R,i}$
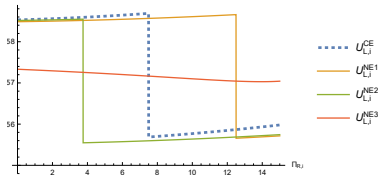
(b) L's welfare and $\Pi_{R,i}$

(c) R's welfare and $\Pi_{R,i}$

Observations

- Competitive equilibrium (weakly) welfare-dominates all other equilibria.
- Aggregate welfare is higher under value-maximizing corporate political stance except when the politically active large investor engages in influence activity.
- Aggregate welfare is relatively insensitive to $\Pi_{R,i}$ under preference-matching rule.
- L's welfare jumps downward whenever Θ_i switches from 0 to 1.
- R's welfare jumps upward in CE and NE1 when Θ_i switches from 0 to 1, but remains unchanged at the switching point in NE2 (value-matching condition for optimal switching point, net loss in aggregate welfare).

A Politically Passive Large Investor: Intuition

- Key difference: Value-maximizing firms are less likely to cater to a politically passive investor than to a similar group of small investors

  - $\Theta_i^* = 1$ if $\lambda_R > \frac{\Pi_{L,i}}{\Pi_{R,i}}$ instead of $\frac{\lambda_R}{\lambda_L} > \frac{\Pi_{L,i}}{\Pi_{R,i}}$.

- Intuition: the large investor's concern for price impact makes his demand less sensitive to corporate political stance than the demand of atomistic investors

  - $\Rightarrow$ Value-maximizing manager gives a lower weight to $R's$ preference

- A politically active large investor can change this by strategically increasing the sensitivity of his demand to corporate political stance

  - How? Divesting threat: Commit to invest a large amount if $\Theta_i = 1$ and to divest if $\theta_i = 0$. Cost of commitment $= c$

A Politically Active Large Investor

If cash flows are uncorrelated across firms, then:

- If $\lambda_R > \frac{\Pi_{L,i}}{\Pi_{R,i}}$, the large shareholder does not engage in influence activity, but the manager still caters to his preference ($\Theta_i^* = 1$).

- If $\lambda_R < \frac{\Pi_{L,i}}{\Pi_{R,i}}$, and c is sufficiently small, the large shareholder engages in influence activity and induces $\Theta_i^* = 1$.
  - Welfare loss: disutility of small investors, deadweight cost of commitment, suboptimal risk sharing.

A Large Investor Under the Preference-Matching Rule

- Rule: Corporate political stance must reflect the ownership-weighted average of shareholder political preferences

$$\Theta = \alpha_R. \tag{10}$$

- Can potentially be implemented via information from advisory shareholder votes.

- Benefits
  - Tie the hands of managers so that they are not influenced by the divesting threat of a large shareholder.
  - Prevent managers from ignoring preferences of minority shareholders

- Main results:
  - The desire to influence Θ_i leads the large investor to own more shares $\rightarrow$ higher stock prices
  - Can be welfare-improving relative to the value-maximization rule