


Controlling Externalities: Ownership Structure and Cross- Firm Externalities



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Overview

- Growing emphasis on the social purpose and responsibility of corporations, motivated in part by concerns over externalities and the sense that regulation and liability are not working well enough.
- Look to other approaches - index funds (IF) as universal owners who may encourage firms to take account of externalities. But...
 - In addition to concerns about IFs' incentives, most firms across the world (and many in the US) are *controlled* as are most firms associated with larger externalities. Can IFs be influential here? Evidence suggests not.
- We then develop a more general framework for understanding how ownership structure and corporate law affect the internalization of externalities. We start with the controllers' pecuniary incentives.
 - Introduce controller's wealth concentration (CWC) – if low CWC then perhaps controllers might diversify and could be effective at policing some externalities.
 - Dual class and controlling minority structures might facilitate this.
 - But...evidence suggests that few controllers have low CWC (even when their firms have dual class) and the likely reasons for this make us doubtful that reforms would improve the situation. Hard to avoid better regulation and liability.
- Some Interesting Additional Implications
 - Research on controllers focuses on effects on *value of controlled firm*, but our analysis looks more broadly – effects *beyond* just the controlled firm.
 - Look more at ownership structure and impact on externalities – SOEs, Conglomerates, Fund Families, etc... .

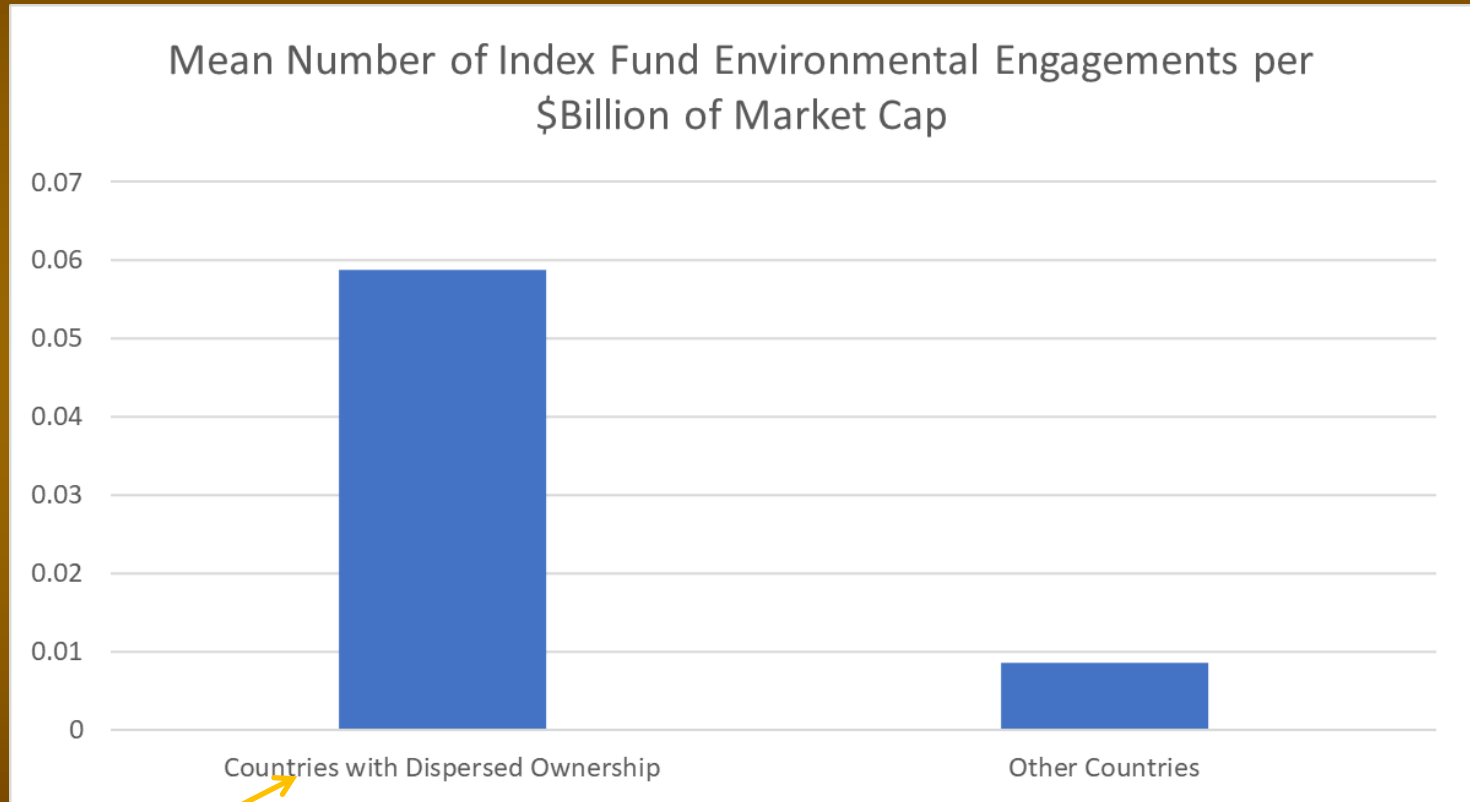
Controlling Externalities

- Standard approach to externalities is to use Pigouvian taxes, liability regimes, regulation, et al.
 - But... a sense that these are not being used sufficiently to internalize externalities (due, in part, to political dynamics among other reasons). This also leads some to argue that we should look at other supplements to regulation and liability.
- Other ways to encourage firms to take externalities into account.
 - Index funds as “universal owners” might police for some cross-firm externalities (see, e.g., Coffee 2020; Condon 2021; Gordon 2021).
 - But see Bebchuk, et al (2017) and others for countervailing concerns about relying on index funds.
- But...much of this literature focuses on the US (and diffusely held firms). Yet, controlled firms are much more common globally and many key firms in the externalities debate (both in the US and elsewhere) are thought to be controlled.
- Could index funds police externalities associated with such controlled firms? And if not, then what other ways might one explore to encourage firms to take into account externalities?

Controlled Firms and Index Funds

- Empirical evidence emerging on index fund engagements over the years.
- Azar, et al (JFE 2021):
 - Collect data on index funds' environmental engagements.
 - We use country-level data from them (we are updating with firm-level data).
- Aminadav and Papaioannou (JF 2020):
 - Comprehensive data on ownership structures by country.
 - We identify countries with the greatest prevalence of listed firms with dispersed ownership.
- Index funds' environmental engagements are highly concentrated among firms in these countries (controlling for many relevant factors), suggestive of little impact of Index fund engagement in controlled firms.
- Caveat: cannot observe "behind-the-scenes" meetings...₄

Index Funds' Environmental Engagements



Australia, Canada, Ireland, New Zealand, Taiwan, the UK and the US

Regression

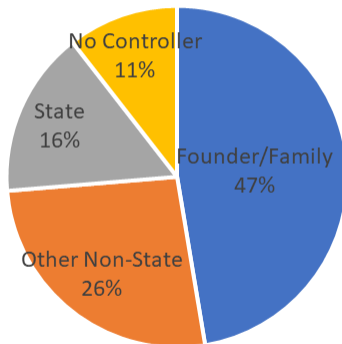
	Linear Model		Poisson Model	
	Dependent Variable: Log of (1 + Number of Engagements)		Dependent Variable: Number of Engagements	
Indicator = 1 for Dispersed Ownership Structure	1.81138*** (0.479)	2.09410*** (0.420)	2.01003*** (0.516)	
Free Float (%)				0.09989*** (0.020)
(Log of) Stock Market Cap	0.45892*** (0.060)	0.15709 (0.122)	0.00006** (0.00002)	0.00007*** (0.00002)
(Log of) Number of Listed Firms		0.30338** (0.124)	0.00117*** (0.0002)	0.00051*** (0.0002)
(Log of) GDP per capita		0.60876** (0.293)	0.00003*** (0.000009)	-0.00001 (0.00002)
(Log of) Population		0.11356 (0.214)	-0.00226*** (0.001)	-0.00068 (0.001)
(Log of) CO ₂ Emissions		0.12472 (0.132)	0.00019* (0.0001)	0.00016 (0.0001)
(Log of) Genetic Distance from the US		0.07765 (0.060)	0.00085** (0.0004)	0.00011 (0.001)
Continent Fixed Effects?	N	Y	Y	Y
Constant	-1.15367*** (0.246)	-7.73421*** (2.825)	-1.35517* (0.773)	-5.16941*** (1.342)
Observations	78	76	76	53
R ² or Pseudo-R ²	0.697	0.794	0.915	0.935

Robust to
inclusion of
various controls

... and to the
use of "free
float" measure

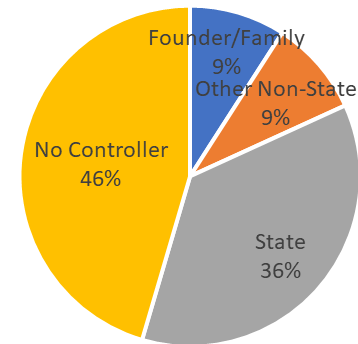
But Controlled Firms are Important Globally and to Externalities

Ownership Structure of the 25 Largest Automobile Manufacturers



■ Founder/Family ■ Other Non-State ■ State ■ No Controller

Ownership Structure of the 25 Largest Energy Firms



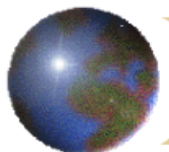
■ Founder/Family ■ Other Non-State ■ State ■ No Controller

Controlling shareholders are common among the largest firms in these sectors, plus virtually all of top 25 tech firms are controlled.

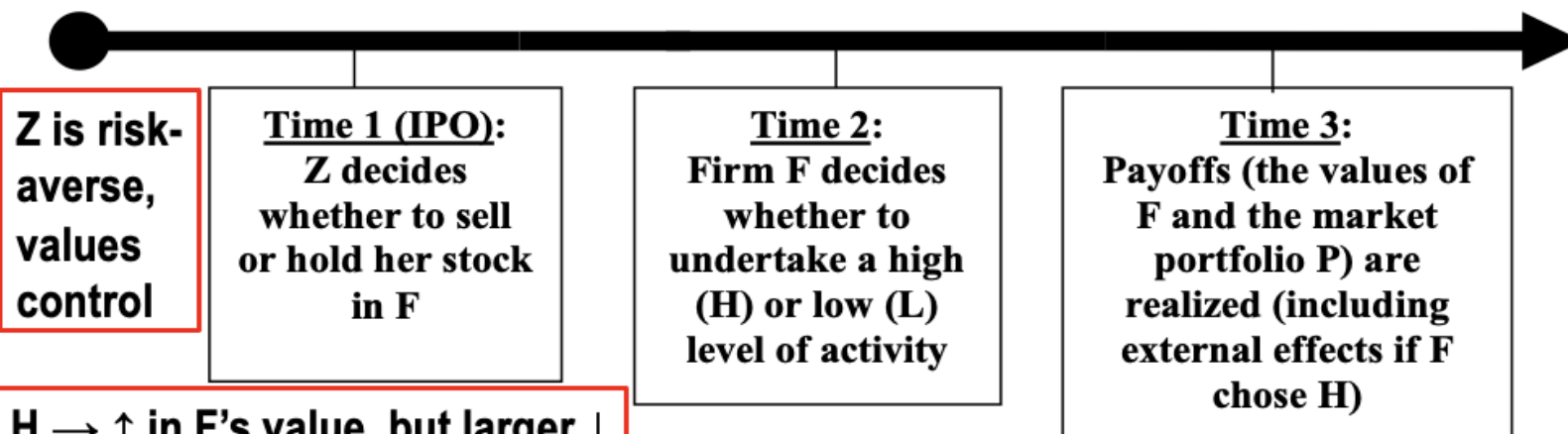
Pecuniary Incentives of Controllers with respect to Cross-Firm Externalities

■ Controller Wealth Concentration (CWC):

- Ratio/percentage of controller's holdings in firm compared to controller's total personal wealth.
 - High CWC means controller's interests in firm represent most of controller's personal wealth. Here controller's pecuniary incentives do not encourage taking cross-firm externalities into account.
 - Low CWC means controller's interest in firm does not represent most of controller's personal wealth. Here possibility controller might diversify and then has pecuniary incentives to take into account cross-firm externalities.
 - Low CWC is a necessary – though not sufficient – condition for controller diversification.
 - Controllers well placed to influence controlled firm (cf. Index funds, managers)
- Note this is a shift in focus:
 - Most corporate governance scholarship focuses on controller's interests and impact on the controlled firm and its value (e.g., private benefits, idiosyncratic value).
 - Here we focus on the impact of controllers on matters beyond controlled firm's value. We are looking at impact on cross-firm externalities.



Controller Diversification and Dual-Class Stock



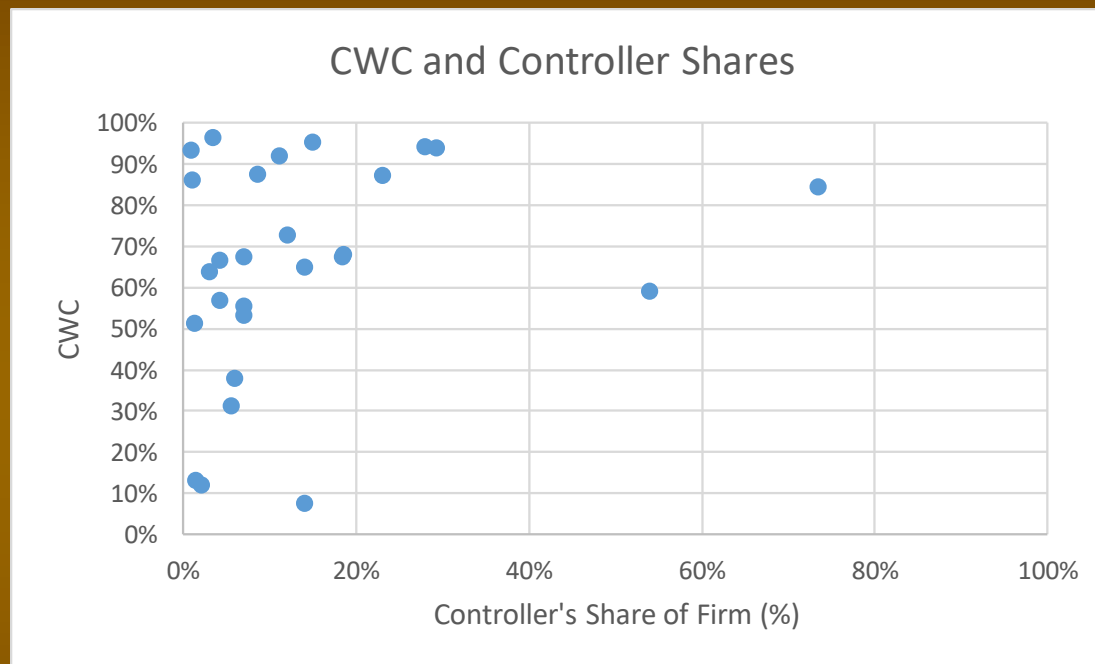
H → ↑ in F's value, but larger ↓ in value of diversified portfolio

		Firm F's Choice	
		High Activity (H)	Low Activity (L)
Contingency	1 (prob $\frac{1}{2}$)	12, 998	10, 1000
	2 (prob $\frac{1}{2}$)	0, 998	0, 1000

OSOY: Z will typically choose to retain ownership and control, and choose H (inefficiently imposing external harm on all other firms)

Dual-class: Z will retain control but may sell her common stock; choose L, which is efficient from a social perspective

Do Controllers Have Low CWC and Diversify Their Holdings? Casual Sample



Controllers' shares of controlled firms are generally fairly low (suggesting the use of Controlling Minority Structures such as dual class), but CWC is nonetheless generally high.

A necessary condition for controller diversification is thus not typically satisfied.

Do Controllers Have Low CWC and Diversify Their Holdings? Casual Sample, II

Company	Founder/ Controller	Controller's % Share of Company (z_f)	Controller's Company Wealth ($z_f V_f$)	Controller's Personal Wealth (W_z)	CWC ($\frac{z_f V_f}{W_z}$)
Alphabet	Larry Page	7%	\$35.5	\$66.5	53%
	Sergey Brin	7%	\$35.5	\$64.1	55%
Amazon	Jeff Bezos	11.1%	\$131.68	\$143	92%
Atlassian	Scott Farquhar	23%	\$8.65	\$9.9	87%
Dell	Michael Dell	54%	\$19	\$32.1	59%
Facebook	Mark Zuckerberg	29.3%	\$68	\$72.3	94%
Foxconn	Terry Gou	12%	\$4.5	\$6.2	73%
Intuit	Scott Cook	3%	\$2.3	\$3.6	64%
Lenovo	Yang Yuan Qing	5.96%	\$0.47	\$1.25	38%
LG	Koo Gwang-Mo	15%	\$1.53	\$1.6	95%
Microsoft	Bill Gates	1.4%	\$14.46	\$110	13%
Netflix	Reed Hastings	1.3%	\$2.35	\$4.6	51%
NVIDIA	Jensen Huang	3.43%	\$5.8	\$5.59	96%
Oracle	Larry Ellison	28%	\$64.4	\$68.4	94%
Qualcomm	Irwin Jacobs	1%	\$1.03	\$1.2	86%
Salesforce.com	Marc Benioff	4.14%	\$4.33	\$6.5	67%
Samsung Electronics	Lee Kun Hee	4.18%	\$11.74	\$20.6	57%
SK Holdings	Chey Tae-won	18.4%	\$2.57	\$3.8	68%
Snap	Evan Spiegel	5.59%	\$1.16	\$3.7	31%
Tata Consultancy Services	Ratan Tata	0.83%	\$0.93	\$1	93%
Tencent	Ma Huateng	8.53%	\$39.13	\$44.7	88%
Tesla	Elon Musk	18.5%	\$27.3	\$40.1	68%
Twitter	Jack Dorsey	2.05%	\$0.5	\$4.2	12%
VMware	Michael Dell	14%	\$2.42	\$32.1	8%
Xiaomi	Lei Jun	73.4%	\$9.89	\$11.7	85%

Why Don't Controllers Diversify More?

- Given that Controlling Minority Structures (e.g., dual class) could facilitate controller diversification (and hence some degree of internalization) what stops controllers from diversifying and reducing risk?
 - Optimism Bias
 - Higher Private Benefits of Control
 - Incentivize Controller Effort
 - Deferring Capital Gains Taxes

Restrictions from Corporate Law?

- Would corporate law realistically constrain a diversified controller who wished to internalize externalities?
- Overall, some uncertainty, but seems unlikely that corporate law would be a practical constraint.
 - Can characterize choice internalizing some cross-firm externalities as being in firm's "long-term" interest.
 - Coincidence of interests with diversified minority shareholders.
 - Delaware – controllers fiduciary duties in conflicted situations.
 - Non-US jurisdictions – generally weaker fiduciary duties, but oppression-type claims.

Some Interesting Additional Implications

- Reforms to encourage low CWC and controller diversification?
 - Minimum float requirements, higher taxes on controller's equity returns from controlled firms, changing deferred capital gains taxes...but, not clear these will change controllers' CWC and diversification much.
- Broader research questions?
 - Much current research on *controllers* focuses on effects on value of controlled firm, but our analysis runs toward effects *beyond* the controlled firm (e.g., externalities).
 - More generally explore ownership structure and externalities – SOEs, Conglomerates, Fund families,... Could have intriguing insights on regulating *externalities* (see, e.g., Khanna, 2022).

Conclusions

- Concerns with perceived weaknesses of internalizing externalities via liability and regulation leads to search for other ways.
- Push to look at universal owners, but evidence and theory suggest index funds not well suited to this task given how ubiquitous and important controlled firms are globally (and increasingly in US) with respect to externalities.
- However, perhaps controlling shareholders could do this more. Further, CMS can facilitate lower CWC, but generally do not see it in the US. Explore reasons and implications.
 - Reforms? Minimum float requirements, higher taxes on controller's equity returns from controlled firms, changing deferred cap. gains taxes...but, doubtful these will change controllers' diversification much.
- Ownership structure and internalizing externalities
 - Shift of focus from ownership structure mattering to individual firm value to it being relevant to other matters such as internalizing externalities.
 - Compare to SOEs, Conglomerate/Business Groups, Families of Funds.