

# “Do Diverse Directors Influence DEI Outcomes?”

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**ECGI Conference**

October 3, 2022

# Major Focus on Diverse and Gender-Balanced Boards



**Gains:** Women are 28% of U.S. boards; women of color 6%.

**Opportunity:** 1361 directors joined their boards pre-2000, and only 8% are women. With 40% of these directors over 80 and set to retire, there are chances for greater diversity.

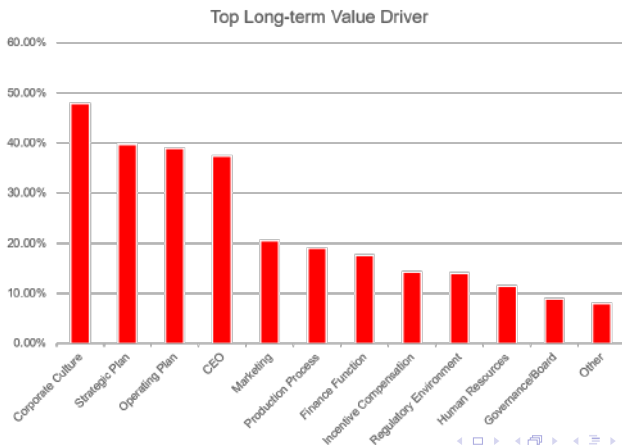
# We Seek to Expand Research on Board Diversity

**Traditional research motivation is equity value:** Early research from mandates suggests diversity decreases value; more nuanced statistical inferences suggest heterogeneity. Some studies separate cash flow vs. discount rate of equity prices and link to diversity, or link volatility in equity prices to diversity.

**Our motivation:** Understanding the inner workings of firms (e.g., talent composition, culture) is critically important, given that firms have millions of employees who cooperate to produce goods and services. In fact, the value-added that occurs inside firms exceeds that in open markets.

# Motivation CEOs Say Culture Drives Long-term Value

**Facts:** Graham et al. (2022) survey of 1,348 executives reveals culture most important factor for long-term value. Yet equity markets do not fully value intangibles (Edmans, 2011).



# What We Do

We focus on the *depth* and *breadth* of diversity-related initiatives within a firm, thus allowing us to assess whether diverse boards generate trickle-down effects.

- **Hypothesis development:** cognitive diversity, homophily, allyship
- **Novel data:** on employee representation and culture to measure DEI outcomes
- **New identification:** a new fuzzy regression discontinuity design supplemented with more traditional approaches like director supply shifts and staggered intro of gender quotas
- **Deeds not words:** evaluate trade-offs once on the board such as tokenism, check-the-box changes, and committee assignments

# Main Findings

- **Depth:** board diversity links to gains in representation for URGs at management and staff level
- **Breadth:** board diversity links to a broad range of diversity-related outcomes beyond formal policies and include informal elements like the inclusiveness of the culture and employees' perceptions of management.
- **Check-the-box fails:** these within-firm diversity gains are not consistently captured in “ESG” or “S” ratings from data providers
- **No pay gains:** despite gains in representation, we fail see to significant gains in relative pay for URGs

# Hypothesis Development

# Do Diverse Directors Influence DEI and If So, How?

## Board-Level

Diversity Related to Under-represented Groups

Gender

Ethnicity

Other Sources of Diversity

Age

Education

Board Appointments

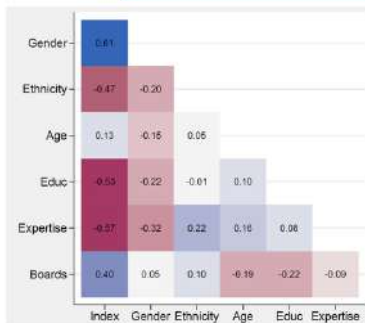
Financial Expertise

## Within-Firm

Diversity Related to Under-represented Groups

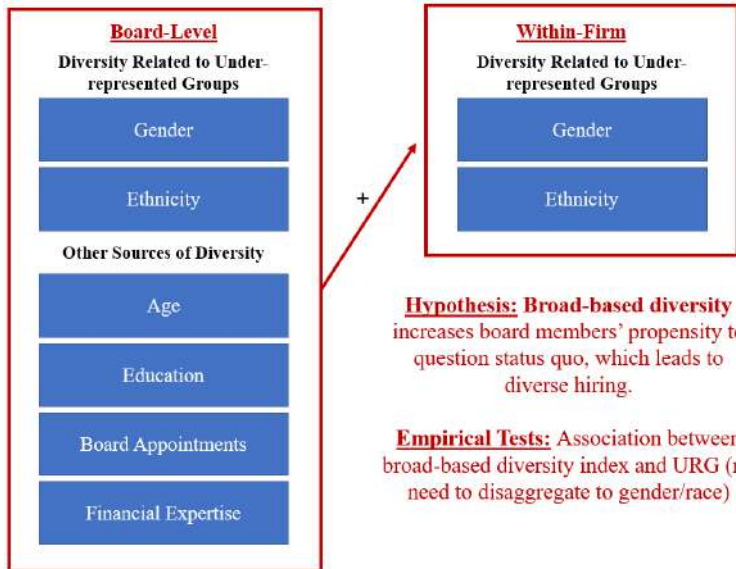
Gender

Ethnicity

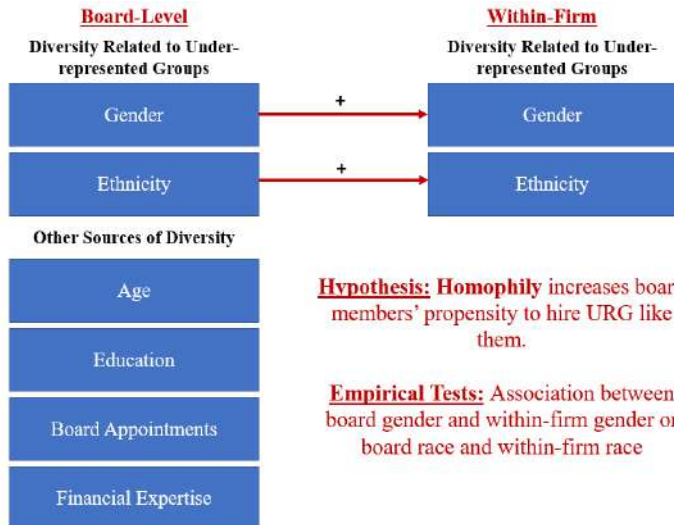




# Channel #1: New Ways of Thinking



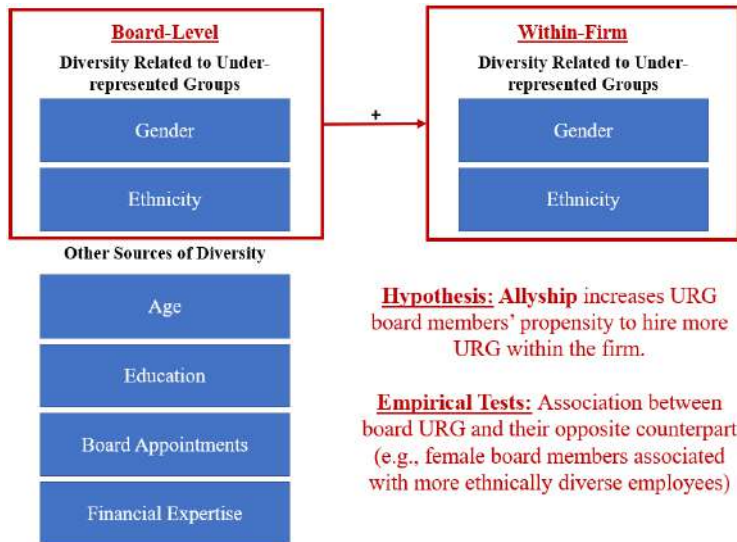
## Channel #2: Homophily



**Hypothesis: Homophily** increases board members' propensity to hire URG like them.

**Empirical Tests:** Association between board gender and within-firm gender or board race and within-firm race

# Channel #3: Allyship



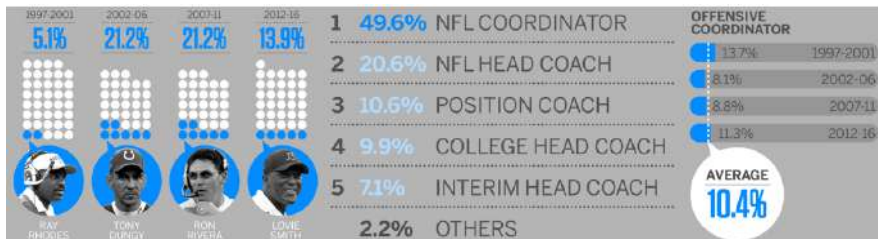
**Hypothesis:** Allyship increases URG board members' propensity to hire more URG within the firm.

**Empirical Tests:** Association between board URG and their opposite counterpart (e.g., female board members associated with more ethnically diverse employees)

# What are DEI Outcomes?

# Measuring Trickle-Down Effects with Job Flow Data

- A board diversity “trickle-down effect” requires top tier executives to advocate for more diversity among middle-management, who in turn do so for lower levels of the organizations.
- Trickle-down long debated as soft-affirmative action policies like the Rooney Rule in American Football have not delivered for non-head coach positions.
- Solution = jobs data for URGs across levels of the firm



# Moving Beyond Board Diversity: Deeper Proxies of DEI



- What do deeper proxies for gender and racial equity look like?
- We have economic arguments for caring about deeper proxies like culture (e.g., as a solution to incomplete contracting problems), but we need to measure these proxies.

# What is Corporate Culutre?

# Who's Perspective? The Content of Culture



- Different people have different assumptions and biases about what is important.
- The content of culture, especially the values that people care about and the actions that they take, are all over the map.



# Leaders View on Corporate Culture

What is corporate culture? (Graham et al., 2022)

- A belief system
- A coordination mechanism
- An invisible hand
- How employees interact with one another
- A Standard of behavior
- Norms around how people treat people
- Part work ethic, part ambiance of the work environment
- How the company really works, the operating style
- The tone for what type of company this is

## Leaders Highlight Why Culture Is Important

- ① “Culture can be described as **foundational**. It influences your ability to come to solutions to all the unknown problems and challenges that you will face from inception to growth.”
- ② “Culture allows you to **execute**. Culture is like the tendons and ligaments that hold the body together and allow it to be healthy as a body and execute daily.”
- ③ “Culture **reduces dramatically the agency costs** within an organization because you have an invisible hand at work inside of each of the employees that helps to guide their decisions and judgments in a way that the overall corporation would desire it to be.”

# Academic Way of Defining Culture

“Culture is an informal institution typified by patterns of behavior and reinforced by people, systems, and events. It is manifest in many elements but brings unity to employees’ perspectives through the expectations they have for how they need to behave to fit in and succeed in their firm.”

## What people?

- Leaders, teammates, customers, investors, etc.

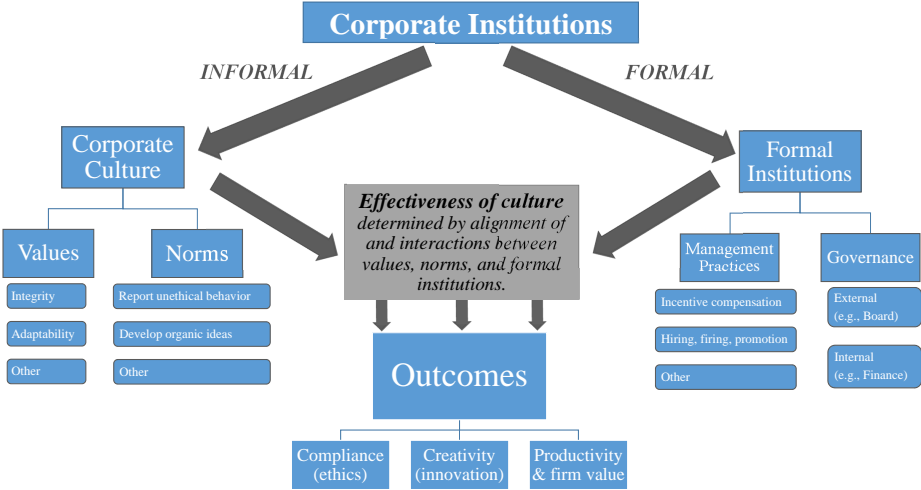
## What systems?

- Markets, regulation, corporate governance, formal systems, management practices, etc.

## What events?

- Corporate and societal events (e.g., M&A, #MeToo)

# Culture as an Interdependent Process



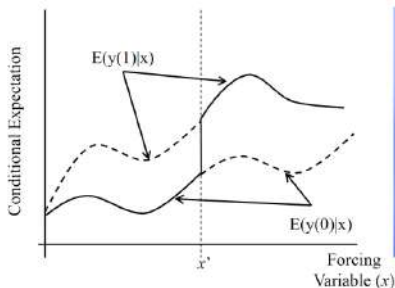
# Culture = NLP on Career Intelligence Websites

- Measuring culture, especially community-building, is challenging. Standard NLP metrics such as cosine similarities do not work well.
- Introduce new approach using a hand-labeled training dataset of 5000 Glassdoor reviews that runs a horse-race between supervised and unsupervised ML methods. The ML method that performs best out-of-sample for each norm is then used to classify millions of individuals reviews, which are then aggregated to firm-year level.
- Our community-building measure is a composite of 8 norms: inclusive and embracing of diversity, great management, supports personal growth, supports career advancement, career longevity, work-life balancing, fun work environment, cares about sustainability

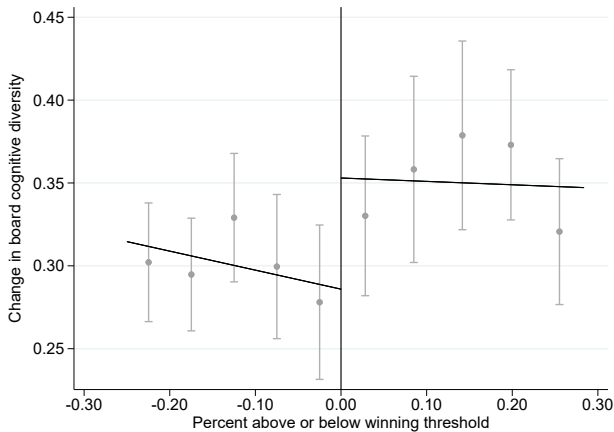
# Research Design

# Regression Discontinuity Akin to the Ideal Experiment

- Random assignment of board diversity results from firms inability to control local election vote shares near the passing threshold.
- Main idea – compare firms just below threshold to those just above.



# Evidence of Discontinuity in Board Diversity Post-Local U.S. Political Election





# Regression Support for Discontinuity in Board Diversity

	Dep. var. = Board diversity [t=-1, t=1]		
	(1)	(2)	(3)
Diverse local politician wins	0.048*** (0.017)	0.049** (0.025)	0.057*** (0.021)
Obs.	29,794	15,031	67,770
Bandwidth selection	MSE-optimal	CER-optimal	Polynomial
Bandwidth size	[0.250, 0.285]	[0.143, 0.163]	Full sample

- Statistically significant increase in board diversity in the two-year window around the close-call election of a diverse local politician.
- Discontinuity evidence with alternative FE (e.g., census region) or when pre-treatment controls included

## Evidence of Covariate Balance

	Diverse politician loses	Diverse politician wins	Difference	<i>t</i> -statistic
	(1)	(2)	(3)	(4)
Panel A. Corporate governance				
Percent female	0.14	0.14	-0.00	0.87
Percent non-white	0.12	0.12	-0.00	0.32
Board size	9.27	9.28	-0.02	0.69
Board independence	0.79	0.79	0.00	1.30
Institutional ownership	0.81	0.81	0.01	0.57
Panel B. Firm characteristics				
Profitability	0.12	0.12	0.00	1.05
Tobin's Q	1.70	1.70	-0.00	0.28
ROE	0.11	0.07	0.04	1.12
Firm age	25.74	25.44	0.30	1.56
Asset growth	0.10	0.10	0.00	1.13
Sales growth	0.07	0.07	0.00	0.31

# From Board Diversity to Workforce Diversity

	Dep. var. = Workforce Diversity		
	All URGs	URG managers	URG staff
	(1)	(2)	(3)
Broad-based diversity	0.089** (0.037)	0.085** (0.036)	0.084** (0.036)
Obs.	28,551	28,551	28,551
Bandwidth selection		MSE-optimal	
Bandwidth size		[0.250, 0.285]	

- Statistically significant increase in employment of URGs at all levels of the workforce, consistent with new ways of thinking channel
- Point estimate significant at 5% level and consistent with impact at all “depths” of the organization.

## From Board Diversity to Culture

	Dep. var. = Culture		
	Glassdoor culture rating (1)	Glassdoor management rating (2)	Community- building norms (3)
Broad-based diversity	0.345* (0.203)	0.322* (0.187)	0.309* (0.185)
Obs.	28,551	28,551	28,551
Bandwidth selection		MSE-optimal	
Bandwidth size		[0.250, 0.285]	

- Statistically significant increase in employees' perceptions of culture and management, as well as the strength of community-building norms.
- Consistent with board diversity impacting wide “breadth” of diversity-related outcomes.

# From Board Diversity to ESG Metrics

	Dep. var. = ESG Ratings		
	Sustainalytics	Refinitiv	KLD
Panel A. ESG Overall	(1)	(2)	(3)
Broad-based diversity	-6.799 (7.373)	0.177* (0.036)	3.405 (6.826)
Obs.	10,754	20,951	5,355
Panel B. ESG “Social”	(1)	(2)	(3)
Broad-based diversity	-13.263 (13.936)	0.202* (0.108)	9.889 (17.151)
Obs.	10,754	20,951	5,355

- Discrepancies between rating agencies, suggesting gender and racial lens investors need to move beyond check-the-box and better harmonize standards.

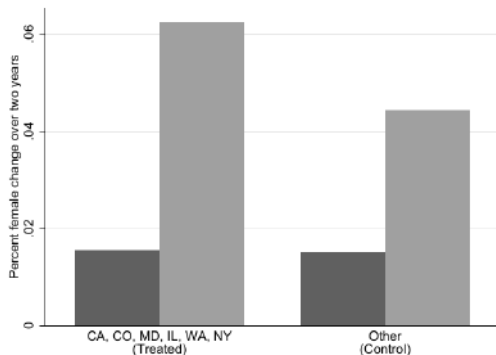
# Additional Tests

# Multi-pronged Empirical Strategy

- **FRDD based on local government political elections**
  - Pros: best internal validity
  - Cons: may not generalize beyond the “complier” firms
- **State law changes surrounding gender-balance on boards**
  - Pros: alternative design helps to establish external validity and allows for tests of allyship and homophily channel
  - Cons: mandates may push firms already at optimum (in terms of skills/experience given director supply) to a sub-optimal board
- **IV based on shifts in supply of directors**
  - Pros: alternative design helps to establish external validity
  - Cons: may not generalize beyond the “complier” firms

## State Law Changes

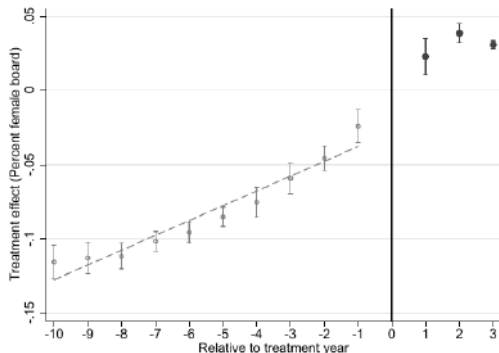
- We examine firms in states that either explicitly mandate a minimum number or percentage of female directors, or requires the disclosure of the number or percentage of female directors on the board, or appeals to a minimum number or percentage of female directors by year  $t$ .





# Dynamic Effects of State Law Changes

- Over this time period, the percent female on boards was trending up everywhere. This figure depicts a change in trend after the state law changes, suggesting that the event could be plausibly exogenous.



## State Laws to Test Homophily and Allyship

Panel A. Homophily	Dep. var. = Female Workforce		
	All Females	Female managers	Female staff
	(1)	(2)	(3)
Chg. in percent female on board	1.792** (0.882)	1.693* (0.639)	1.360** (0.594)
Obs.	10,394	10,394	10,394

Panel B. Allyship	Dep. var. = Non-white Workforce		
	All non-whites	Non-white managers	Non-white staff
	(1)	(2)	(3)
Chg. in percent female on board	1.690** (0.841)	1.530 (1.073)	1.305*** (0.354)
Obs.	10,754	20,951	5,355
<i>t</i> -stat on IV	8.16	8.16	8.16
First-stage <i>F</i> -stat	66.7	66.7	66.7

- Homophily stronger in the data, but also some evidence of allyship. Consistent with diversity being a human imperative.

# Evidence from Supply Shift in Diverse Candidates

## Does the FRDD generalize?

- Common worry of econometricians is that while FRDD estimates are consistent, they are too “local.”

## Solution = IV design

- We test an alternative design that builds on the availability of direct flights pioneered by Giround (2013).

## Depth and breadth generalize

- Even in a completely different setting with different complier firms, we find statistically significant increases in workforce diversity and improvements in culture associated with board diversity.



# Conclusion

- Board diversity associated with depth and breadth of diversity-related outcomes: more diverse workforce, employees perceive improvements in the culture, especially community-building norms, and approve more of senior management.
- Cognitive diversity, homophily, and allyship all represent important channels through which board diversity works.
- As boards continue to turnover, chance for even more improvements (e.g., pay gaps which we examined showed no signs of improvement).

Thank You!