Venturing into Racial Diversity on Startup Boards

Johan Cassel
Vanderbilt University

James Weston
Jones Graduate School of Business, Rice University

Emmanuel Yimfor
Columbia University

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Better allocation of talent benefits us all by contributing to economic growth

- Improving the allocation of talent benefits the *entire* economy (Hsieh et al., 2019)
  - 20% to 40% of growth in GDP/capita explained by improved allocation of talent
  - If talent is randomly assigned, frictions show up in quantities as people choose which investments to make
  - Board diversity may improve access to opportunities (Matsa and Miller, 2011)
- Considering private markets crucial for measuring progress in racial representation
  - Private firms employ two thirds of the workforce (Asker et al., 2015)
  - VC seed nearly half of new public firms (Lerner and Nanda, 2020; Gornall and Strebulaev, 2021)

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2. Race of private-firm directors
3. Exogenous variation in the demand for diverse directors

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3. Exogenous variation in the demand for diverse directors

Approach:

1. PitchBook and LinkedIn data on private firm directors and startup employees
2. Classify race for directors and employees of private firms using images
3. Use the social justice movement following George Floyd's murder as a demand shock to understand supply constraints

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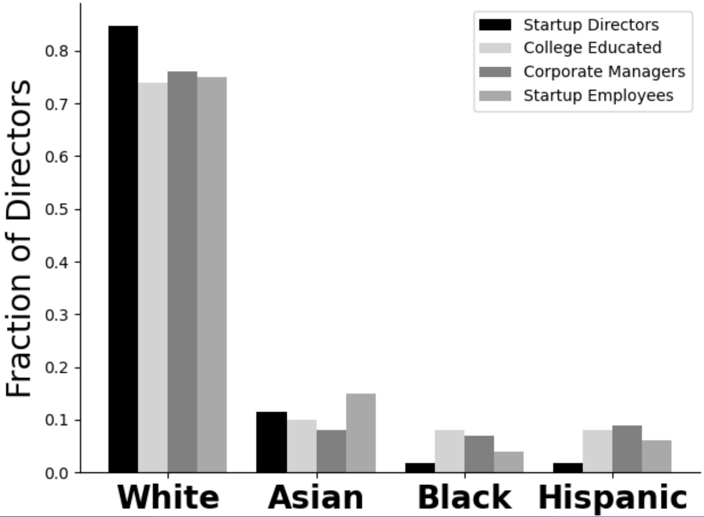
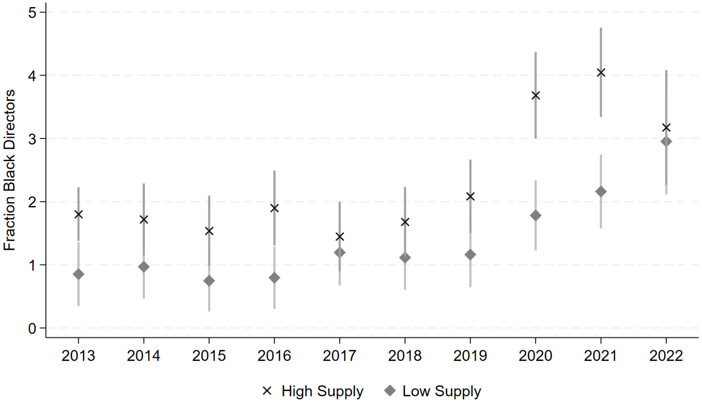
2. **Private firms increased board diversity following George Floyd (GF)**
   - Response constrained by candidate supply
   - Largest response from IPO-bound startups
3. **Did startups lower their standards to appoint minorities?**
   - No drop in observable quality of Black directors
   - First-time GF-era directors' careers unaffected by recent DEI backlash
     - Public counterparts struggle to acquire new board seats
   - No evidence that board diversity impacts performance
     - But diverse boards more likely to close a post-GF funding round

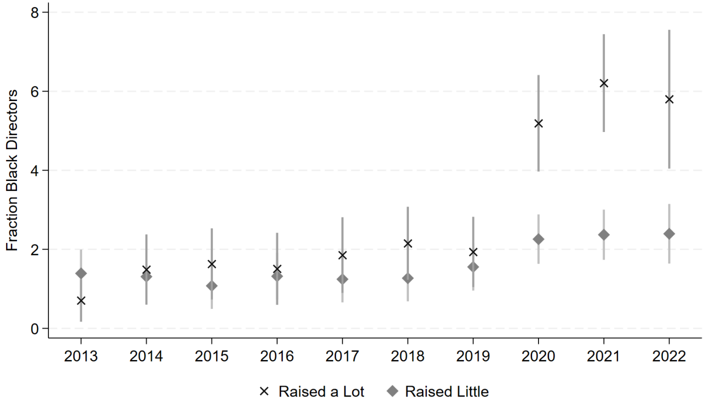
Black and Hispanic directors are underrepresented



Supply (Director Availability) Key



Larger Response from Startups Close to IPO



Data

We build a new dataset of private firms' boards

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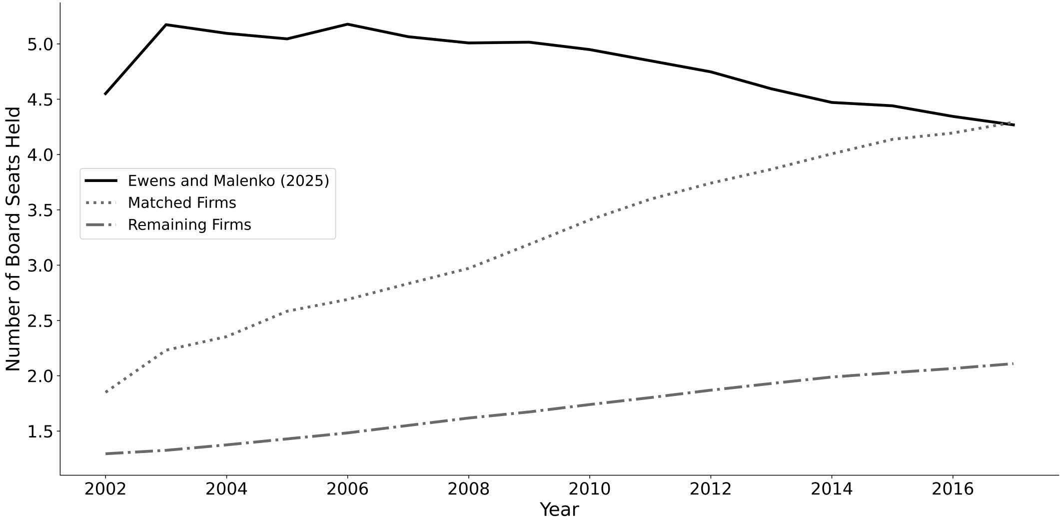
  - We fill in missing start and end dates using Form D filings and director resume data from LinkedIn
    - Improves start year coverage from 69.5% to 90.4%
  - How complete is PitchBook's coverage?
    - Our sample covers 96% of directors in LinkedIn

Our coverage is similar to Ewens and Malenko (2024) from 2017



We build a new dataset of private firms' boards

- 131,178 unique director appointments from PitchBook processed
  - Underlying assumption: PitchBook coverage not function of race
- Initial algorithmic assignment: combination of image processing and name prediction
  - Significant improvement over names alone (Cook, Marx, and Yimfor, 2023)

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- Initial algorithmic assignment: combination of image processing and name prediction
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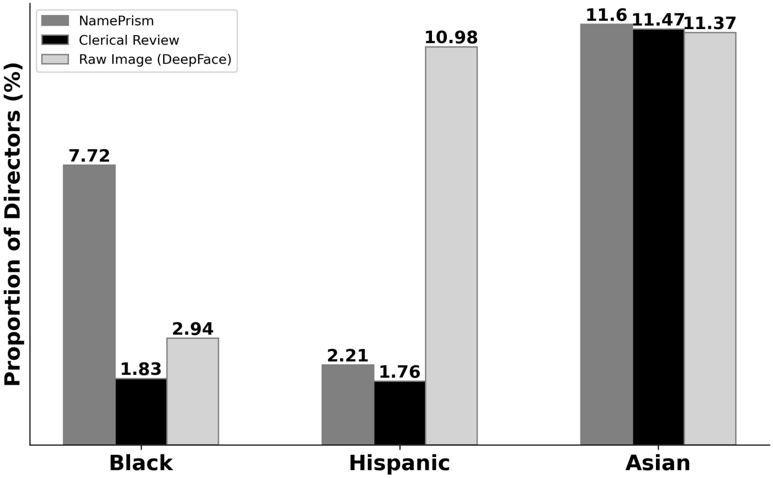
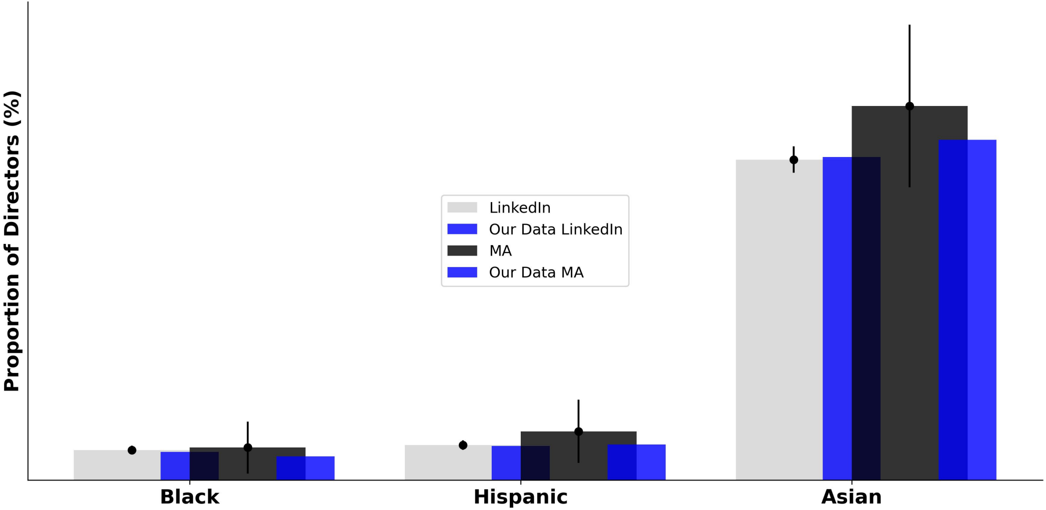
- Thorough clerical review
  - Each individual processed by one Black and one Hispanic UpWorker
  - Disagreements reviewed by authors
  - Process repeated three times

Black directors would be overrepresented by a factor of 4 (=7.72/1.83) if we used names (makes sense to boil the ocean)



We use LinkedIn and the Massachusetts corporate registry to validate our approach



How did startup board diversity change after George Floyd?

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$$Board\ Diversity_{it} = \alpha_1 + \beta_1 I(Post\ GF) + \Gamma X_{it} + \gamma_f + \epsilon_{it},$$

Controls: Board Size, VC Funding Raised, and Firm FE

Board Diversity in levels (appointments): Fraction of existing (newly appointed) directors that are Black, Hispanic, Asian, or Female

Sample: 2017 to 2022; Panel Unit: Startup-Year; Unique Startups = 54,115

Black director appointments doubled (19% increase for Female)

Appointments	Black	Hispanic	Asian	Female
Post-GF	2.170***	0.049	0.719	3.433***
	(0.273)	(0.237)	(0.582)	(0.646)
Firm FE?	✓	✓	✓	✓
Controls?	✓	✓	✓	✓
Y Mean	2.25%	1.89%	13.73%	17.97%

Is limited supply holding back startup board diversity?

How do we test the importance of director availability?

- We leverage the demand shock from George Floyd to learn about whether supply constraints are binding
  - If supply constraints bind, we expect smallest response where supply is low

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- **Approach 1:** Proxy for director availability by the racial composition of startup employees as of 2018
  - We classify race of 1 million employees
  - Measure availability at state, industry, and industry-state level

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- **Approach 1:** Proxy for director availability by the racial composition of startup employees as of 2018
  - We classify race of 1 million employees
  - Measure availability at state, industry, and industry-state level
- **Approach 2:** Compare response across director types
  - Low levels of diversity in VC groups (Gompers and Wang, 2017; Cassel, Lerner, and Yimfor, 2022)

Response to GF is higher where there is more director supply

Panel A: Black Directors	(1)	(2)	(3)	(4)
Post-GF	0.114***			
	(0.018)			
Black Supply in State (2018) × Post-GF		0.018		
		(0.022)		
Black Supply in Industry (2019) × Post-GF			0.067***	
			(0.019)	
Black Supply in Industry-State (2019) × Post-GF				0.043**
				(0.020)
Year FE?		✓	✓	✓
Firm FE?	✓	✓	✓	✓
Controls?	✓	✓	✓	✓

No response to GF among investor directors

Panel A: Insider Directors	Black	Hispanic	Asian	Female
Post GF	0.102***	-0.017	0.022	0.484***

Panel B: Outsider Directors	Black	Hispanic	Asian	Female
Post GF	0.249***	0.011	-0.057	1.234***

Panel C: Investor Directors	Black	Hispanic	Asian	Female
Post GF	0.037	-0.032	0.136*	0.223***
Firm FE?	✓	✓	✓	✓
Controls?	✓	✓	✓	✓

Diversity in VC firms

Which startups responded to George Floyd?

Did existing diverse investor or employee base drive response?

1. Do startups with minority VCs have more diverse boards? **YES**
   Table

2. Did they react more to GF? **NO** Table

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1. Do startups with minority VCs have more diverse boards? **YES**
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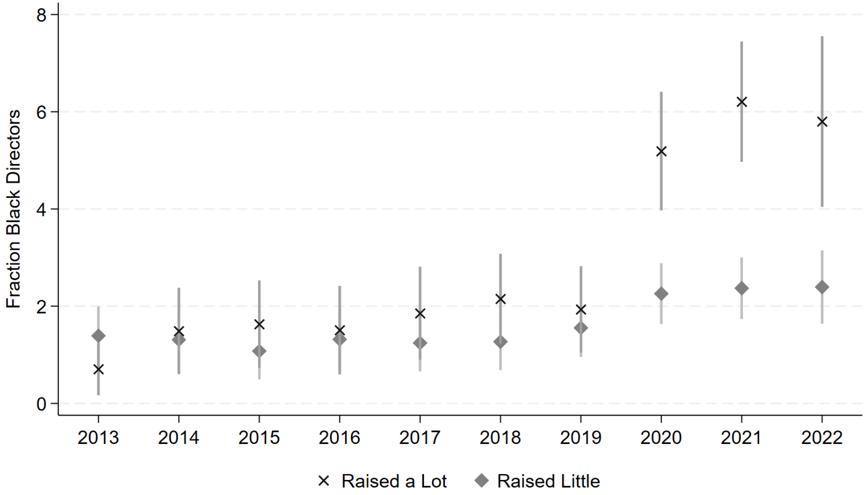
2. Did they react more to GF? **NO** Table

3. Do startups with diverse employees have more diverse boards?
   YES Table

4. Did they react more to GF? **YES** (inside and outside, but not investor, directors) Table

Firms close to the public market responded strongly to George Floyd



Other findings

- Black director quality did not drop post-GF Figure
- Board diversity not associated with performance Table
  - But startups with Black directors more likely to close a funding round post-GF
- Startup response to GF small compared to public firms Table
  - Not due to regulation, location, or board size differences
  - Reflect approach to hiring: public firms showed increased willingness to hire first-time directors
- Board diversity persists after IPO Figure

How did directors fare during the DEI backlash?

Public GF-era directors struggle to obtain new board seats — startup directors did not

Dependent Variable: I(New Board Seat in 2023/2024)

Subsample	Public Directors	Startup Directors
GF Appointment × Black Director	-0.116***	0.026
(20/21 appointments)	(0.038)	(0.020)
Black Directors	$\boxed{0.077^{**}}$	0.006
(18/19 appointments)	(0.034)	(0.013)
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Y Mean	8.0%	4.2%

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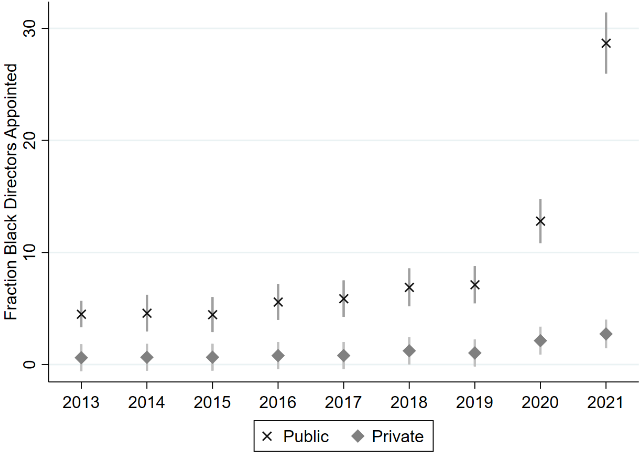
Conclusion

- We document low board diversity in startups
  - Board diversity improved post GF, but from a low base
- Limited supply contributes to muted response
- Strongest response from startups interacting with investors
- Startups did not lower standards
  - No drop in observable quality of Black directors
  - GF-era director appointees unaffected by DEI backlash (unlike in public firms)
  - Board diversity unrelated to startup performance

Thanks for your attention!

Black Diversity Gap



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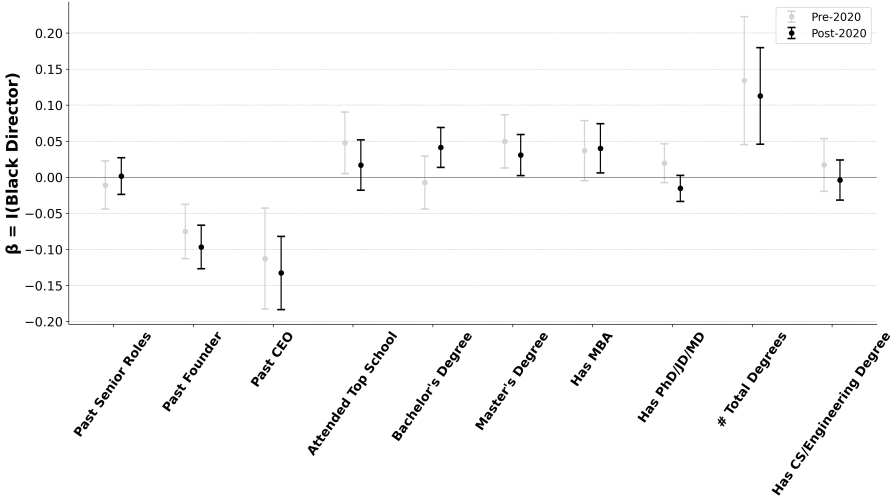
Black Director Quality Similar Pre- and Post-GF



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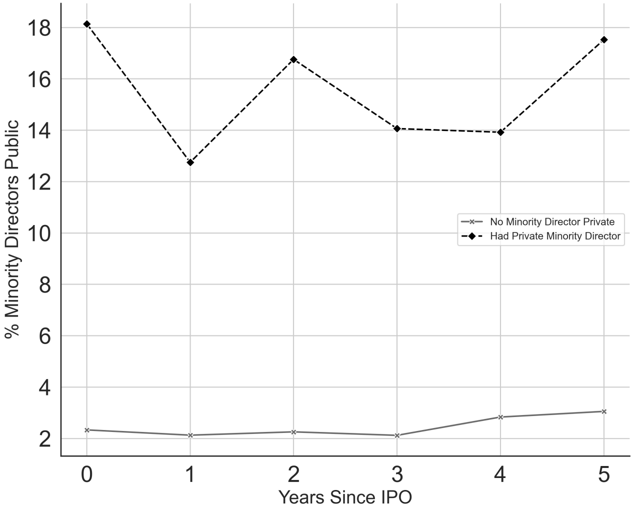
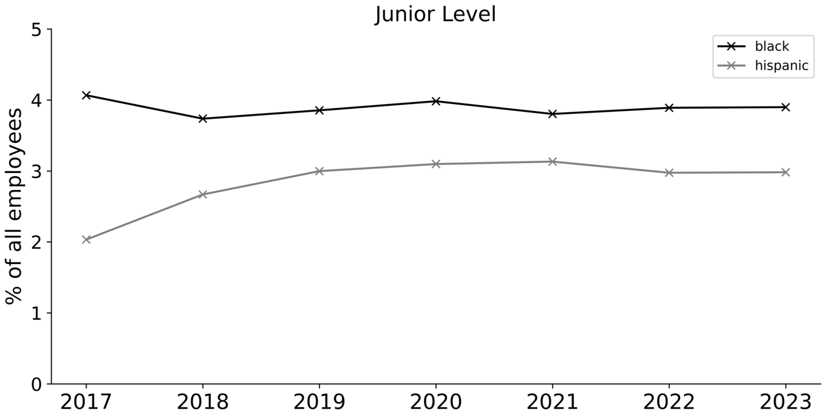
Diversity in private phase persists following the IPO



VC diversity not changing following GF



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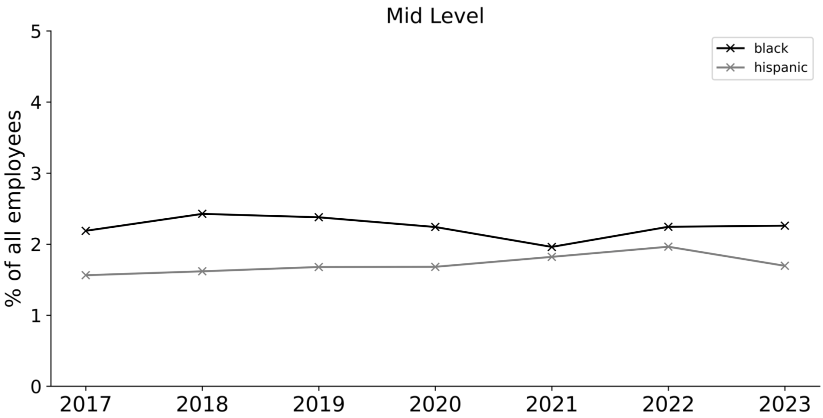

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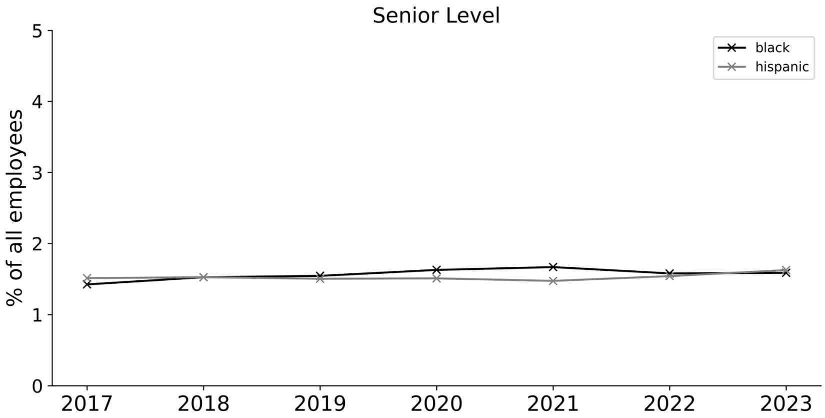

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B&H VCs invest in more diverse startups

Panel A: Insider Directors	Black	Hispanic	Asian	Female
F(B&H VCs)	15.495***	1.117	0.633	17.678***

Panel B: Outsider Directors	Black	Hispanic	Asian	Female
F(B&H VCs)	6.009***	0.914	-6.033*	10.452**

Panel C: Investor Directors	Black	Hispanic	Asian	Female
F(B&H VCs)	19.840***	9.923***	-2.302	5.036*
Year FE?	✓	✓	✓	✓
State FE?	✓	✓	✓	✓

Back

Startups backed by B&H VCs did not drive increase

Panel A: Insider Directors	Black	Hispanic	Asian	Female
F(B&H VCs) (2018) × Post GF	-0.053	-0.063	-0.225	-0.095

Panel B: Outsider Directors	Black	Hispanic	Asian	Female
F(B&H VCs) (2018) × Post-GF	0.370	-0.573	-3.429	4.006

Panel C: Investor Directors	Black	Hispanic	Asian	Female
F(B&H VCs) (2018) × Post-GF	-0.065	-0.891	1.705	-0.442
Year & Firm FE?	✓	✓	✓	✓
Controls?	✓	✓	✓	✓

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Diverse Boards Associated with Diverse Employee Base

	Employees ($t+1$)		
Panel A: Insider Directors	Black	Hispanic	B&H
Directors Demographic Group	0.054***	0.024*	0.045***

Panel B: Outsider Directors	Black	Hispanic	B&H
Directors Demographic Group	0.035***	0.025*	0.036***

Panel C: Investor Directors	Black	Hispanic	B&H
Directors Demographic Group	0.020**	0.017	0.013
Year & State FE?	✓	✓	✓

Back

1 SD increase in Black employees → 16% increase in insider and 24% increase in outsider Black directors

Panel A: Insider Directors	Black	Hispanic	B&H
Employees Demographic Group	0.194***	-0.072	0.180*
Panel B: Outsider Directors	Black	Hispanic	B&H
Employees Demographic Group	0.327**	-0.111	0.286*
Panel C: Investor Directors	Black	Hispanic	B&H
Employees Demographic Group	0.018	-0.060	0.001
Year & Firm FE?	✓	✓	✓
Controls?	✓	✓	✓

Back

Public-Private Gap in Black Appointments Tripled

Panel A: Black Director Appointments — Pre-GF Public-Private Gap: 5.21%	(1)	(2)	(3)	(4)	(5)	(6)
Public × Post GF	10.884*** (1.001)	10.192*** (0.997)	12.314*** (1.440)	11.760*** (1.138)	9.596*** (1.056)	10.832*** (1.564)
Year FE?	✓	✓	✓	✓	✓	✓
Firm FE?	✓	✓	✓	✓	✓	✓
Controls?	✓	✓	✓	✓	✓	✓
State × Post-GF FE?		✓				✓
Nasdaq × Post-GF?			✓			✓
California × Post-GF?				✓		✓
Ln(Board Size) × Post-GF?					✓	✓

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Firm FE?	✓	✓	✓	✓	✓	✓
Controls?	✓	✓	✓	✓	✓	✓
State × Post-GF FE?		✓				✓
Nasdaq × Post-GF?			✓			✓
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State × Post-GF FE?		✓				✓
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Controls?	✓	✓	✓	✓	✓	✓
State $\times$ Post-GF FE?		✓				✓
Nasdaq $\times$ Post-GF?			✓			✓
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State × Post-GF FE?		✓				✓
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California × Post-GF?				✓		✓
Ln(Board Size) × Post-GF?					✓	✓

Back

Board diversity not associated with performance, but helped fundraising post-GF

Panel A: Fundraising Outcomes:

Dependent Variable:	I(Successful Funding Round?)		Ln(Capital Raised)	
No Pre-GF Black Directors × Post-GF	-0.083***	-0.145***	-0.049	0.489
No Pre-GF Black Directors × I(Black Directors > 0) × Post-GF		0.133		0.450
Year & Firm FE?	X	X	X	X
Deal Type FE?			X	X
Controls?	X	X	X	X

Panel B: Startup Performance:

Dependent Variable:	Ln(Valuation Change)	Ln(TVPI)	I(Successful Exit)	I(IPO)
No Pre-GF Black Directors × Post-GF	0.160	0.106	0.324*	0.108
No Pre-GF Black Directors × I(Black Directors > 0) × Post-GF	0.039	-0.055	-0.082	-0.046
Deal Year & Deal Type & Matched Pair FE?	X	X	X	X
Controls?	X	X	X	X

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Year & Firm FE?	X	X	X	X
Deal Type FE?			X	X
Controls?	X	X	X	X

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Controls?	X	X	X	X

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Our classification aligns well with ISS (counts)

	PitchBook Directors				
ISS Directors	White	Black	Hispanic	Asian	Total ISS
White	6,435	6	44	147	6,650
Black	188	352	0	22	562
Hispanic	85	0	79	8	172
Asian	83	3	3	416	506
Total PitchBook	6,810	361	126	593	7,890

Back to presentation