

Board Diversity and the Career Progression of Women: Evidence from SB826

Anushri Jain

Washington University in St.Louis

Rana Mohie El Din

Washington University in St.Louis

Barriers to Women's Career Progression

Barriers to Women's Career Progression

Glass Ceiling

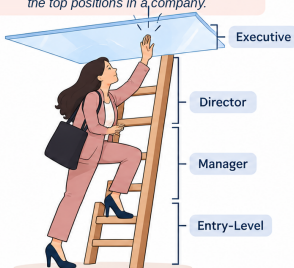
An invisible systemic barrier that prevents women from advancing to the top positions in a company.



Barriers to Women's Career Progression

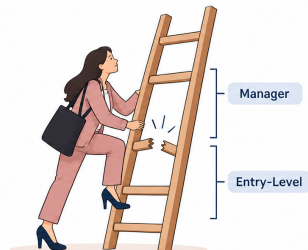
Glass Ceiling

An invisible systemic barrier that prevents women from advancing to the top positions in a company.



The Broken Rung

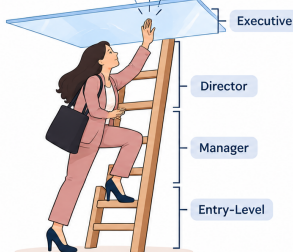
A barrier to women's first promotion from entry-level to management.



Barriers to Women's Career Progression

Glass Ceiling

An invisible systemic barrier that prevents women from advancing to the top positions in a company.



The Broken Rung

A barrier to women's first promotion from entry-level to management.



In a recent survey (*McKinsey & Company*), women identified **advancing from entry-level to mid-management** as their biggest career challenge.

Our Research Questions

Our Research Questions

- ▶ Does female representation on corporate boards improve the career progression of women throughout the firm?

Our Research Questions

- ▶ Does female representation on corporate boards improve the career progression of women throughout the firm?
- ▶ How do these changes vary across organizational levels?

Our Research Questions

- ▶ Does female representation on corporate boards improve the career progression of women throughout the firm?
- ▶ How do these changes vary across organizational levels?
- ▶ Through what channels does greater female representation on boards influence women's career opportunities within the firm?

Why Women in Leadership May Facilitate Career Progression

Why Women in Leadership May Facilitate Career Progression

Reducing Bias

She's the CEO?
Maybe leadership
doesn't look the
way I thought.



Why Women in Leadership May Facilitate Career Progression

Reducing Bias

She's the CEO?
Maybe leadership
doesn't look the
way I thought.



Allyship & Sponsorship

You should
be on the shortlist
for this.



Why Women in Leadership May Facilitate Career Progression

Reducing Bias

She's the CEO?
Maybe leadership
doesn't look the
way I thought.

An illustration of a man in a dark suit and tie sitting at a desk with a laptop and a mug. He is looking thoughtful, with his hand on his chin. A thought bubble above him shows a woman in a brown blazer with her arms crossed. The background is a light pinkish-orange.

Allyship & Sponsorship

You should
be on the shortlist
for this.

An illustration of a woman in a brown blazer standing and talking to a woman in a white sweater who is sitting at a desk with a laptop. The woman in the blazer has her hand on the shoulder of the woman in the white sweater. A speech bubble from the woman in the blazer says, "You should be on the shortlist for this." The background is a light blue.

Transparent Hiring & Promotion

PROMOTION CRITERIA

- ☒ Performance
 - ☒ Leadership
 - ☒ Impact
 - ☒ Potential
- 
- An illustration of a woman in a dark blue blazer standing and presenting to a group of three people (two men and one woman) who are sitting at a table. She is pointing towards a whiteboard that lists "PROMOTION CRITERIA" with four checked items: Performance, Leadership, Impact, and Potential. The background is a light pinkish-orange.

Why Women in Leadership May Facilitate Career Progression

Reducing Bias

She's the CEO?
Maybe leadership
doesn't look the
way I thought.



Allyship & Sponsorship

You should
be on the shortlist
for this.



Transparent Hiring & Promotion

PROMOTION CRITERIA

- ☒ Performance
 - ☒ Leadership
 - ☒ Impact
 - ☒ Potential
- 

Supportive Workplace Policies

FLEXIBLE WORK

PARENTAL LEAVE

CHILDCARE SUPPORT



And Why It Might Not

And Why It Might Not

- ▶ **Tokenism:** Women may be appointed solely to meet quota requirements, potentially limiting their influence.

And Why It Might Not

- ▶ **Tokenism:** Women may be appointed solely to meet quota requirements, potentially limiting their influence.
- ▶ **Backlash:** Firms may respond by hiring fewer women elsewhere in the organization.

Answering These Questions is Challenging

Answering These Questions is Challenging

- ▶ Board **appointments are endogenous**, often reflecting firms' existing attitudes toward gender diversity and female employees.

Answering These Questions is Challenging

- ▶ Board **appointments are endogenous**, often reflecting firms' existing attitudes toward gender diversity and female employees.
- ▶ Most board gender quotas are **implemented at the national level**, making it difficult to identify suitable treatment and control groups.

Answering These Questions is Challenging

- ▶ Board **appointments are endogenous**, often reflecting firms' existing attitudes toward gender diversity and female employees.
- ▶ Most board gender quotas are **implemented at the national level**, making it difficult to identify suitable treatment and control groups.
- ▶ Board quotas often have **lengthy implementation periods**, making it difficult to pinpoint the timing of the policy shock.

Identification Strategy - Passage of SB 826

Identification Strategy - Passage of SB 826

- ▶ **Treatment Group:** California firms with all-male boards in 2017.

Identification Strategy - Passage of SB 826

- ▶ **Treatment Group:** California firms with all-male boards in 2017.
- ▶ **Control Group:** Non-California firms with all-male boards in 2017.

Identification Strategy - Passage of SB 826

- ▶ **Treatment Group:** California firms with all-male boards in 2017.
- ▶ **Control Group:** Non-California firms with all-male boards in 2017.
- ▶ **Well-defined policy timeline:** SB 826 was introduced and passed in 2018, with initial compliance required by the end of 2019. Timeline

Identification Strategy - Passage of SB 826

- ▶ **Treatment Group:** California firms with all-male boards in 2017.
- ▶ **Control Group:** Non-California firms with all-male boards in 2017.
- ▶ **Well-defined policy timeline:** SB 826 was introduced and passed in 2018, with initial compliance required by the end of 2019. Timeline
- ▶ **Difference-in-differences:** Compare changes in women's career outcomes between treated and control firms before and after the quota.

Difference-in-Differences Specification

$$Y_{i,t} = \beta_0 + \beta_1 \text{Post}_t \times \text{CA}_i + \alpha_i + \gamma_t + \varepsilon_{it} \quad (1)$$

▶ **Key Variables:**

- ▶ *CA*: Indicator for firms headquartered in **California** in 2017
- ▶ *Post*: Indicator for years **after 2018**

▶ **Fixed Effects:**

- ▶ α_i : Firm fixed effects
- ▶ γ_t : Year fixed effects

Difference-in-Differences Specification

$$Y_{i,t} = \beta_0 + \beta_1 \text{Post}_t \times \text{CA}_i + \alpha_i + \gamma_t + \varepsilon_{it} \quad (1)$$

► **Key Variables:**

- *CA*: Indicator for firms headquartered in **California** in 2017
- *Post*: Indicator for years **after 2018**

► **Fixed Effects:**

- α_i : Firm fixed effects
- γ_t : Year fixed effects

Difference-in-Differences Specification

$$Y_{i,t} = \beta_0 + \beta_1 \text{Post}_t \times \text{CA}_i + \alpha_i + \gamma_t + \varepsilon_{it} \quad (1)$$

► **Key Variables:**

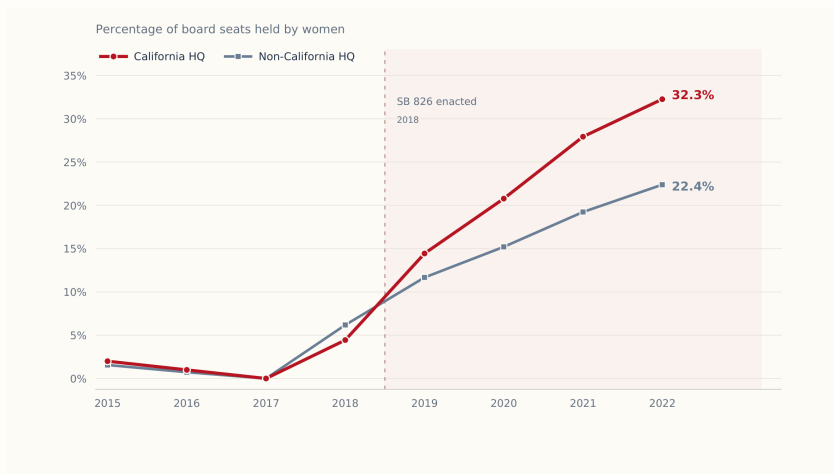
- *CA*: Indicator for firms headquartered in **California** in 2017
- *Post*: Indicator for years **after 2018**

► **Fixed Effects:**

- α_i : Firm fixed effects
- γ_t : Year fixed effects

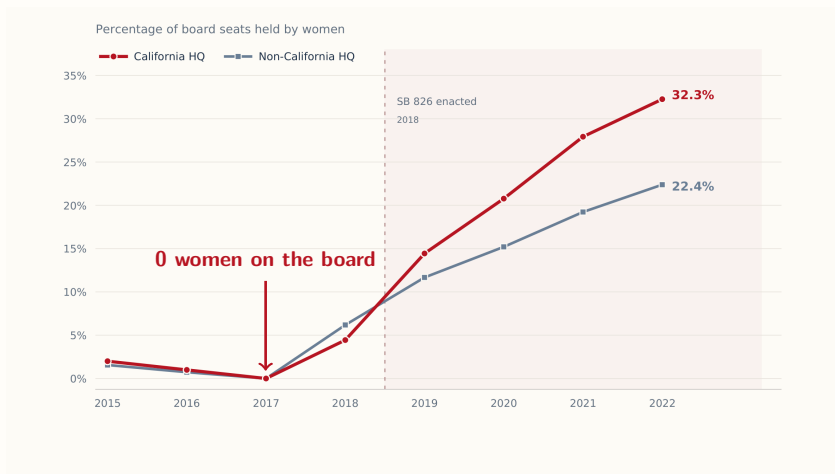
- **Parallel Trends Assumption:** In the absence of SB 826, women's career outcomes in treated and control firms would have followed similar trends over time.

Female Board Representation Following SB 826



Following SB 826, female board representation increased more rapidly among California-HQ firms.

Female Board Representation Following SB 826



Following SB 826, female board representation increased more rapidly among California-HQ firms.

Data and Career Outcomes

Data: LinkedIn employer–employee matched employment histories.

Gender: Gender API.

Data and Career Outcomes

Data: LinkedIn employer–employee matched employment histories.

Gender: Gender API.

Career Outcomes

- ▶ **Employment:** Number of women
- ▶ **Hired:** Change in employer
- ▶ **Promoted:** Same employer, new title
- ▶ **Exit:** Departure from firm

Data and Career Outcomes

Data: LinkedIn employer–employee matched employment histories.

Gender: Gender API.

Career Outcomes

- ▶ **Employment:** Number of women
- ▶ **Hired:** Change in employer
- ▶ **Promoted:** Same employer, new title
- ▶ **Exit:** Departure from firm

Organizational Hierarchy

- ▶ **Top Management:** C-suite and VPs *Keywords:* "Chief", "CFO", "Vice President"
- ▶ **Mid-Management:** Directors and Managers *Keywords:* "Director", "Manager"
- ▶ **Entry Level:** All other positions *Examples:* "Analyst", "Associate"

Data and Career Outcomes

Data: LinkedIn employer–employee matched employment histories.

Gender: Gender API.

Career Outcomes

- ▶ **Employment:** Number of women
- ▶ **Hired:** Change in employer
- ▶ **Promoted:** Same employer, new title
- ▶ **Exit:** Departure from firm

Organizational Hierarchy

- ▶ **Top Management:** C-suite and VPs *Keywords:* "Chief", "CFO", "Vice President"
- ▶ **Mid-Management:** Directors and Managers *Keywords:* "Director", "Manager"
- ▶ **Entry Level:** All other positions *Examples:* "Analyst", "Associate"

Workplace Mechanisms: Glassdoor ratings of workplace culture and career opportunities.

Results: Overall

	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ × Post2018	0.167** (0.065)	0.103*** (0.025)	0.019** (0.008)	0.017*** (0.005)	-0.000 (0.003)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.530	0.387	0.380	0.283	0.269
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +8.9 women, +5.5 female hires, +1 promotion, and +0.9 departures.**

Results: Overall

	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ × Post2018	0.167** (0.065)	0.103*** (0.025)	0.019** (0.008)	0.017*** (0.005)	-0.000 (0.003)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.530	0.387	0.380	0.283	0.269
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +8.9 women, +5.5 female hires, +1 promotion, and +0.9 departures.**

Results: Overall

	Normalized by female headcount in 2017 ↓				
	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ × Post2018	0.167** (0.065)	0.103*** (0.025)	0.019** (0.008)	0.017*** (0.005)	-0.000 (0.003)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.530	0.387	0.380	0.283	0.269
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +8.9 women, +5.5 female hires, +1 promotion, and +0.9 departures.**

Results: Overall

	Normalized by female headcount in 2017 ↓				
	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ × Post2018	0.167** (0.065)	0.103*** (0.025)	0.019** (0.008)	0.017*** (0.005)	-0.000 (0.003)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.530	0.387	0.380	0.283	0.269
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +8.9 women, +5.5 female hires, +1 promotion, and +0.9 departures.**

Results: Overall

	Normalized by female headcount in 2017 ↓				
	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ × Post2018	0.167** (0.065)	0.103*** (0.025)	0.019** (0.008)	0.017*** (0.005)	-0.000 (0.003)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.530	0.387	0.380	0.283	0.269
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +8.9 women, +5.5 female hires, +1 promotion, and +0.9 departures.**

Results: Overall

	Normalized by female headcount in 2017 ↓				
	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ × Post2018	0.167** (0.065)	0.103*** (0.025)	0.019** (0.008)	0.017*** (0.005)	-0.000 (0.003)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.530	0.387	0.380	0.283	0.269
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +8.9 women, +5.5 female hires, +1 promotion, and +0.9 departures.**

Results: Overall

	Normalized by female headcount in 2017 ↓				
	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ × Post2018	0.167** (0.065)	0.103*** (0.025)	0.019** (0.008)	0.017*** (0.005)	-0.000 (0.003)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.530	0.387	0.380	0.283	0.269
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +8.9 women, +5.5 female hires, +1 promotion, and +0.9 departures.**

Results: Overall

	Normalized by female headcount in 2017 ↓				
	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ × Post2018	0.167** (0.065)	0.103*** (0.025)	0.019** (0.008)	0.017*** (0.005)	-0.000 (0.003)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.530	0.387	0.380	0.283	0.269
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +8.9 women, +5.5 female hires, +1 promotion, and +0.9 departures.**

Results: Overall

	Normalized by female headcount in 2017 ↓				
	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ × Post2018	0.167** (0.065)	0.103*** (0.025)	0.019** (0.008)	0.017*** (0.005)	-0.000 (0.003)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.530	0.387	0.380	0.283	0.269
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +8.9 women, +5.5 female hires, +1 promotion, and +0.9 departures.**

Results: Overall

	Normalized by female headcount in 2017 ↓				
	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ × Post2018	0.167** (0.065)	0.103*** (0.025)	0.019** (0.008)	0.017*** (0.005)	-0.000 (0.003)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.530	0.387	0.380	0.283	0.269
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +8.9 women, +5.5 female hires, +1 promotion, and +0.9 departures.**

Results: Overall

	Normalized by female headcount in 2017 ↓				
	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ × Post2018	0.167** (0.065)	0.103*** (0.025)	0.019** (0.008)	0.017*** (0.005)	-0.000 (0.003)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.530	0.387	0.380	0.283	0.269
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +8.9 women, +5.5 female hires, +1 promotion, and +0.9 departures.**

Results: Entry Level and Mid-Management

Entry-Level Graph

Mid-Management Graph

	Entry-Level				
	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.053 (0.043)	0.057** (0.022)	0.004 (0.004)	0.011*** (0.003)	-0.005** (0.002)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.526	0.369	0.298	0.289	0.249
Observations	2,109	2,109	2,109	2,103	2,115

Results: Entry Level and Mid-Management

Entry-Level Graph

Mid-Management Graph

	Entry-Level				
	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.053 (0.043)	0.057** (0.022)	0.004 (0.004)	0.011*** (0.003)	-0.005** (0.002)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.526	0.369	0.298	0.289	0.249
Observations	2,109	2,109	2,109	2,103	2,115

Results: Entry Level and Mid-Management

Entry-Level Graph

Mid-Management Graph

	Entry-Level				
	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.053 (0.043)	0.057** (0.022)	0.004 (0.004)	0.011*** (0.003)	-0.005** (0.002)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.526	0.369	0.298	0.289	0.249
Observations	2,109	2,109	2,109	2,103	2,115

Results: Entry Level and Mid-Management

Entry-Level Graph

Mid-Management Graph

	Entry-Level				
	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.053 (0.043)	0.057** (0.022)	0.004 (0.004)	0.011*** (0.003)	-0.005** (0.002)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.526	0.369	0.298	0.289	0.249
Observations	2,109	2,109	2,109	2,103	2,115

Results: Entry Level and Mid-Management

Entry-Level Graph

Mid-Management Graph

	Entry-Level				
	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.053 (0.043)	0.057** (0.022)	0.004 (0.004)	0.011*** (0.003)	-0.005** (0.002)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.526	0.369	0.298	0.289	0.249
Observations	2,109	2,109	2,109	2,103	2,115

Results: Entry Level and Mid-Management

Entry-Level Graph

Mid-Management Graph

	Entry-Level				
	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.053 (0.043)	0.057** (0.022)	0.004 (0.004)	0.011*** (0.003)	-0.005** (0.002)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.526	0.369	0.298	0.289	0.249
Observations	2,109	2,109	2,109	2,103	2,115

	Mid-Management				
	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.056** (0.025)	0.034*** (0.008)	0.010*** (0.004)	0.002 (0.003)	0.001 (0.001)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.624	0.340	0.299	0.168	0.177
Observations	2,109	2,109	2,109	2,103	2,115

Results: Entry Level and Mid-Management

Entry-Level Graph

Mid-Management Graph

	Entry-Level					Mid-Management				
	Total	Hired	Promoted	Exit	Exit Rate	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.053 (0.043)	0.057** (0.022)	0.004 (0.004)	0.011*** (0.003)	-0.005** (0.002)	0.056** (0.025)	0.034*** (0.008)	0.010*** (0.004)	0.002 (0.003)	0.001 (0.001)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R^2	0.526	0.369	0.298	0.289	0.249	0.624	0.340	0.299	0.168	0.177
Observations	2,109	2,109	2,109	2,103	2,115	2,109	2,109	2,109	2,103	2,115

Results: Entry Level and Mid-Management

Entry-Level Graph

Mid-Management Graph

	Entry-Level				
	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.053 (0.043)	0.057** (0.022)	0.004 (0.004)	0.011*** (0.003)	-0.005** (0.002)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.526	0.369	0.298	0.289	0.249
Observations	2,109	2,109	2,109	2,103	2,115

	Mid-Management				
	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.056** (0.025)	0.034*** (0.008)	0.010*** (0.004)	0.002 (0.003)	0.001 (0.001)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.624	0.340	0.299	0.168	0.177
Observations	2,109	2,109	2,109	2,103	2,115

Results: Entry Level and Mid-Management

Entry-Level Graph

Mid-Management Graph

	Entry-Level				
	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.053 (0.043)	0.057** (0.022)	0.004 (0.004)	0.011*** (0.003)	-0.005** (0.002)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.526	0.369	0.298	0.289	0.249
Observations	2,109	2,109	2,109	2,103	2,115

	Mid-Management				
	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.056** (0.025)	0.034*** (0.008)	0.010*** (0.004)	0.002 (0.003)	0.001 (0.001)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.624	0.340	0.299	0.168	0.177
Observations	2,109	2,109	2,109	2,103	2,115

Results: Entry Level and Mid-Management

Entry-Level Graph

Mid-Management Graph

	Entry-Level					Mid-Management				
	Total	Hired	Promoted	Exit	Exit Rate	Total	Hired	Promoted	Exit	Exit Rate
CaliforniaHQ × Post2018	0.053 (0.043)	0.057** (0.022)	0.004 (0.004)	0.011*** (0.003)	-0.005** (0.002)	0.056** (0.025)	0.034*** (0.008)	0.010*** (0.004)	0.002 (0.003)	0.001 (0.001)
Firm FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
R ²	0.526	0.369	0.298	0.289	0.249	0.624	0.340	0.299	0.168	0.177
Observations	2,109	2,109	2,109	2,103	2,115	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): Entry Level:** +3 female hires, +0.6 female departures, and a 0.5 pp decline in exit rate. **Mid-Management:** +3 women employed, +1.8 female hires, and +0.5 female promotions.

Results: Top Management

	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ X Post2018	0.056*** (0.005)	0.012*** (0.002)	−0.000 (0.001)	0.003** (0.001)	0.004*** (0.001)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.755	0.173	0.157	0.139	0.143
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +3 women in top management, +0.6 female hires, +0.2 female departures, and +0.4 percentage points in exit rate.**

Results: Top Management

	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ X Post2018	0.056*** (0.005)	0.012*** (0.002)	−0.000 (0.001)	0.003** (0.001)	0.004*** (0.001)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.755	0.173	0.157	0.139	0.143
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +3 women in top management, +0.6 female hires, +0.2 female departures, and +0.4 percentage points in exit rate.**

Results: Top Management

	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ X Post2018	0.056*** (0.005)	0.012*** (0.002)	−0.000 (0.001)	0.003** (0.001)	0.004*** (0.001)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.755	0.173	0.157	0.139	0.143
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +3 women in top management, +0.6 female hires, +0.2 female departures, and +0.4 percentage points in exit rate.**

Results: Top Management

	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ X Post2018	0.056*** (0.005)	0.012*** (0.002)	-0.000 (0.001)	0.003** (0.001)	0.004*** (0.001)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.755	0.173	0.157	0.139	0.143
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +3 women in top management, +0.6 female hires, +0.2 female departures, and +0.4 percentage points in exit rate.**

Results: Top Management

	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ X Post2018	0.056*** (0.005)	0.012*** (0.002)	−0.000 (0.001)	0.003** (0.001)	0.004*** (0.001)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.755	0.173	0.157	0.139	0.143
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +3 women in top management, +0.6 female hires, +0.2 female departures, and +0.4 percentage points in exit rate.**

Results: Top Management

	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ X Post2018	0.056*** (0.005)	0.012*** (0.002)	−0.000 (0.001)	0.003** (0.001)	0.004*** (0.001)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.755	0.173	0.157	0.139	0.143
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +3 women in top management, +0.6 female hires, +0.2 female departures, and +0.4 percentage points in exit rate.**

Results: Top Management

	(1) Total	(2) Hired	(3) Promoted	(4) Exit	(5) Exit Rate
CaliforniaHQ X Post2018	0.056*** (0.005)	0.012*** (0.002)	−0.000 (0.001)	0.003** (0.001)	0.004*** (0.001)
Firm FE	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓
R^2	0.755	0.173	0.157	0.139	0.143
Observations	2,109	2,109	2,109	2,103	2,115

- **Economic Magnitudes (per firm): +3 women in top management, +0.6 female hires, +0.2 female departures, and +0.4 percentage points in exit rate.**

Mechanism: Supportive Workplace Policies

	Overall	Culture & Values	Comp. & Benefits	Career Opp.	Work-Life	Senior Leaders
CaliforniaHQ × Post2018	0.276*** (0.041)	0.242*** (0.038)	0.092*** (0.024)	0.170** (0.071)	0.182*** (0.041)	0.279*** (0.039)
Firm FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
R^2	0.410	0.421	0.440	0.361	0.395	0.395
Observations	1,398	1,362	1,362	966	1,363	1,361

Glassdoor employee ratings improve across all six dimensions (1–5 scale).

Mechanism: Supportive Workplace Policies

	Overall	Culture & Values	Comp. & Benefits	Career Opp.	Work-Life	Senior Leaders
CaliforniaHQ × Post2018	0.276*** (0.041)	0.242*** (0.038)	0.092*** (0.024)	0.170** (0.071)	0.182*** (0.041)	0.279*** (0.039)
Firm FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
R^2	0.410	0.421	0.440	0.361	0.395	0.395
Observations	1,398	1,362	1,362	966	1,363	1,361

Glassdoor employee ratings improve across all six dimensions (1–5 scale).

Stronger Effects In Firms with Female Directors on Committees

	Career Progression					Glassdoor
	Total	Hired	Promoted	Exit	Exit Rate	Overall Rating
CaliforniaHQ × Post2018 × Committee2019	0.404* (0.217)	0.166** (0.074)	0.085*** (0.030)	0.026** (0.013)	0.011** (0.005)	0.148* (0.081)
CaliforniaHQ × Post2018	-0.035 (0.202)	0.008 (0.072)	-0.032 (0.024)	0.001 (0.014)	-0.008*** (0.003)	0.175** (0.083)
Post2018 × Committee2019	-0.213 (0.217)	-0.090 (0.074)	-0.005 (0.030)	-0.018 (0.013)	-0.010** (0.005)	-0.018 (0.080)
Firm FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
R^2	0.542	0.389	0.379	0.315	0.326	0.449
Observations	1,798	1,798	1,798	1,793	1,807	1,176

Stronger Effects In Firms with Female Directors on Committees

	Career Progression					Glassdoor
	Total	Hired	Promoted	Exit	Exit Rate	Overall Rating
CaliforniaHQ × Post2018 × Committee2019	0.404* (0.217)	0.166** (0.074)	0.085*** (0.030)	0.026** (0.013)	0.011** (0.005)	0.148* (0.081)
CaliforniaHQ × Post2018	-0.035 (0.202)	0.008 (0.072)	-0.032 (0.024)	0.001 (0.014)	-0.008*** (0.003)	0.175** (0.083)
Post2018 × Committee2019	-0.213 (0.217)	-0.090 (0.074)	-0.005 (0.030)	-0.018 (0.013)	-0.010** (0.005)	-0.018 (0.080)
Firm FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
R^2	0.542	0.389	0.379	0.315	0.326	0.449
Observations	1,798	1,798	1,798	1,793	1,807	1,176

Stronger Effects In Firms with Female Directors on Committees

	Career Progression					Glassdoor
	Total	Hired	Promoted	Exit	Exit Rate	Overall Rating
CaliforniaHQ × Post2018 × Committee2019	0.404* (0.217)	0.166** (0.074)	0.085*** (0.030)	0.026** (0.013)	0.011** (0.005)	0.148* (0.081)
CaliforniaHQ × Post2018	-0.035 (0.202)	0.008 (0.072)	-0.032 (0.024)	0.001 (0.014)	-0.008*** (0.003)	0.175** (0.083)
Post2018 × Committee2019	-0.213 (0.217)	-0.090 (0.074)	-0.005 (0.030)	-0.018 (0.013)	-0.010** (0.005)	-0.018 (0.080)
Firm FE	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
R^2	0.542	0.389	0.379	0.315	0.326	0.449
Observations	1,798	1,798	1,798	1,793	1,807	1,176

Should We Be Concerned That...

Should We Be Concerned That...

- ▶ **California firms have more favorable attitudes toward women?** *Test: Top 20 women-friendly states*

Should We Be Concerned That...

- ▶ **California firms have more favorable attitudes toward women?** *Test: Top 20 women-friendly states*
- ▶ **Women are being hired and promoted into less substantive roles?** *Test: Profit and Loss (P&L) positions*

Should We Be Concerned That...

- ▶ **California firms have more favorable attitudes toward women?** *Test:* Top 20 women-friendly states
- ▶ **Women are being hired and promoted into less substantive roles?** *Test:* Profit and Loss (P&L) positions
- ▶ **Other California labor laws are driving the results?** *Tests:* Control firms with $\geq 10\%$ of workers in CA; treated firms with $\geq 20\%$ outside CA.

Should We Be Concerned That...

- ▶ **California firms have more favorable attitudes toward women?** *Test:* Top 20 women-friendly states
- ▶ **Women are being hired and promoted into less substantive roles?** *Test:* Profit and Loss (P&L) positions
- ▶ **Other California labor laws are driving the results?** *Tests:* Control firms with $\geq 10\%$ of workers in CA; treated firms with $\geq 20\%$ outside CA.
- ▶ **Technology firms are driving the results?** *Test:* Exclude technology firms.

Should We Be Concerned That...

- ▶ **California firms have more favorable attitudes toward women?** *Test:* Top 20 women-friendly states
- ▶ **Women are being hired and promoted into less substantive roles?** *Test:* Profit and Loss (P&L) positions
- ▶ **Other California labor laws are driving the results?** *Tests:* Control firms with $\geq 10\%$ of workers in CA; treated firms with $\geq 20\%$ outside CA.
- ▶ **Technology firms are driving the results?** *Test:* Exclude technology firms.
- ▶ **California firms differ systematically from non-California firms?** *Tests:* Pre-shock Observable characteristics

Should We Be Concerned That...

- ▶ **California firms have more favorable attitudes toward women?** *Test:* Top 20 women-friendly states
- ▶ **Women are being hired and promoted into less substantive roles?** *Test:* Profit and Loss (P&L) positions
- ▶ **Other California labor laws are driving the results?** *Tests:* Control firms with $\geq 10\%$ of workers in CA; treated firms with $\geq 20\%$ outside CA.
- ▶ **Technology firms are driving the results?** *Test:* Exclude technology firms.
- ▶ **California firms differ systematically from non-California firms?** *Tests:* Pre-shock Observable characteristics
- ▶ **Industry shocks or firm characteristics explain the results?** *Tests:* Industry $\times$ Year fixed effects and controls for firm financial characteristics.

Should We Be Concerned That...

- ▶ **California firms have more favorable attitudes toward women?** *Test:* Top 20 women-friendly states
- ▶ **Women are being hired and promoted into less substantive roles?** *Test:* Profit and Loss (P&L) positions
- ▶ **Other California labor laws are driving the results?** *Tests:* Control firms with $\geq 10\%$ of workers in CA; treated firms with $\geq 20\%$ outside CA.
- ▶ **Technology firms are driving the results?** *Test:* Exclude technology firms.
- ▶ **California firms differ systematically from non-California firms?** *Tests:* Pre-shock Observable characteristics
- ▶ **Industry shocks or firm characteristics explain the results?** *Tests:* Industry $\times$ Year fixed effects and controls for firm financial characteristics.
- ▶ **Firms are changing their overall hiring patterns in response to the quota?** *Tests:* Overall headcount, hiring, promotions, and exits.

Should We Be Concerned That...

- ▶ **California firms have more favorable attitudes toward women?** *Test:* Top 20 women-friendly states
- ▶ **Women are being hired and promoted into less substantive roles?** *Test:* Profit and Loss (P&L) positions
- ▶ **Other California labor laws are driving the results?** *Tests:* Control firms with $\geq 10\%$ of workers in CA; treated firms with $\geq 20\%$ outside CA.
- ▶ **Technology firms are driving the results?** *Test:* Exclude technology firms.
- ▶ **California firms differ systematically from non-California firms?** *Tests:* Pre-shock Observable characteristics
- ▶ **Industry shocks or firm characteristics explain the results?** *Tests:* Industry $\times$ Year fixed effects and controls for firm financial characteristics.
- ▶ **Firms are changing their overall hiring patterns in response to the quota?** *Tests:* Overall headcount, hiring, promotions, and exits.
- ▶ **There is only one treated state?** *Tests:* Bootstrap inference, jackknife estimation, and alternative clustering specifications.

Conclusion

Conclusion

- ▶ **Greater female representation on corporate boards improves women's career progression throughout the firm.**

Conclusion

- ▶ **Greater female representation on corporate boards improves women's career progression throughout the firm.**
 - ▶ **Overall:** Increases female employment, hiring, and promotions, without increasing the female exit rate.

Conclusion

- ▶ **Greater female representation on corporate boards improves women's career progression throughout the firm.**
 - ▶ **Overall:** Increases female employment, hiring, and promotions, without increasing the female exit rate.
 - ▶ **Across the organizational hierarchy:** Increases hiring and retention at the entry level, and hiring and promotions in mid-management.

Conclusion

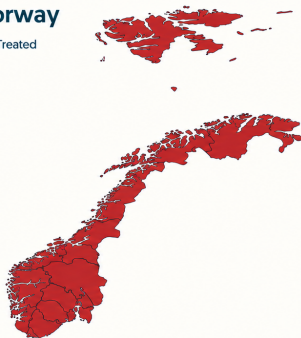
- ▶ **Greater female representation on corporate boards improves women's career progression throughout the firm.**
 - ▶ **Overall:** Increases female employment, hiring, and promotions, without increasing the female exit rate.
 - ▶ **Across the organizational hierarchy:** Increases hiring and retention at the entry level, and hiring and promotions in mid-management.
 - ▶ **Mechanisms:** Female directors may improve workplace policies and internal career opportunities, consistent with improvements in employee ratings and stronger effects when women serve on board committees.

Supporting Slides

Identification

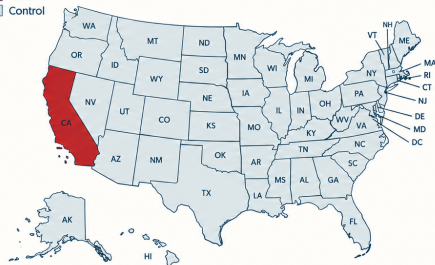
Norway

■ Treated



United States

■ Treated
□ Control



Created with mapchart.net

Back

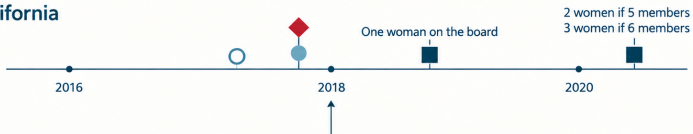
Timeline

Norway



- Introduced
- Passed
- ◆ Penalty
- Compliance

California



Data Sources

▶ BoardEx Data

- ▶ Use reported gender ratio to identify firms with **0 female board members**.
- ▶ Merge with Compustat and Notre Dame SRAF to identify headquarters of firms.
- ▶ Final sample: **183 treated firms** and **1,020 control firms**.

▶ ExecuComp Data

- ▶ Merge BoardEx data with ExecuComp to identify “*top earners*.”
- ▶ Covers only S&P 1500 firms — **54 treated** and **210 control firms**.

▶ LinkedIn Data

- ▶ Over **86,000 profiles**. [Example](#)

LinkedIn

The image shows a LinkedIn profile for Anushri Jain, a Finance PhD Candidate at Washington University in St. Louis. The profile includes a profile picture, a background image with financial charts, and sections for Name, Current Location, Education, Activity, and Experience. Annotations with boxes and lines point to specific elements: 'Picture' points to the profile picture; 'Name' points to the name 'Anushri Jain'; 'Current Location' points to 'St. Louis, Missouri, United States'; 'Education' points to 'Washington University in St. Louis'; 'Network Size' points to '968 followers'; and a box containing 'Companies/Positions' and 'Length of time at each company/position' points to the 'Experience' section.

Picture

Name

Current Location

Education

Network Size

- Companies/Positions
- Length of time at each company/position

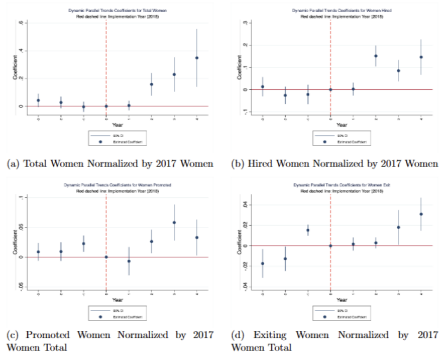
Profile Details:

- Name:** Anushri Jain
- Title:** Finance PhD Candidate - Washington University, St. Louis
- Location:** St. Louis, Missouri, United States
- Connections:** 500+
- Education:** Washington University in St. Louis
- Activity:** 968 followers. Anushri hasn't posted yet.
- Experience:**
 - Finance Rotation Analyst** at Microsoft (Full-time, Sep 2020 - Sep 2021, 1 yr 1 mo)
 - First Rotation: Experiences, Devices, and Marketing Finance - Consumer Channels Sales and Marketing
 - Second Rotation: Cross Industry Solutions Finance.

Back

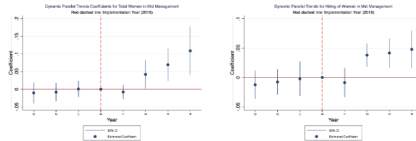
Dynamic Plots: Overall

Figure 6: Dynamic Parallel Trends for Women's Career Outcomes

[Back](#)

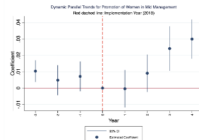
Dynamic Plots: Mid-Management

Figure 8: Dynamic Parallel Trends for Women in Mid Management Positions



(a) Total Women in Mid Management Normalized by 2017 Women

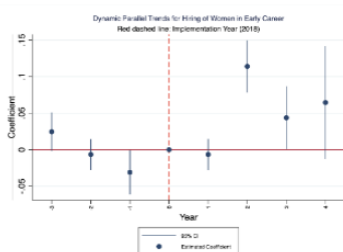
(b) Hired Women in Mid Management Normalized by 2017 Women



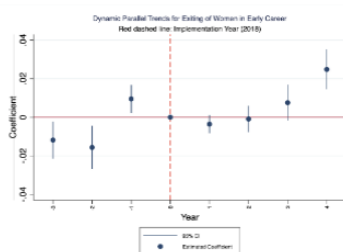
(c) Promoted Women Normalized by 2017 Women

Dynamic Plots: Early-Career

Figure 9: Dynamic Parallel Trends for Women in Early Career Positions



(a) Hired Women in Early Career Normalized by 2017 Women



(b) Exiting Women in Early Career Normalized by 2017 Women