Board gender quota: STEM&F vs. other sectors, California vs. other states

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Abstract

I study the market reaction to the first mandated board gender quota in the United States, Senate Bill No. 826 (SB 826), introduced in California. I examine the impact in Science, Technology, Engineering, Manufacturing, and Finance (STEM&F) sectors compared to other sectors in California, as well as to other states of the United States, where there is no quota. My preliminary results indicate that the quota had a significantly negative effect on firms in California, with an average announcement return of -1.24%. The negative effect increases as more female directors are needed to comply with the mandate. While before 2018 board diversity is on average 1.8% lower in STEM&F industries compared to other industries in California, after 2018 there are no significant differences between them anymore. Outside California, the gap between the board diversity of STEM&F companies and others becomes larger after 2018 (from 1.7% to 2.4%). I find that while the quota impacts negatively on the value of California firms with no female directors, the effect is substantially muted for STEM&F firms. I also find no significant evidence of the negative effect of 2021 requirements of SB 826 on firm value of STEM&F firms in California. One of the possible explanations for these findings can be the anticipated availability of qualified female directors in STEM&F sectors.

JEL classification: G30, G34.

Keywords: Corporate boards, Female directors, Board diversity, Gender quota, Corporate Governance, STEM&F.

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1. Introduction

According to the International Labour Organization (ILO), corporate boards are currently more diverse than ever. Nevertheless, only in a third of companies, women hold more than 30% of the board seats, while 13% of firms still have all-male boards.[1] To tackle the underrepresentation of women on the boards of directors, a number of European countries have been passing laws on board gender quotas since 2003.[2] In 2018, California introduced a similar quota, Senate Bill No. 826 (SB 826), and became the first state in the United States to promote diversity and inclusion, as well as the advancement of women at the legislative level.

Corporate boards have endogenous nature; however, gender quotas create a quasi-exogenous shock that enables to study their impact on firms. For example, the signing of the law in California was unexpected which allows identifying stock market reaction from an exogenous change in the board structure. Although, the law was adopted only in one state, it affects a large number of companies – 16% of all public firms in the United States with the combined market capitalization of over $6 trillion headquartered in California.

Previous studies of the effects of European quotas are contradicting, while the effects of California's recent board gender diversity law are not well studied yet.[3] In addition to some variations of quota laws, there are cultural and economic contrasts as well as differences in the labour markets of European countries and California (for example, labor markets are more flexible in terms of hiring and firing in the United States), which might bring to dissimilar impact of the quota. Furthermore, the differences between the industries as well as the fact that women's underrepresentation on boards varies by sector was not truly considered when adopting the gender board quotas worldwide. To shed light on the importance of these factors, I study the market reaction to the first mandated board gender diversity law in the United States, SB 826 introduced in California. I also examine the changes in companies and how they differ between Science,

[1] Based on ILO 2018 survey of 13,000 companies across the world presented in the report "Women in Business and Management: The business case for change", https://www.ilo.org/global/publications/books/WCMS_700953/lang--en/index.htm

[2] In the end of 2003, Norway was the first country to adopt a law mandating public limited companies to have at least 40% representation of each gender on the board of directors. In 2012, European Commission drafted a law to encourage gender balance (40% female nonexecutive directors) on the boards of listed companies in 28 member states of the EU.

[3] While some studies find the positive effect of the gender diverse boards (e.g., Anderson, Reeb, Upadhyay, and Zhao, 2011; Bernile, Bhagwat, and Yonke, 2018; Ferreira, Ginglinger, Laguna and Skalli, 2018), others find that quota is associated with the decrease of firm value (e.g., Adams and Ferreira, 2009; Ahern and Dittmar, 2012). Green, Intintoli and Kahle (2019) find negative announcement returns for California firms, as well as significant annual direct costs of compliance for small firms.

Technology, Engineering, Manufacturing, and Finance (STEM&F) sectors compared to other sectors in California, as well as other states of the United States, where there is no quota.

2. Background

In 2013, former California state Senator Hannah Beth Jackson sponsored a nonbinding resolution urging that by 2017, all public companies should increase the number of women on their boards from their current level to either one, two or three, depending upon the size of their boards. However, by December 31, 2016, less than 20 percent of them had followed the recommendation. Then, in 2018, SB 826 was introduced and signed into law to improve the representation of women on corporate boards in California. SB 826 requires all publicly held domestic or foreign corporations whose principal executive offices are in California to have at least one female director on their boards by calendar year end 2019. By the end of 2021, the requirements increase to having at least two (three) female directors on the boards with five (six or more) directors. To comply with the law, companies can either replace existing directors or add a board seat. Penalties for not abiding by the law are $100,000 for the first violation and $300,000 for each subsequent violation.

3. Literature review

3.1. Gender Quota and Firm Value

Well-diversified boards are believed to positively affect firm value. For example, Anderson, Reeb, Upadhyay, and Zhao (2011) and Bernile, Bhagwat, and Yonke (2018) use board heterogeneity indices and find that greater board diversity, including gender diversity, is positively correlated with better firm performance. In addition, greater board gender diversity is associated with a lower pay gap between male and female executives (Carter, Franco, and Gine, 2017) and improvements in stock price informativeness (Gul, Srinidhi, and Ng, 2011). Dezso and Ross (2012) analyzed 15 years of panel data from the S&P 1500 firms and find that gender-diverse boards improve manager's performance which in its turn leads to better firm performance to the extent that a firm's strategy is focused on innovation. Evidence suggests that female directors can be beneficial due to differing core values and risk attributes (Adams and Funk, 2012), unique skills and expertise (Kim and Starks, 2016), and better academic and professional qualifications (Field, Souther, and Yore, 2018). Ferreira, Ginglinger, Laguna, Skalli (2018) show that after the introduction of the French quota, the annual rate of turnover of female directors decreases by about a third. The possible

explanation is that a better match of director-firm is achieved because of the change of the search technology, which previously might have excluded potentially well-matched candidates. Adams and Ferreira (2009) find that gender-diverse boards exert more effort in monitoring. Also, they positively affect the attendance records of male who usually have worse attendance records than female directors.

However, there is also some evidence for negative association between gender diversity of boards and the firm value. For example, Adams and Ferreira (2009) also argue that gender diversity affects negatively on firm performance, especially in case of well-governed firms. Matsa and Miller (2013) find that after the introduction of gender quota there is a decline of short-run operating profitability of firms. Yang, Riepe, Moser, Pull, and Terjesen (2019) show a negative effect of the quota on accounting performance and firm risk. Ahern and Dittmar (2012) find a large negative impact of the quota on the value of the firm (Tobin's Q) as well as certain changes in firms – growth of the firm size, more acquisitions and worse accounting returns. However, Eckbo, Nygaard, and Thorburn (2019) adjust Ahern and Dittmar's instrument to make it exogenous to the gender quota news announcement and find no significant effect of the mandated female representation on the firm value.

To better understand the ambiguous empirical debate on the impact of gender quotas on the firm value, I find it important to acknowledge the possible differences of the effects of gender diverse boards and gender quota laws, especially in the short run. While female representation on boards might be beneficial for companies, the shock of mandated gender quotas might be negatively correlated with the firm value.

3.2. Gender Quota and Industry Sectors

Considerably fewer women get a science or engineering degree and are less likely to be hired as scientists or engineers (CEOSE 2015). While women earn about half the doctorates in science and engineering in the United States, only 21% of full science professors and 5% of full engineering professors are women (Shen 2013). Moreover, McCook (2013) finds that female academics in science are less likely to be given an opportunity to be on corporate scientific advisory boards. Based on the Academic Female Finance Committee's (AFFECT) survey of all universities on UT Dallas top 100 North America and Worldwide list (in total, 126 universities in 14 countries), there

are relatively fewer women in economics and even fewer in finance, the gap increases with rank, and women are not advancing at the same rate as men.

There is also evidence of heterogeneity of women on boards in the corporate finance world. Adams and Kirchmaier (2016a) show that boards of banks are less gender diverse than boards of other firms. Bank board diversity is particularly low in countries with greater gender gaps in PISA math scores and lower average math scores. Thus, the differences in educational outcomes for boys and girls may have long-lasting implications for their career development. Adams and Kirchmaier (2016b), based on their study of firms in 20 countries of Europe, the Commonwealth, and the United States from 2001-2010, show that women are more underrepresented on boards in STEM&F (Science, Technology, Engineering, Mathematics and Finance) firms than other firms. This means that STEM&F firms will have to add more female directors to meet quota requirements and as a result the gender quota law will be a bigger shock for them. Thus, the fact that women's underrepresentation on boards varies by sector should be considered when designing policies.

4. Data and Methodology

To study the effect of SB 826 on changes of boards and firm value, I use several data sources. In particular, I combine the director data from BoardEx with financial and accounting data from Compustat as well as stock price data from CRSP. After excluding observations with missing data, my final sample consists of 496 firms headquartered in California. All variables are summarized in Appendix A.

I follow Green, Intintoli and Kahle (2019) methodology in defining the variables of gap between the number of female directors needed to comply with law and the pre-SB 826 number of female directors (Gap 2019, Gap 2021, Add Female Director 2021, % of Gap 2019, % of Gap 2021). Since the law requires to have at least 1 female director by the end of 2019, Gap 2019 becomes a dummy that takes a value of one if the pre-SB 826 board has no female directors, and zero otherwise. Gap 2021 is defined as the difference between the increased number of female directors needed to comply with SB 826 by the end of 2021 (2 or 3 female directors) and their number prior to it. For the firms with more female directors than required by the mandate, I set Gap 2021 to zero. I define % of Gap 2019 and % of Gap 2021 as Gap 2019 and Gap 2021 divided by board

size. Add Female Director 2021 is a dummy that takes a value of one if at least one female director needs to be added to the board by the end of 2021, and zero otherwise.

Following Adams and Kirchmaier (2015 a, b, c) methodology, STEM industries are defined as industries in which a large share of employees are in STEM occupations. The list of occupations that require education in science, technology, engineering, and mathematics disciplines is obtained from 0*NET (2015) and matched to the 2012 Bureau of Labor Statistics (BLS) National Employment Matrix by Industry. For each industry, the Employment Matrix indicates the percentage of employees from each occupation. The sum of the percentages for all STEM occupations represents the percentage of employees in STEM occupations in each industry. Then these percentages are averages across industries in each of ten industry super sectors as defined by the BLS (2015). As a result, the top five super sectors by share of STEM employees are defined as STEM sectors (Table 5):

- financial activities (with 7.16% of STEM employees on average);
- natural resources and mining (10.75% STEM employees);
- manufacturing (15.1% STEM employees);
- professional and business services (21.78% STEM employees);
- and information (21.8% STEM employees)

Finance sector is not traditionally considered a STEM sector, however Adams and Kirchmaier (2016) labeled firms in the top five STEM sectors as STEM&F group justifying it by the fact that the finance sector is STEM-intensive. Although, for comparison, there are 7,16% of STEM employees in the finance sector and 7% STEM employees in construction and the group of other sectors which are not included in STEM&F group.

5. Analysis

5.1. Summary Statistics: Board Size and Composition Changes

California firms affected by SB 826 had on average 8.07 board members in 2018 and 8.30 board members in 2019. When gender quota law passed in 2018, one-fourth of California's publicly held corporations had no women directors on their boards. The average number of female directors on the corporate boards increased from 1.41 in 2018 to 1.86 in 2019. The independence of directors

and the nationality mix have slightly increased, and the average tenure of non-executive directors has somehow decreased.

[Insert Table 1 about here]

Despite the facts that in 2019 the average board size and the average number of women on boards have increased, in some of the companies that previously had one or more female directors their number have decreased. In 40% of those cases the board size was not reduced. In more than half of our sample there was no change in the number of female directors in 2019 and most of them already met the requirement for SB 826. Moreover, about 35% of the companies with 1-5 women on boards in 2018 have increased the number of female directors by adding from 1-3 female directors in 2019.

[Insert Table 2 about here]

5.2. Gender diversity in STEM&F vs other sectors, CA vs other states

I find that there are less female directors in STEM&F sectors in California, where about 90% of firms are STEM&F firms. However, the gap between STEM&F and other sectors is smaller and is decreasing substantially during the last several years (Figure 1), while the overall representation of women on boards doubles.

[Insert Figure 1 about here]

The results of the regression of female representation on boards of STEM&F vs other sectors in California shows that before 2018 board diversity is on average 1.8% lower in STEM&F industries (Panel A of Table 3). The diversity is significantly lower in Resources (by 8.1%), Finance (by 2.2%) and Manufacturing (by 2.2%) sectors. These results are consistent with Adams and Kirchmaier (2016) findings for firms in 20 countries from 2000-2010, including the US.

[Insert Table 3 about here]

However, after 2018 the gap between STEM&F and other sectors is not significant anymore (Panel B of Table 3).

In case of other states of the US, board diversity is lower in STEM&F sectors compared to other sectors both before and after 2018. Moreover, the gap is becoming bigger after 2018: from 1.7% to 2.4% (Table 4)[4].

[Insert Table 4 about here]

In both sub-samples of firms in states other than California (i.e. from 2000-2019) the diversity is lowest in natural resources and mining as well as finance sectors. The board diversity in natural resources and mining sector is lower by 5.8% before 2018 and by 7.4% after 2018. In case of financial firms, the diversity is lower by 2.3% before 2018 and by 3.7% after 2018.

I employ difference-in-difference-in-difference (DDD) setting to measure the effect of the 2018 changes on the average fraction of female directors in STEM&F sectors relative to non-STEM&F sectors in California compared to the average fraction of female directors in STEM&F sectors relative to non-STEM&F sectors in other states of the United States. The differential effect of the quota on the board gender gap between sectors of California and other states is negative (Table 5).

[Insert Table 5 about here]

5.3. Market Reaction

To assess the impact of SB 826 on the value of the firms in California, I use traditional event study methodology in which I calculate the abnormal stock return to the announcement of the Bill for each firm.

[Insert Figure 2 about here]

To calculate the expected return to firm *i* at time *t* I employ market-adjusted model (Fama-French model results are also presented in the Appendix B).

$$E\left(R_{i,t}\middle|X_t\right) = \alpha_i + \beta_i Rm_t + \varepsilon_{i,t}$$

[4] The results of the regression on the board diversity in STEM&F firms in states other than California for the period from 2000-2019 is shown in Appendix C. Outside California, the boards in STEM&F sectors are 1.8% less diverse compared to other sectors (similar to California firms before 2018).

Governor Jerry Brown signed the bill on September 30, Sunday which is a non-trading day, so I assume the event date is Monday, October 1, 2018 (Figure 2). The estimation window is 100 days with the gap of 50 days before the event window of -5 to +5 days.

The mean market model Abnormal Return on October 1, 2018 is -1.24%. Given that our sample represents about $6.5 trillion in market value, the -1.24% equals a wealth loss of over $80 billion.

[Insert Figure 3 about here]

Overall, these results indicate that SB 826 has a significantly negative effect on firms. This does not imply that the presence or increase of number of female directors destroy firm value, however the market reacts negatively to the imposed constraints on boards and additional costs of meeting the quota.

5.4. Cross-Sectional Regressions

5.4.1. Effect of SB 826 on Firm Value

Table 6 shows the results of ordinary least squares (OLS) regressions where the dependent variable is Abnormal Return and the key variables of interest are variables describing the gap between the mandated number of female directors and their number in 2018 (Add Female Director 2019, Add Female Director 2021, Gap 2021, % Gap 2019, % Gap 2021). The regressions control for board characteristics (Board Size, NED tenure, Independence, Nationality Mix), as well as financial characteristics of companies (ROE, Log (Total Assets)).

[Insert Table 6 about here]

I find negative and significant effect of all gender gap variables on the excess returns of companies. Gap variables for 2019 have the largest negative effect: the companies that had no women on board and had to add a female director in 2019 (Add Female Director 2019 dummy is equal to 1), had 1.1% more negative excess returns.

The 2021 requirements of SB 826 are also value decreasing for firms as shown by the negative and significant coefficients on Gap 2021 and % Gap 2021. For every additional female director needed the companies experience a 0.7% decline in value (column 3). The negative effect of SB 826 on firm value increase as more female directors are needed to comply with the mandate (column 5).

[Insert Table 7 about here]

To see if SB 826 had different effects on firms with gender gaps on boards in STEM&F sectors compared to other sectors, I run the regression (Table 7) where the dependent variable is Abnormal Return and the primary variable of interest is the Gap 2019 in STEM&F sectors (column 1) and Gap 2021 in STEM&F sectors (column 2). I find that STEM&F firms in California which must add a female director in 2019 experienced more negative returns (column 1). I find no significant evidence of the negative effect of 2021 requirements of SB 826 on firm value of STEM&F firms in California (column 3). As expected, there is no significant effect on STEM&F firms in other states which did not meet SB 826 requirements for firms in California.

[Insert Table 8 about here]

Thus, I find that while the quota impacts negatively on the value of California firms with no female directors, the effect is substantially muted for STEM&F firms. I also find no significant evidence of the negative effect of 2021 requirements (assessed by different types of gap measures) of SB 826 on firm value of STEM&F firms in California. One of the possible explanations for these findings can be the anticipated availability of qualified female directors in STEM&F sectors.

5.5. Effect of SB 826 on Firm Value in California vs control groups of other states

5.5.1. Control group: all other states

To check that changes in value for California firms with gender gaps on boards are the effect of SB 826 I create a dummy that equals one for California headquartered firms (CA Firm) and I interact this dummy with gap variables (Gap 2019, Add Female Director 2021, Gap 2021). The interaction term is negative and statistically significant in all three regressions (Panel A of Table 9), indicating that the negative impact of SB 826 is greater for firms with gender gaps on boards headquartered in California than for control firms.

[Insert Table 9 about here]

The gender diversity is getting more attention all over the world, including all states of the US, irrespective of formal gender quotas. To make sure the changes observed in California are the result of SB 826 and not the overall trend of increasing gender diversity, I form several control

samples of firms headquartered in other states with different political views, similar industrial composition, similar or dissimilar average gender diversity on boards.

5.5.2. Control group: states with politically different views

Following Greene et al. (2019), one of the control groups is formed based on the political ideologies, as proxied by Presidential election results over the past five elections. The states that are less likely to be politically sympathetic to California are AK, AL, AR, AZ, CO, FL, GA, IA, ID, IN, KS, KY, LA, ME, MI, MO, MS, MT, NC, ND, NE, NH, NM, NV, OH, OK, PA, SC, SD, TN, TX, UT, VA, WI, and WV.

The interaction term of California headquartered firms (CA Firm) and gender gap variables (Gap 2019, Add Female Director 2021, Gap 2021) is negative and statistically significant (Panel B of Table 9), suggesting that firms headquartered in California experienced greater negative impact of SB 826 than control firms.

5.5.3. Control group: states with similar industrial composition

Industrial composition of states can be important since, as shown, gender diversity differs between the industries. For this reason, I use data from the U.S. Bureau of Economic Analysis (BEA) to create a control group of states with similar industrial composition. The control sample is composed of states with the same top 3 industries as California (Real estate and rental and leasing, Professional and business services, Manufacturing) as well as either Educational services, health care, and social assistance or Information in the state's top 5 industries (similar to California). These states include AL, AR, GA, ID, IL, KS, LA, MI, MN, MO, NC, OH, OR, SC, UT, VA. Compared to this control group, California based firms with the gender gap experienced significantly greater negative effect of SB 826 on their firm value (Panel C of Table 9).

5.5.4. Control group: states with similar/different board diversity

Taking into account the possible differences in board characteristics of firms in the other states, I create three different control samples of states – with similar, comparatively more and comparatively less gender diversity on boards.

The states that during 2016-2018 had board gender gaps similar to California are AZ, KY, MO, TN. The regression results suggest that even compared to this control group, California headquartered firms that had to add female directors to meet the gender quota (interaction term of CA Firm and Gap 2019/Gap 2021) experienced greater negative effects on firm value (Panel D of Table 9).

Similarly, I construct control samples of the states with less gender diversity than California (CO, FL, LA, NC, NJ, NV, NY, OK, OR, SC, TX, UT) and more gender diversity compared to California (IL, IN, KS, MD, MI, MN, PA, VA, WA, WI). In both cases the results are consistent, the negative impact of SB 826 is greater for firms with gender gaps on boards headquartered in California than for control firms (Panel E and Panel F of Table 9).

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Table 1: Summary Statistics for firms in California

This table reports the summary statistics for the firms headquartered in California that are affected by SB 826. Panel A shows the distribution of the key variables used in the analysis in 2018, and Panel B shows their distribution in 2019. All variables are defined in Appendix A.

Variable	Obs	Mean	Std. Dev.	Min	Max
Panel A - 2018					
Net Income	519	558.184	3622.501	-6837	59531
Common Equity	519	3063.611	14975.481	-591.699	177628
Total Assets	520	10895.739	87746.186	4.01	1895883
Log (Total Assets)	520	6.798	2.034	1.389	14.455
ROE	518	.096	1.367	-.998	24.509
Board Size	534	8.067	1.999	1	15
Number of women	533	1.413	1.098	0	5
Gap 2019	533	.206	.405	0	1
Gap 2021	533	1.548	.909	0	3
Add Female Director 2021	534	.846	.361	0	1
% Gap 2019	533	.034	.07	0	.333
% Gap 2021	533	.215	.144	0	.667
NEDs Tenure	533	6.429	4.776	0	34
Independence	534	.788	.131	0	1
Nationality Mix	496	.11	.189	0	.8
Panel B - 2019					
Net Income	516	525.155	3446.549	-8506	55256
Common Equity	516	3291.614	15578.691	-737.584	201442
Total Assets	516	11643.909	89758.524	2.13	1927555
Log (Total Assets)	516	6.911	2.034	.756	14.472
ROE	516	.355	5.42	-.966	117.789
Board Size	523	8.298	2.03	3	15
Number of women	523	1.855	1.046	0	6
Gap 2019	523	.052	.221	0	1
Gap 2021	523	1.149	.822	0	3
Add Female Director 2021	523	.753	.431	0	1
% Gap 2019	523	.009	.041	0	.333
% Gap 2021	523	.157	.126	0	.667
NED Tenure	523	6.11	4.652	0	35
Independence	523	.791	.126	.333	1
Nationality Mix	479	.112	.192	0	.7

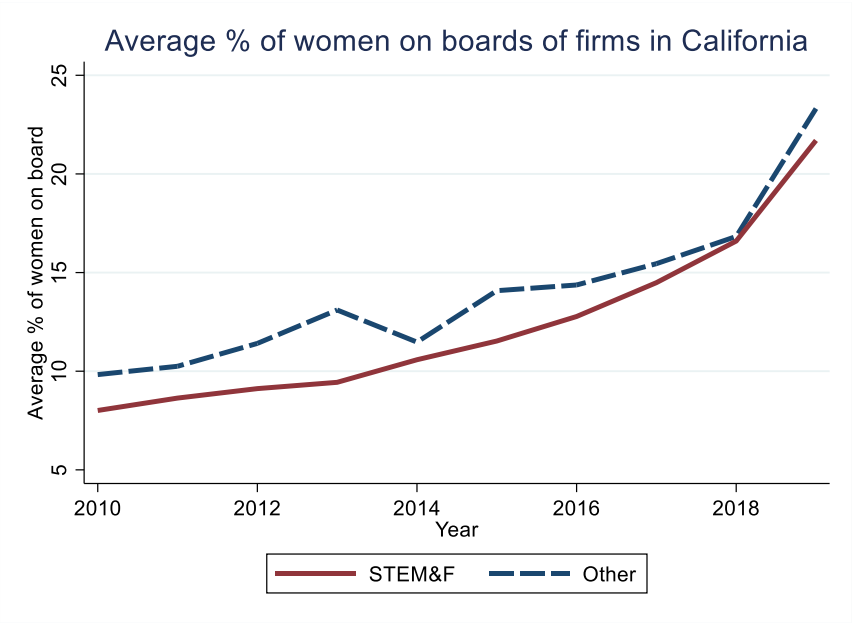
Table 2. Changes in boards sizes and female representation on boards in California in 2019

Panel A – Increase of female directors and their total number in 2019								
Increase in 2019	Number of women on board							
	0	1	2	3	4	5	6	Total
-1	1	8	6	3	1	0	0	19
0	21	106	84	32	12	4	0	259
1	0	58	65	30	10	1	0	164
2	0	0	13	12	4	0	1	30
3	0	0	0	0	0	1	0	1
Total	22	172	168	77	27	6	1	473

Panel B - Increase of female directors and board sizes in 2019								
Increase in 2019	Board Size							
	4	5	6	7	8	9	10-15	Total
-1	0	0	2	4	5	5	3	19
0	4	22	22	55	50	39	67	259
1	0	13	15	24	27	37	48	164
2	0	0	0	4	8	8	10	30
3	0	0	0	0	0	0	0	1
Total	4	35	39	87	90	89	128	473

Panel C – Increase of female directors and increase in board sizes								
Increase in 2019	Board size increase							
	≤-3	-2	-1	0	1	2	≥3	Total
-1	1	3	7	6	1	1	0	19
0	1	10	51	143	35	6	3	249
1	1	1	10	44	82	17	3	158
2	0	0	1	3	9	13	3	29
3	0	0	0	0	0	0	1	1
Total	3	14	69	196	127	37	10	456

Figure 1. Average percentage of women on the board in STEM&F vs. other sectors in California and other states of US



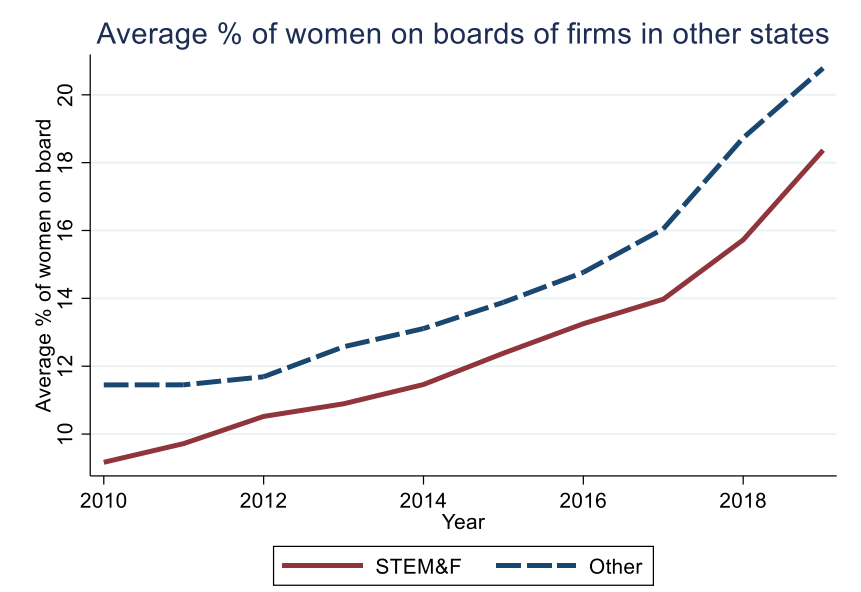


Table 3. Fraction of women on the boards of firms in STEM&F sectors before 2018 in California

This table reports the results of regressions of board diversity on a STEM&F dummy and STEM&F subsector dummies and controls. The sample in Panel A consists of 3,862 firm-year observations on California based firms from 2000-2017. The sample in Panel B consists of 955 firm-year observations on California based firms from 2018-2019. First two regressions do not include year fixed effects and the last two include year fixed effects.
*** Significant at the 1% level. ** Significant at the 5% level. * Significant at 10% level.

Panel A				
VARIABLES	**(1)**	**(2)**	**(3)**	**(4)**
STEM&F	-0.018***		-0.018***	
	[-3.01]		[-3.12]	
STEM&F - Finance		-0.022***		-0.021***
		[-3.22]		[-3.20]
STEM&F - Information		-0.002		-0.003
		[-0.27]		[-0.42]
STEM&F - Manufacturing		-0.022***		-0.023***
		[-3.63]		[-3.80]
STEM&F - Resources		-0.081***		-0.077***
		[-3.68]		[-3.56]
STEM&F – Professional services		-0.000		-0.000
		[-0.04]		[-0.01]
NEDs Tenure	-0.001**	-0.001**	-0.001	-0.001
	[-2.35]	[-2.13]	[-1.48]	[-1.29]
Independence	0.055***	0.058***	0.046***	0.048***
	[3.71]	[3.90]	[3.13]	[3.29]
Nationality Mix	0.022**	0.022**	0.019**	0.020**
	[2.26]	[2.17]	[2.03]	[2.00]
Log (Board Size)	0.071***	0.047 5***	0.073***	0.077***
	[8.06]	[8.45]	[8.40]	[8.81]
Log (Total Assets)	0.013***	0.012***	0.012***	0.011***
	[10.61]	[9.79]	[9.88]	[9.05]
ROE	-0.000	-0.000	-0.000	-0.000
	[-0.93]	[-1.08]	[-1.22]	[-1.36]
Constant	-0.141***	-0.150***	-0.155***	-0.163***
	[-7.20]	[-7.59]	[-7.92]	[-8.27]
Year FE	No	No	Yes	Yes
R-squared	0.113	0.122	0.144	0.151
Adj. R-sq	0.112	0.119	0.141	0.147

Table 3: *Continues from the previous page*

Panel B				
VARIABLES	**(1)**	**(2)**	**(3)**	**(4)**
STEM&F	-0.001		-0.003	
	[-0.11]		[-0.20]	
STEM&F - Finance		-0.023		-0.023
		[-1.55]		[-1.64]
STEM&F - Information		0.024		0.022
		[1.61]		[1.55]
STEM&F - Manufacturing		-0.000		-0.002
		[-0.02]		[-0.13]
STEM&F - Resources		-0.081		-0.081
		[-1.45]		[-1.49]
STEM&F – Professional services		0.018		0.018
		[0.86]		[0.88]
NEDs Tenure	-0.003***	-0.002***	-0.003***	-0.002***
	[-3.31]	[-2.89]	[-3.08]	[-2.67]
Independence	0.043	0.057*	0.038	0.052*
	[1.37]	[1.82]	[1.26]	[1.70]
Nationality Mix	0.010	0.004	0.010	0.005
	[0.51]	[0.22]	[0.56]	[0.28]
Log (Board Size)	0.065***	0.062***	0.059***	0.056***
	[3.34]	[3.18]	[3.09]	[2.94]
Log (Total Assets)	0.012***	0.014***	0.012***	0.013***
	[4.78]	[5.12]	[4.83]	[5.15]
ROE	0.001	0.001	0.001	0.001
	[0.94]	[1.02]	[0.72]	[0.81]
Constant	-0.039	-0.059	-0.046	-0.065
	[-0.88]	[-1.31]	[-1.06]	[-1.48]
Year FE	No	No	Yes	Yes
R-squared	0.088	0.105	0.131	0.148
Adj. R-sq	0.0811	0.0944	0.124	0.137

Table 4. Fraction of women on the boards of firms in STEM&F sectors before and after 2018 in states other than California

This table reports the results of regressions of board diversity on a STEM&F dummy and STEM&F subsector dummies and controls. The sample in Panel A consists of 21,568 firm-year observations on non-California based firms from 2000-2017. The sample in Panel B consists of 5,025 firm-year observations on non-California based firms in 2018-2019.First two regressions do not include year fixed effects and the last two include year fixed effects.
*** Significant at the 1% level. ** Significant at the 5% level. * Significant at 10% level.

Panel A				
VARIABLES	**(1)**	**(2)**	**(3)**	**(4)**
STEM&F	-0.017***		-0.017***	
	[-9.79]		[-9.94]	
STEM&F - Finance		-0.023***		-0.023***
		[-11.44]		[-11.40]
STEM&F - Information		-0.007**		-0.007**
		[-2.31]		[-2.40]
STEM&F - Manufacturing		-0.007***		-0.008***
		[-3.68]		[-4.03]
STEM&F - Resources		-0.059***		-0.058***
		[-16.98]		[-16.99]
STEM&F - Professional services		-0.001		-0.001
		[-0.40]		[-0.23]
NEDs Tenure	-0.000**	-0.000***	-0.000*	-0.000**
	[-2.47]	[-3.10]	[-1.66]	[-2.29]
Independence	-0.004	0.000	-0.014**	-0.010*
	[-0.63]	[0.06]	[-2.41]	[-1.71]
Nationality Mix	0.015***	0.008*	0.012***	0.005
	[3.32]	[1.73]	[2.62]	[1.10]
Log (Board Size)	0.074***	0.071***	0.078***	0.075***
	[23.81]	[22.94]	[25.17]	[24.31]
Log (Total Assets)	0.010***	0.011***	0.009***	0.010***
	[21.68]	[24.41]	[19.55]	[22.26]
ROE	0.001***	0.001***	0.001***	0.001***
	[4.70]	[4.94]	[4.63]	[4.86]
Constant	-0.091***	-0.098***	-0.104***	-0.111***
	[-12.82]	[-13.67]	[-14.53]	[-15.30]
Year FE	No	No	Yes	Yes
R-squared	0.119	0.131	0.139	0.151
Adj. R-sq	0.118	0.131	0.138	0.150

Table 4: *Continues from the previous page*

Panel B				
VARIABLES	**(1)**	**(2)**	**(3)**	**(4)**
STEM&F	-0.024***		-0.024***	
	[-5.98]		[-6.07]	
STEM&F - Finance		-0.037***		-0.037***
		[-7.84]		[-7.88]
STEM&F - Information		-0.015**		-0.015**
		[-2.26]		[-2.30]
STEM&F - Manufacturing		-0.007		-0.008*
		[-1.64]		[-1.74]
STEM&F - Resources		-0.074***		-0.074***
		[-9.42]		[-9.42]
STEM&F - Professional services		0.005		0.004
		[0.58]		[0.51]
NEDs Tenure	-0.001***	-0.002***	-0.001***	-0.002***
	[-4.04]	[-4.59]	[-4.13]	[-4.67]
Independence	-0.001	0.013	-0.002	0.011
	[-0.05]	[0.95]	[-0.17]	[0.84]
Nationality Mix	0.019**	0.007	0.019**	0.007
	[2.10]	[0.76]	[2.07]	[0.75]
Log (Board Size)	0.048***	0.044***	0.048***	0.044***
	[6.54]	[5.99]	[6.55]	[6.01]
Log (Total Assets)	0.016***	0.019***	0.016***	0.018***
	[15.68]	[17.66]	[15.53]	[17.51]
ROE	0.000	0.000	0.000	0.000
	[0.77]	[0.92]	[0.81]	[0.95]
Constant	-0.014	-0.035**	-0.021	-0.043**
	[-0.84]	[-2.12]	[-1.27]	[-2.55]
Year FE	No	No	Yes	Yes
R-squared	0.138	0.156	0.147	0.165
Adj. R-sq	0.137	0.155	0.145	0.163

Table 5. Gender diversity on boards of STEM&F vs other sectors in California vs other states

This table reports the results of difference-in-difference-in-difference setting to measure the effect of 2018 changes on the average fraction of female directors in STEM&F sectors relative to non-STEM&F sectors in California compared to the average fraction of female directors in STEM&F sectors relative to non-STEM&F sectors in other states of the United States. The sample consists of 31,407 firm-year observations on firms from California and other states during 2018-2019.

*** Significant at the 1% level. ** Significant at the 5% level. * Significant at 10% level.

VARIABLES	**(1)**
DIDID	0.026*
	[1.90]
STEM&F*Time	-0.008**
	[-2.05]
STEM&F*CA	-0.002
	[-0.32]
Time*CA	-0.001
	[-0.06]
STEM&F	-0.017***
	[-9.51]
Time	0.063***
	[17.25]
CA	0.007
	[1.15]
NEDs Tenure	-0.001***
	[-4.93]
Independence	0.005
	[0.94]
Nationality Mix	0.016***
	[4.48]
Log (Board Size)	0.070***
	[25.88]
Log (Total Assets)	0.011***
	[28.64]
ROE	0.000***
	[3.62]
Constant	-0.095***
	[-15.46]
R-squared	0.164
Adj. R-sq	0.164

Figure 2. Timeline of SB 826 introduction

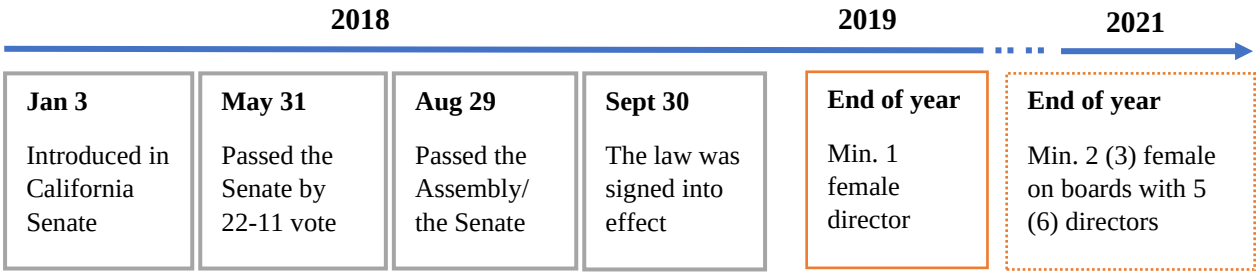


Figure 3. CAR, Market-adjusted model

Cumulative Abnormal Returns Plot of cumulative abnormal returns for announcement from event day -5 to +5. Abnormal returns are calculated using the market-adjusted model.

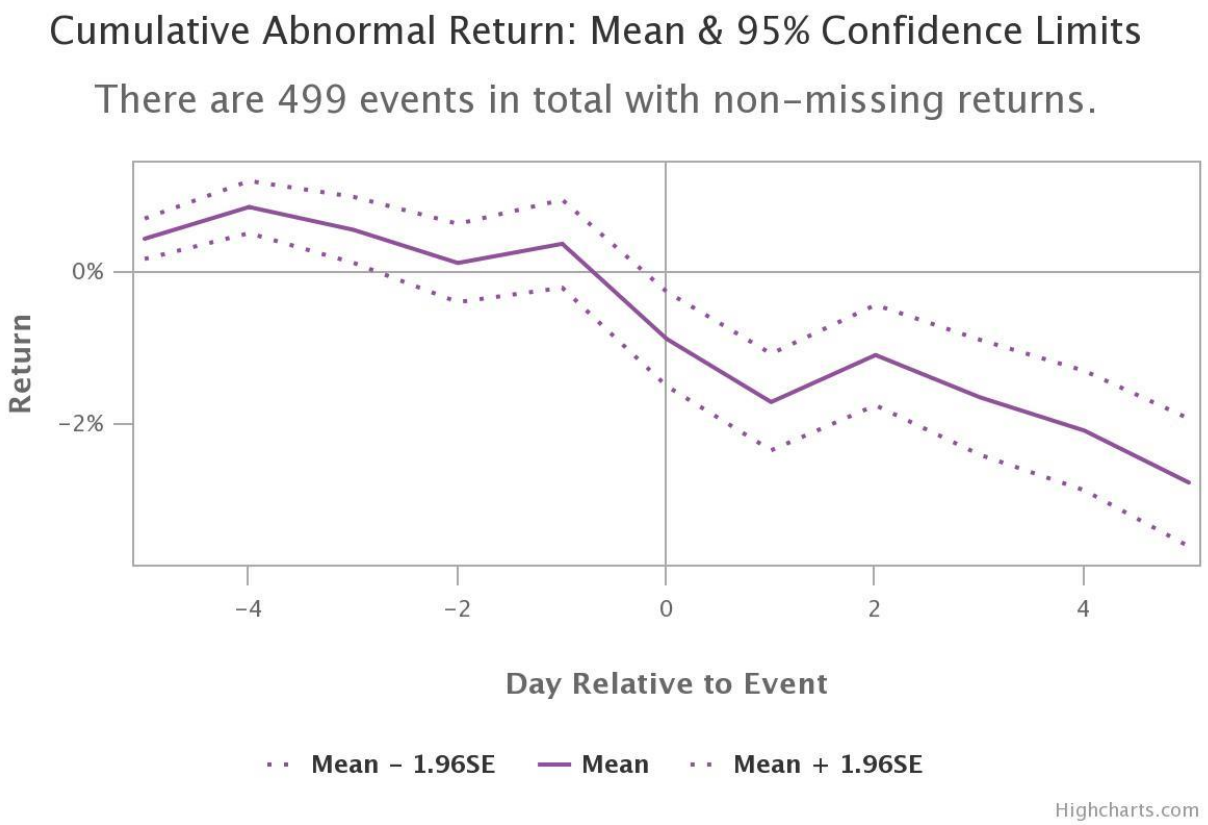


Table 6. Gap of female representation on boards, SB 826 and Firm Value

This table reports the results of regressions on the sample of 422 California based firms affected by SB 826. The dependent variable is Abnormal Return, which is the market adjusted model stock return on October 1, 2018. AddFemaleDirector 2019 or Gap 2019 is a dummy that takes a value of one if the board has zero female directors in 2018. AddFemaleDirector 2021 is a dummy that takes a value of one if the firm must add a female director to meet 2021 requirements of the Bill, and zero otherwise. Gap 2021 is the difference between the increased number of female directors needed to comply with SB 826 by the end of 2021 and their number prior to it. The % of Gap 2019 and % of Gap 2021 as Gap 2019 and Gap 2021 divided by board size. All other variables are defined in Appendix A. Each regression includes industry fixed effects. Robust standard errors are clustered at the firm level, with corresponding t-statistics shown in brackets. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**
Add Female Director 2019	-0.011**				
	[-2.18]				
Add Female Director 2021		-0.010***			
		[-3.06]			
Gap 2021			-0.007***		
			[-3.80]		
% of Gap 2019				-0.056*	
				[-1.84]	
% of Gap 2021					-0.047***
					[-3.45]
NEDs Tenure	0.000	0.000	0.000	0.000	0.000
	[0.88]	[0.86]	[0.83]	[0.86]	[0.81]
Independence	-0.026**	-0.020*	-0.023**	-0.026**	-0.025**
	[-2.46]	[-1.86]	[-2.19]	[-2.41]	[-2.37]
Log (Total Assets)	-0.001	-0.000	-0.001	-0.000	-0.001
	[-0.59]	[-0.47]	[-1.09]	[-0.43]	[-0.90]
ROE	0.003***	0.003***	0.003***	0.003***	0.003***
	[6.20]	[6.60]	[5.97]	[6.30]	[5.82]
Log (Board Size)	-0.003	0.001	-0.000	-0.004	-0.010
	[-0.36]	[0.17]	[-0.04]	[-0.53]	[-1.29]
Constant	0.022	0.012	0.025	0.022	0.045
	[0.85]	[0.55]	[1.01]	[0.83]	[1.63]
Industry FE	Yes	Yes	Yes	Yes	Yes
R-squared	0.082	0.080	0.102	0.077	0.097
Adj. R-sq	0.0456	0.0437	0.0665	0.0400	0.0612

Table 7. SB 826 mandate and firm value for firms with gender gaps on boards in STEM sectors vs other sectors in California and other states

This table reports the results of regressions on the sample of 356 California based firms (column 1 and column 3) affected by SB 826 as well as 2,158 firms from other states in the US (column 2 and column 4). The dependent variable is Abnormal Return, which is the market adjusted model stock return on October 1, 2018. Gap 2019 is a dummy that takes a value of one if the board has zero female directors in 2018. Gap 2021 is the difference between the increased number of female directors needed to comply with SB 826 by the end of 2021 and their number prior to it. All other variables are defined in Appendix A. Standard errors t-statistics shown in brackets. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	**(1)**	**(2)**	**(3)**	**(4)**
STEM&F x Gap 2019	0.027**	-0.001		
	[2.07]	[-0.20]		
Gap 2019	-0.038***	0.004		
	[-2.97]	[1.16]		
STEM&F x Gap 2021			0.000	-0.002
			[0.00]	[-1.23]
Gap 2021			-0.007	0.002
			[-1.47]	[1.45]
STEM&F	-0.003	-0.001	0.001	0.001
	[-0.57]	[-0.94]	[0.10]	[0.34]
NEDs Tenure	0.000	0.000	0.000	0.000
	[1.30]	[0.61]	[1.30]	[0.66]
Independence	-0.022*	-0.023***	-0.017	-0.025***
	[-1.89]	[-4.62]	[-1.48]	[-4.83]
Nationality Mix	0.018**	-0.004	0.015**	-0.004
	[2.49]	[-1.04]	[2.06]	[-1.05]
Log (Board Size)	0.001	-0.005*	0.001	-0.006**
	[0.13]	[-1.67]	[0.15]	[-2.06]
ROE	0.003***	-0.001**	0.003***	-0.001**
	[3.08]	[-2.07]	[3.18]	[-2.09]
Log (Total Assets)	0.000	0.001**	-0.000	0.001*
	[0.25]	[2.22]	[-0.05]	[1.95]
Constant	0.000	0.014**	0.003	0.016**
	[0.02]	[2.03]	[0.18]	[2.26]
R-squared	0.105	0.024	0.111	0.022
Adj. R-sq	0.0837	0.0194	0.0906	0.0183

Table 8. Different measures of Gap 2021 and Firm Value

This table reports the results of regressions on the sample of 396 California based firms affected by SB 826. The dependent variable is Abnormal Return, which is the market adjusted model stock return on October 1, 2018. Add Female Director 2021 is a dummy that takes a value of one if the firm must add a female director to meet 2021 requirements of the Bill, and zero otherwise. Gap 2021 is the difference between the increased number of female directors needed to comply with SB 826 by the end of 2021 and their number prior to it. Gap 2021_1, Gap 2021_2 and Gap 2021_3 are dummy variables that take a value of one if the firm must add correspondingly one, two or three female directors by the end of 2021. All other variables are defined in Appendix A. Standard errors t-statistics shown in brackets. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

VARIABLES	(1)	(3)	(5)	(7)	(9)
STEM&F*Add Female Director 2021	-0.004				
	[-0.33]				
Add Female Director 2021	-0.007				
	[-0.63]				
STEM&F*% Gap 2021		0.035			
		[0.97]			
% Gap 2021		-0.083**			
		[-2.36]			
STEM&F*Gap 2021_1			0.000		
			[0.01]		
Gap 2021_1			0.004		
			[0.39]		
STEM&F*Gap 2021_2				-0.005	
				[-0.55]	
Gap 2021_2				0.002	
				[0.27]	
STEM&F*Gap 2021_3					0.013
					[0.88]
Gap 2021_3					-0.026*
					[-1.83]
STEM&F	0.004	-0.005	0.001	0.003	-0.000
	[0.40]	[-0.67]	[0.17]	[0.52]	[-0.01]
NEDs Tenure	0.000	0.000	0.000	0.000	0.000
	[1.36]	[1.19]	[1.12]	[1.22]	[1.10]
Independence	-0.015	-0.019*	-0.017	-0.016	-0.021*
	[-1.25]	[-1.68]	[-1.48]	[-1.35]	[-1.78]
Nationality Mix	0.014**	0.016**	0.016**	0.016**	0.016**
	[1.98]	[2.21]	[2.28]	[2.22]	[2.19]
Log (Board Size)	0.004	-0.009	0.006	0.006	0.006
	[0.48]	[-1.13]	[0.77]	[0.74]	[0.83]
ROE	0.003***	0.003***	0.003***	0.003***	0.003***
	[3.21]	[3.12]	[3.21]	[3.24]	[2.99]
Log (Total Assets)	0.001	0.000	0.001	0.001	0.000
	[0.53]	[0.07]	[0.82]	[0.89]	[0.17]
Constant	-0.013	0.032	-0.023	-0.025	-0.013
	[-0.66]	[1.50]	[-1.37]	[-1.41]	[-0.77]
R-squared	0.086	0.112	0.074	0.072	0.099
Adj. R-sq	0.0645	0.0917	0.0522	0.0503	0.0781

Table 9. SB 826 mandate and firm value for firms in California vs other states

This table reports the results of ordinary least squares regressions on the sample of California firms and non-California firms. The dependent variable is Abnormal Return, which is the market model adjusted stock return on October 1, 2018. The Panel A includes firms from the all the states other than California. Panel B includes non-California control firms headquartered in states that, based on the Presidential election results over the past five elections, are less likely to be politically sympathetic to California. These states include AK, AL, AR, AZ, CO, FL, GA, IA, ID, IN, KS, KY, LA, ME, MI, MO, MS, MT, NC, ND, NE, NH, NM, NV, OH, OK, PA, SC, SD, TN, TX, UT, VA, WI, and WV. Panel C includes non-California control firms headquartered in states with the same top 3 industries as California (Real estate and rental and leasing, Professional and business services, Manufacturing) and with one of the next two major industries of California (either Educational services, health care, and social assistance or Information industries) in their top 5. These states include AL, AR, GA, ID, IL, KS, LA, MI, MN, MO, NC, OH, OR, SC, UT, VA. Panel D, Panel E and Panel F include non-California control firms based in states that during 2016-2018 had correspondingly similar to (AZ, KY, MO, TN), comparatively less (CO, FL, LA, NC, NJ, NV, NY, OK, OR, SC, TX, UT) or comparatively more (IL, IN, KS, MD, MI, MN, PA, VA, WA, WI) board gender diversity than California. Add Female Director 2019 or Gap 2019 is a dummy that takes a value of one if the board has zero female directors in 2018. Add Female Director 2021 is a dummy that takes a value of one if the firm must add a female director to meet 2021 requirements of the Bill, and zero otherwise. Gap 2021 is the difference between the increased number of female directors needed to comply with SB 826 by the end of 2021 and their number prior to it. CA Firm is a dummy that equals one if the firm is headquartered in California. All other variables are defined in Appendix A. Standard errors t-statistics shown in brackets. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Panel A			
VARIABLES	**(1)**	**(2)**	**(3)**
CA Firm x Gap 2019	-0.014***		
	[-3.67]		
Gap 2019	0.002		
	[0.94]		
CA Firm x Gap 2021		-0.006***	
		[-3.63]	
Gap 2021		-0.001	
		[-1.59]	
CA Firm x Add Female Director 2021			-0.011***
			[-2.64]
Add Female Director 2021			-0.001
			[-0.45]
CA Firm	0.001	0.007**	0.007**
	[0.71]	[2.56]	[2.00]
NEDs Tenure	0.000*	0.000*	0.000*
	[1.88]	[1.95]	[1.91]
Independence	-0.027***	-0.026***	-0.026***
	[-5.58]	[-5.49]	[-5.40]
Nationality Mix	-0.005*	-0.006**	-0.005**
	[-1.85]	[-2.38]	[-2.10]
Log (Board Size)	-0.000	-0.000	-0.000
	[-0.61]	[-1.25]	[-0.73]
ROE	-0.000	-0.000	-0.000
	[-1.09]	[-1.20]	[-1.07]
Constant	0.043***	0.049***	0.045***
	[6.45]	[7.49]	[6.88]
Industry FE	Yes	Yes	Yes
R-squared	0.064	0.067	0.063
Adj. R-sq	0.0579	0.0609	0.0564

Table 9: *Continues from the previous page*

Panel B			
VARIABLES	**(1)**	**(2)**	**(3)**
CA Firm x Gap 2019	-0.017***		
	[-4.57]		
Gap 2019	0.006***		
	[2.93]		
CA Firm x Gap 2021		-0.007***	
		[-4.32]	
Gap 2021		-0.000	
		[-0.00]	
CA Firm x Add Female Director 2021			-0.013***
			[-3.03]
Add Female Director 2021			0.001
			[0.44]
CA Firm	0.002	0.009***	0.009**
	[0.96]	[2.96]	[2.25]
NEDs Tenure	0.000	0.000	0.000
	[1.59]	[1.59]	[1.60]
Independence	-0.024***	-0.024***	-0.023***
	[-4.16]	[-4.16]	[-4.05]
Log (Board Size)	0.000	-0.002	-0.002
	[0.05]	[-0.68]	[-0.52]
Log (Total Assets)	-0.000	-0.001	-0.001
	[-0.78]	[-1.44]	[-1.10]
ROE	-0.001*	-0.001**	-0.001*
	[-1.90]	[-2.04]	[-1.95]
Constant	0.029***	0.038***	0.035***
	[3.64]	[4.81]	[4.44]
Industry FE	Yes	Yes	Yes
Observations	1,831	1,831	1,831
R-squared	0.082	0.083	0.076
Adj. R-sq	0.0731	0.0735	0.0670

Table 9: *Continues from the previous page*

Panel C			
VARIABLES	**(1)**	**(2)**	**(3)**
CA Firm x Gap 2019	-0.013***		
	[-3.15]		
Gap 2019	0.002		
	[0.55]		
CA Firm x Gap 2021		-0.006***	
		[-3.31]	
Gap 2021		-0.001	
		[-0.93]	
CA Firm x Add Female Director 2021			-0.011***
			[-2.71]
Add Female Director 2021			0.001
			[0.29]
CA Firm	0.001	0.007**	0.008**
	[0.75]	[2.45]	[2.20]
NEDs Tenure	0.000***	0.000***	0.000***
	[2.63]	[2.66]	[2.63]
Independence	-0.033***	-0.032***	-0.031***
	[-4.85]	[-4.69]	[-4.53]
Log (Board Size)	-0.002	-0.002	-0.001
	[-0.49]	[-0.61]	[-0.26]
Log (Total Assets)	-0.000	-0.001	-0.000
	[-0.42]	[-0.92]	[-0.33]
ROE	0.001*	0.001*	0.001**
	[1.81]	[1.91]	[2.00]
Constant	0.040***	0.043***	0.034***
	[3.43]	[3.76]	[3.01]
Industry FE	Yes	Yes	Yes
Observations	1,115	1,115	1,115
R-squared	0.067	0.075	0.064
Adj. R-sq	0.0514	0.0596	0.0487

Table 9: *Continues from the previous page*

Panel D			
VARIABLES	**(1)**	**(2)**	**(3)**
CA Firm x Gap 2019	-0.022***		
	[-3.38]		
Gap 2019	0.012**		
	[2.02]		
CA Firm x Gap 2021		-0.010***	
		[-3.64]	
Gap 2021		0.003	
		[1.44]	
CA Firm x Add Female Director 2021			-0.011
			[-1.62]
Add Female Director 2021			0.001
			[0.10]
CA Firm	0.002	0.012***	0.007
	[0.78]	[2.66]	[1.18]
NEDs Tenure	0.000	0.000	0.000
	[0.83]	[0.85]	[0.98]
Independence	-0.033***	-0.031***	-0.028***
	[-3.43]	[-3.33]	[-2.99]
Log (Board Size)	0.005	0.005	0.005
	[0.81]	[0.90]	[0.97]
Log (Total Assets)	-0.001	-0.002**	-0.001
	[-1.57]	[-2.04]	[-1.64]
ROE	0.003***	0.003***	0.003***
	[3.24]	[3.26]	[3.31]
Constant	0.019	0.018	0.017
	[1.11]	[1.08]	[1.05]
Industry FE	Yes	Yes	Yes
Observations	556	556	556
R-squared	0.093	0.106	0.083
Adj. R-sq	0.0624	0.0759	0.0520

Table 9: *Continues from the previous page*

Panel E			
VARIABLES	**(1)**	**(2)**	**(3)**
CA Firm x Gap 2019	-0.013***		
	[-3.15]		
Gap 2019	-0.000		
	[-0.17]		
CA Firm x Gap 2021		-0.006***	
		[-3.30]	
Gap 2021		-0.002	
		[-1.48]	
CA Firm x Add Female Director 2021			-0.012***
			[-2.62]
Add Female Director 2021			-0.000
			[-0.02]
CA Firm	0.001	0.007**	0.008*
	[0.35]	[2.16]	[1.94]
NEDs Tenure	0.000	0.000	0.000
	[0.50]	[0.45]	[0.46]
Independence	-0.022***	-0.020***	-0.020***
	[-3.38]	[-3.17]	[-3.06]
Log (Board Size)	-0.006	-0.006	-0.005
	[-1.55]	[-1.63]	[-1.34]
Log (Total Assets)	-0.001	-0.001	-0.001
	[-1.15]	[-1.63]	[-1.00]
ROE	0.001	0.001	0.001
	[1.17]	[1.16]	[1.30]
Constant	0.047***	0.050***	0.042***
	[5.18]	[5.74]	[4.78]
Industry FE	Yes	Yes	Yes
Observations	1,455	1,455	1,455
R-squared	0.089	0.096	0.087
Adj. R-sq	0.0776	0.0843	0.0754

Table 9: *Continues from the previous page*

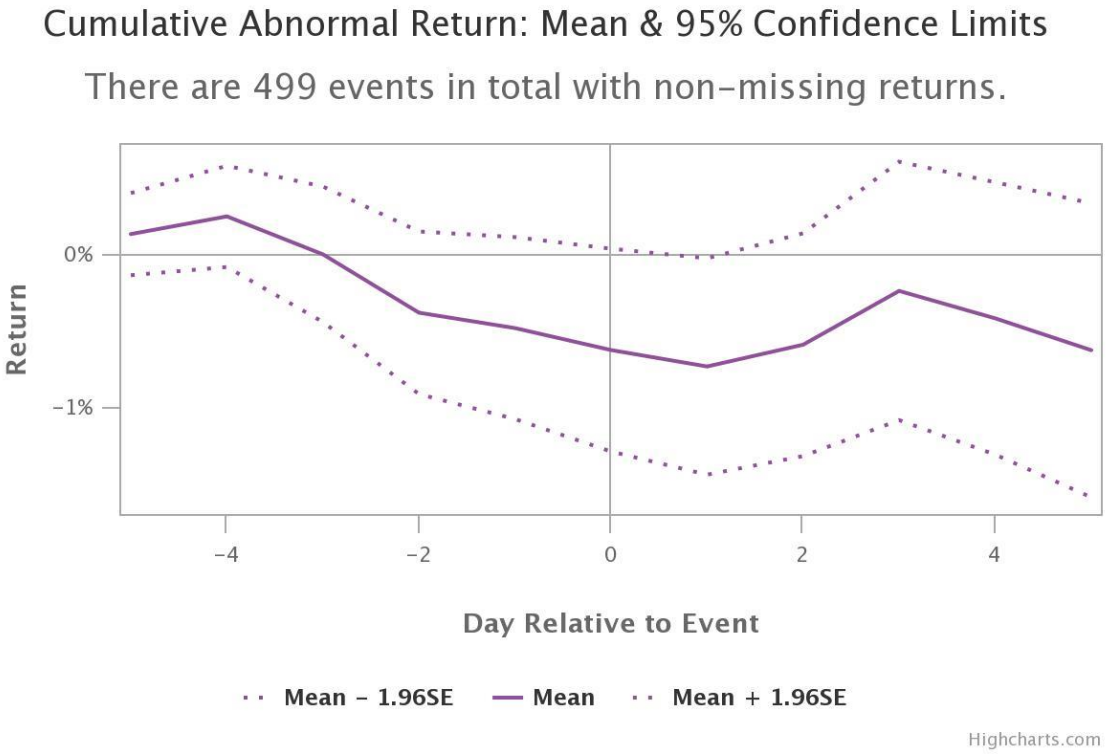
Panel F			
VARIABLES	**(1)**	**(2)**	**(3)**
CA Firm x Gap 2019	-0.013***		
	[-2.59]		
Gap 2019	0.002		
	[0.45]		
CA Firm x Gap 2021		-0.005**	
		[-2.54]	
Gap 2021		-0.002	
		[-1.12]	
CA Firm x Add Female Director 2021			-0.010**
			[-2.11]
Add Female Director 2021			-0.000
			[-0.14]
CA Firm	0.002	0.007**	0.008*
	[0.87]	[2.07]	[1.82]
NEDs Tenure	0.000*	0.000*	0.000*
	[1.74]	[1.78]	[1.76]
Independence	-0.028***	-0.026***	-0.025***
	[-3.42]	[-3.18]	[-3.06]
Log (Board Size)	-0.005	-0.006	-0.005
	[-1.08]	[-1.27]	[-0.97]
Log (Total Assets)	-0.000	-0.000	-0.000
	[-0.24]	[-0.64]	[-0.14]
ROE	0.002**	0.002**	0.002**
	[2.19]	[2.26]	[2.36]
Constant	0.032**	0.037***	0.028**
	[2.45]	[2.80]	[2.17]
Industry FE	Yes	Yes	Yes
Observations	1,075	1,075	1,075
R-squared	0.044	0.051	0.042
Adj. R-sq	0.0275	0.0344	0.0255

Appendix A: Description of variables

Variable Name	Definition/construction
Abnormal Return	Market model adjusted stock return on October 1, 2018, the first trading day after the Governor signed SB 826
Gap 19	The difference between the mandated number of female directors the board must have by 2019 (at least 1) and the pre-SB 826 number of female directors
Gap 21	The difference between the mandated number of female directors the board must have by 2021 and the pre-SB 826 number of female directors
% Gap 19	Gap 19 divided by pre-SB 826 board size
% Gap 21	Gap 21 divided by pre-SB 826 board size
Add Female Director 19	Dummy that takes a value of one if the pre-SB 826 board has zero female directors and zero otherwise
Add Female Director 21	Dummy that takes a value of one if Gap is positive and zero otherwise
Total Assets	Compustat item AT
Sales	Compustat item SALE
Board size	Number of directors on the firm's board
Net Income	Compustat item NI
Common Equity	Compustat item CEQ
Total Assets	Compustat item AT
ROE	Compustat items NI/CEQ
Board Size	Number of directors on the firm's board
Number of women	Number of female directors on the firm's board
NEDs Tenure	Tenure of non-executive directors
Independence	Proportion of non-executive directors on the firm's board
Nationality Mix	Proportion of directors from different countries

Appendix B: CAR, Fame-French model

Cumulative Abnormal Returns Plot of cumulative abnormal returns for announcement from event day -5 to +5. Abnormal returns are calculated using Fama-French model.



Appendix C: Board diversity in STEM&F sectors during 2000-2019 in states other than California

This table reports the results of regressions of board diversity on a STEM&F dummy and STEM&F subsector dummies and controls. The sample consists of 26,593 firm-year observations on non-California based firms during 2000-2019. First two regressions do not include year fixed effects and the last two include year fixed effects.
*** Significant at the 1% level. ** Significant at the 5% level. * Significant at 10% level.

VARIABLES	(1)	(2)	(3)	(4)
STEM&F	-0.018***		-0.018***	
	[-10.94]		[-11.61]	
STEM&F - Finance		-0.026***		-0.025***
		[-13.73]		[-13.69]
STEM&F - Information		-0.008***		-0.008***
		[-2.89]		[-3.13]
STEM&F - Manufacturing		-0.006***		-0.008***
		[-3.39]		[-4.43]
STEM&F - Resources		-0.062***		-0.061***
		[-19.02]		[-19.40]
STEM&F - Professional services		-0.000		0.000
		[-0.05]		[0.01]
NEDs Tenure	-0.001***	-0.001***	-0.000***	-0.001***
	[-4.67]	[-5.55]	[-3.18]	[-3.99]
Independence	0.007	0.013**	-0.012**	-0.006
	[1.37]	[2.39]	[-2.17]	[-1.12]
Nationality Mix	0.020***	0.011***	0.013***	0.006
	[4.78]	[2.69]	[3.37]	[1.44]
Log (Board Size)	0.067***	0.064***	0.073***	0.069***
	[22.83]	[21.79]	[25.38]	[24.41]
Log (Total Assets)	0.012***	0.014***	0.010***	0.012***
	[28.38]	[31.74]	[24.42]	[27.68]
ROE	0.000***	0.000***	0.000***	0.000***
	[4.26]	[4.52]	[4.07]	[4.31]
Constant	-0.087***	-0.096***	-0.101***	-0.110***
	[-12.96]	[-14.24]	[-15.14]	[-16.33]
Year FE	No	No	Yes	Yes
R-squared	0.123	0.136	0.177	0.189
Adj. R-sq	0.123	0.136	0.177	0.189