

Market Response to Court Rejection of California's Board Diversity Laws

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Abstract: California mandated that firms headquartered in the state include women (SB 826) and underrepresented minorities (AB 979) on their corporate boards. These laws, passed in 2018 and 2020 respectively, were held to be unconstitutional by judges on the Los Angeles County Superior Court in 2022. This paper examines the market reaction to these surprising court decisions, finding that California firms appreciated significantly on the days of the rulings, and there is evidence that firms that were not in compliance with the laws exhibited larger abnormal returns than firms that were in compliance.

Introduction

White men dominate corporate boards in the U.S. In its 2020 report, the Alliance for Board Diversity found that nearly 62 percent of Fortune 500 corporate boards seats were filled by white men. While this share is lower than the 75 percent reported in 2010, many diversity advocates, including the authors of the report, suggest that the pace toward fully representative boards is too slow and, therefore, more needs to be done to encourage the appointment of women and individuals from underrepresented to board seats.

To jumpstart board diversity, California became the first state in the nation to legislate board diversity mandates. On September 30, 2018, Governor Jerry Brown signed Senate Bill 826 (SB 826) which required female representation on the boards of all companies headquartered in California. This was followed on September 30, 2020 by Governor Gavin Newsom's approval of Assembly Bill 979 (AB 979) which required that boards of California headquartered companies also include a minimum number of individuals from underrepresented racial, ethnic, or sexual orientation background.

In addition to citing the low number of women and individuals from minority groups on boards, the California legislative acts included a litany of claims regarding the economic benefits of greater board diversity. Despite these claims, there is evidence that affected firms exhibited reduced stock market returns upon the initial passage of these board mandates.

Some corporate law scholars suggested these stock market effects do not necessarily indicate the markets view diversity mandates themselves as hurting firm value. Instead, many suggested the market might have taken the legislation as a sign that California will become more active in interfering with corporate governance more generally, perhaps even challenging the Internal Affairs Doctrine given that California applied the mandates to California headquartered firms even if they were incorporated elsewhere.

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Empirically, there are additional concerns that it is not possible to isolate the effect of SB 826 since its passage occurred at a moment when many legislative acts were approved simultaneously. This perfect collinearity of the various law changes casts doubt on causal identification. Likewise, for both of the mandates, any market effects occurring at the time of adoption would necessarily include the evaluation of investors regarding the implications for firm value of a weakening of the internal affairs doctrine.

In this paper, I exploit the surprising (timing-wise as well as holding-wise) invalidation of both mandates by judges on the Los Angeles County Superior Court on April 1, 2022 (invalidating AB 979) and May 13, 2022 (invalidating SB 826) to circumvent both of the problems raised above. Because internal affairs issues were not raised in either of the cases, presumably the court holdings did little to change the market's expectation of general meddling by California lawmakers. Further, the timing of these decisions does not appear to coincide with other major legal or business happenings in the state.

Using event study techniques, I find that both judgements are associated with statistically significant abnormal returns. The magnitude of the abnormal returns is larger for firms that were not in compliance with the mandates. Further, examination of several firms that had relocated their headquarters outside of California by 2022 shows no evidence of similarly large abnormal returns on the days the court decisions were released.

These results strengthen the earlier inferences that the market reacted negatively to the adoption of board diversity mandates. This suggests that there is no systematic diversity arbitrage opportunity that corporations need to be compelled to exploit and there are firm costs to constraining the corporate director choice set by legislative mandate, at least from the perspective of market investors.

Evidence on Board Diversity and Firm Performance

In the bills proposing the diversity mandates, it is claimed that there is a substantial literature making the so-called business case for diversity. As stated in the text of SB 826, "Numerous independent studies have concluded that publicly held companies perform better when women serve on their boards of directors."² More specifically, the legislation cites consulting reports and academic papers that claim to find a strong positive relationship between more diverse boards and positive firm performance and valuation. For example, in one of its findings and declarations, the text of AB 979 includes "According to a report by McKinsey and Company, for every 10 percent increase in racial and ethnic diversity on the senior-executive team, earnings before interest and taxes rise 0.8 percent."³ In the eventual litigation regarding the mandates, the parties clashed on the quality of this evidence.

Systematic meta-analyses generally find little relationship between diversity and organizational performance on average.⁴ However, such reviews do not limit their attention to the corporate setting, and, in any event, metanalyses generally do not make distinctions among studies based on their methodological credibility. When empirical rigor is taken into account, the literature on the relationship between board (or management) diversity and corporate performance provides little confidence in terms of isolating the causal effect of diversity on firm outcomes, positive or negative.⁵

² https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB826

³ https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB979

⁴ See, for example, Bowers et al (2000), Webber and Donahue (2001), Stewart (2006), and Stahl et al (2010).

⁵ For more on this point, see Klick (2021, 2024)

Using one of the most promising designs in the literature, Ahern and Dittmar (2012) examine the natural experiment in which Norway mandated female representation on corporate boards with a law that required 40 percent of all seats to be filled by women. Comparing the stock return impacts for Norwegian public companies upon the announcement of the law in 2003 with contemporaneous changes observed for firms in other Scandinavian countries, the authors conclude that the law was causally associated with a large and statistically significant decline in returns. They also find that, compared to the counterfactual male directors, firms appointed women with less CEO experience, although the female board members tended to be better educated.

Matsa and Miller (2013) examine the experience of the Norwegian firms before and after the 2006 implementation of the board mandate using both unlisted (Norwegian) firms that were unaffected by the mandate and firms from other Scandinavian countries both in separate difference-in-difference specifications and in a combined triple differences specification, finding that the treated Norwegian firms exhibited larger workforces, higher labor costs, and reduced profit measures. The authors provide some evidence that the primary channel through which changing board membership affected outcomes was through replacing a firm's CEO, finding differential performance changes between the firms that did and did not replace their chief executives.

Eckbo et al (2022) raises criticisms of the Ahern and Dittmar study, focusing on concerns about the actual date that the market became aware of the impending board mandate. Eckbo et al also criticize Ahern and Dittmar for not accounting for cross sectional dependence in the returns for their treatment firms and their control firms. Once different dates are used and when they correct for dependence, Eckbo et al find little evidence of a negative market reaction to the Norwegian board mandate. Eckbo et al also take issue with Matsa and Miller's difference-in-difference strategy suggesting that unlisted Norwegian firms are not a credible counterfactual comparison group.

Studies focusing on the adoption of California's mandates suffer from the problems discussed above, primarily the concerns that many legal changes occurred when SB 826 became law and the potentially even more problematic issue that the mandates themselves signaled other changes to investors, such as the potential chipping away of the internal affairs doctrine for California headquartered firms. The literature is left with relatively few well-identified research designs regarding the effect of diversity on corporate boards.

The Statutes

State Senator Hannah-Beth Jackson authored SB 826 which amended the California Corporations Code by adding sections 301.3 and 2115.5. Providing a selection of the positive evidence relating to board gender diversity, the bill summarizes effects identified in the literature indicating "More women directors serving on boards of directors of publicly held corporations will boost the California economy, improve opportunities for women in the workplace, and protect California taxpayers, shareholders, and retirees, including retired California state employees and teachers whose pensions are managed by CalPERS and CalSTRS. Yet studies predict that it will take 40 or 50 years to achieve gender parity, if something is not done proactively." The bill particularly emphasizes the so-called critical mass effect, noting "Further, several studies have concluded that having three women on the board, rather than just one or none, increases the effectiveness of boards."

The mandate requires "No later than the close of the 2019 calendar year, a publicly held domestic or foreign corporation whose principal executive offices, according to the corporation's SEC 10-K form, are

located in California shall have a minimum of one female director on its board. A corporation may increase the number of directors on its board to comply with this section.” By 2021, the same firms are required to have three female directors if their boards have six or more total seats, two females for five-member boards, and one woman for boards that are four seats or fewer.

SB 826 also requires data collection and publication of a report by the Secretary of State that indicates information about the number of firms that are in compliance with the mandate, the number of firms moving their headquarters to or away from California, and the number of corporations that were previously subject to the mandate but are no longer publicly traded.

The law also provided for enforcement by the Secretary of State by allowing for fines of companies that fail to provide the relevant board demographic data, as well as differential fines for first time and subsequent offenses of \$100,000 and \$300,000 respectively.

AB 979, authored by Assemblymembers Chris Holden, Cristina Garcia, and David Chiu, with Assemblymember Eloise Gomez Reyes and Senator Ben Hueso as principal co-authors, parallels SB 826. It also amended the California Corporations Code, specifically adding sections 301.4 and 2115.6 and amending section 301.3. According to the mandate, by 2021 a publicly traded California-headquartered company “shall have a minimum of one director from an underrepresented community on its board.” By 2022, firms with boards of nine or more directors must have three directors from an underrepresented community, corporations with board sizes from five to eight must have two such directors, and firms with boards of four or fewer members must have one director from an underrepresented community. AB 979 also includes the data collection and publication requirements outlined in SB 826, and the enforcement structure is identical to that found in SB 826.

For the purposes of identifying an underrepresented community, the law indicates “‘Director from an underrepresented community’ means an individual who self-identifies as Black, African American, Hispanic, Latino, Asian, Pacific Islander, Native American, Native Hawaiian, or Alaska Native, or who self-identifies as gay, lesbian, bisexual, or transgender.”

A number of studies⁶ examined the effect of the passage of SB 826 on the returns of firms headquartered in California. Greene et al (2020) found that California headquartered firms exhibited negative abnormal returns on average on the day SB 826 was signed into law. Perhaps more compellingly, they find that the magnitude of the negative average return grows monotonically the farther away a firm is from satisfying the mandate (i.e., needing to add zero or one woman to the board as opposed to needing to add two or three women in order to comply). One explanation for the negative abnormal returns involves supply constraints to finding female board members. To support this conclusion, Greene et al (2020) provide some evidence that firms that would generally have a harder time filling board slots with women exhibited larger negative abnormal returns.

Von Meyerinck et al (2022) propose an alternative explanation for the negative abnormal returns. Namely, because the effects generally appear too large to be accounted for by supply limitations and

⁶ See working papers by Hwang et al (2021) and von Meyerinck et al (2022) both of which also find evidence of negative market reactions to California firms upon adoption of SB 826. However, Allen and Wahid (2023) dispute whether there actually was a negative reaction to SB 826, suggesting that the results of other papers are not robust to alternative specifications. They also provide some evidence that there were positive market reactions to many of the political events that made SB 826’s passage more likely.

because they observe negative abnormal returns for similar companies outside of California, Von Meyerinck et al (2022) suggest that the issue is not board mandates per se, but rather what the mandates represent. They suggest the markets infer that California's (and some other politically similar states) diversity law portends a greater tendency to engage in stakeholder friendly regulation. In addition to the spillover effects observed outside of California, they also offer results indicating that firms already voluntarily engaging in ESG activities saw smaller market impacts associated with the adoption of SB 826.

Interestingly, along similar lines, Fisch and Davidoff Solomon (2019) suggest that SB 826 could perhaps provide the opportunity to better define the Internal Affairs Doctrine as not applying to business regulations that are primarily focused on societal, as opposed to business or financial, effects.⁷ In such a case, the potential weakening of the application of the Internal Affairs Doctrine occasioned by SB 826 could provide a specific channel for the causal claim made in Von Meyerinck et al (2022).

Von Meyerinck (2022) also provides a reason to be concerned about the event studies examining the adoption of SB 826. They note that the same weekend SB 826 was signed by the governor, the governor made adoption decisions on almost 200 other bills. They provide some evidence that only one other bill generated as much coverage in the press, and they make attempts to account for the trouble such collinearity poses for isolating the effects of the diversity mandate, but such issues clearly threaten the clean identification of any SB 826 specific effect.⁸

While it appears that SB 826's adoption was associated with a reduction in the returns for California headquartered firms, there are questions about the causal mechanism and there are concerns about identification.

Court Challenges

Three lawsuits were filed challenging SB 826 and AB 979. Meland v. Weber was filed in federal court by a shareholder of a California headquartered firm on the grounds that SB 826 would force shareholders to vote in ways that discriminated in board elections. At the district court level, the case was dismissed on standing grounds (the argument essentially held that any putative discrimination would be carried out by the firm, not the individual shareholder). On appeal, the 9th Circuit held that Meland did have standing, remanding the case to the district court. On the second go-around, the district court refused to grant the preliminary injunction of SB 826 Meland had sought, indicating that the plaintiff had not demonstrated the plaintiff was likely to win, but otherwise not providing any indication of how SB 826 would ultimately be treated. Further, given the existence of the relevant state cases involving the diversity mandates, the trial judge expressed a desire to wait for the resolution of the state cases.

In state court, cases against SB 826 (Crest v. Padilla I) and AB 979 (Crest v. Padilla II) were brought by Judicial Watch on behalf of California taxpayers (Robin Crest, Earl De Vries, and Judy De Vries). Largely, the plaintiffs' argument in both cases involved the claim that the diversity mandates violate the equal protection clause of the California Constitution by treating men and women (or white heterosexual cisgender individuals and members of underrepresented communities) differently under the law and

⁷ Contrast with, for example, Grundfest (2018) which confidently predicts that SB 826 would be severely limited in its application due to its conflict with the Internal Affairs Doctrine.

⁸ For a general discussion of this problem, see Fisch et al (2018).

therefore the state would be using taxpayer money to promulgate and enforce an illegal law. Neither case involved the Internal Affairs Doctrine (nor did the federal case).

Crest v. Padilla II resolved first with Judge Terry A. Green granting the plaintiffs' summary judgement request on April 1, 2022. Green found that there were no material facts in dispute and agreed with the plaintiffs' facial challenge to AB 979 as violating Article 1 Section 7 of the California Constitution, the state's equal protection clause. Further, Green indicated that the state had not carried its burden to identify a compelling interest for treating members of underrepresented communities differently than white males. The state's invocation of remedying societal discrimination was deemed too broad to survive scrutiny, as was its claim that more diverse boards would provide general economic benefits to California. The judge also implied that had the state provided more specific compelling interests, there was no record of convincing evidence regarding those interests, and he also implied that AB 979 likely was not narrowly tailored, another requirement under strict scrutiny.

A little more than a month later, Judge Maureen Duffy Lewis likewise found for the plaintiffs issuing a decision on May 13, 2022, after a trial spread over the period November 2021 through February 2022. Although the judgment was issued after the trial, the decision followed similar logic to Green's summary judgment decision. Duffy Lewis also found that SB 826 violated the state's equal protection provision of its constitution and indicated that a compelling state interest is lacking. Further, the state had not proved that SB 826's gender-based classification was necessary or narrowly tailored to meet its goals.

The timing of these decisions was surprising. The timing did not coincide with other relevant activity the way SB 826's passage occurred in the middle of a flurry of law adoptions. Perhaps more important, in making inferences about the causal channel, these decisions provided no comment or information on the on-going viability of socially conscious business regulations as long as they do not fall within the scope of California's equal protection clause. Nor did the decisions speak to the Internal Affairs Doctrine, as neither of the parties brought any claim related to corporate law more broadly. For these reasons, the judicial invalidations of AB 979 and SB 826 may provide a better context to isolate the market reaction to corporate board diversity mandates than the original adoption of the mandates does. At a minimum, the legal decisions provide an additional opportunity to examine the market's reaction to changes in board regulations.

Market Reaction

As indicated above, the basic research design focuses on the dates when the California board diversity mandates were invalidated: April 1, 2022 (minority mandate) and May 13, 2022 (female mandate). I estimate the abnormal returns for each of these dates separately, though, clearly, they may be related to some extent. For example, had the decisions come out opposite to each other, market participants might make inferences about the likelihood of appeal given how similar the two cases are.

I estimate the effects in a panel where I allow for each firm to have its own intercept or fixed effect, and I allow for each firm to have its own slope coefficient on the market return variable (for which I use the CRSP value weighted return). I multi-way cluster standard errors at the firm level to account for within firm dependence of returns and the day level to account for temporal cross-sectional dependence across firms.⁹

⁹ See Cameron, Gelbach, and Miller (2011) or Peterson (2009).

I present single day event windows. Estimates are generally larger and more precise if I examine three-day windows centered on the event date.

Data

My sample of firms comes from the list of California headquartered firms published by the Secretary of State for 2021¹⁰ which includes details about their boards if the firm reported that information pursuant to the reporting requirements of the diversity mandates. These firms are listed in the appendixes. I matched the company names with the trading ticker and then extracted return data from the CRSP database. I use return data from April 7, 2021 through March 31, 2022 for the estimation window (which allows for 250 trading days) and then add the observations for the two days the court decisions were released.

I also code, based on the California Diversity Report, whether the firm is in compliance with each of the mandates, creating four categories: 1) compliant with both mandates; 2) compliant with minority mandate but not female mandate; 3) compliant with female mandate but not minority mandate; and 4) compliant with neither mandate. For the fourth category, I examine two different definitions – one based on only firms that report being non-compliant and a second where I also include firms that do not report board details at all. It is a reasonable, though largely unverifiable, assumption that compliant firms will want to report as being compliant.

Results

In Table 1, I provide results for the full sample of firms, the fully compliant subsample, and both versions of the subsample of firms that are compliant with neither mandate.

Table 1: Effects of Court Decisions on California Firms by Compliance Category (Standard Errors Clustered by Firm and Day)				
	Overall	Compliant with Both Mandates	Compliant with Neither Mandate	
			Reporters Only	All
Minority Mandate Invalidated	0.0054*** (0.0007)	-0.0006 (0.0017)	0.0078*** (0.0011)	0.0054*** (0.0008)
Female Mandate Invalidated	0.0143*** (0.0019)	0.0130*** (0.0023)	0.0170*** (0.0024)	0.0176*** (0.0022)
Firm-Specific Constants	Yes	Yes	Yes	Yes
Firm-Specific Market Effects	Yes	Yes	Yes	Yes
Note: Data cover April 7, 2021 through March 31, 2022 and the event days of April 1, 2022 and May 13, 2022 *** p < 0.01				

¹⁰ Diversity on Boards, March 2022 Report available at <https://bpd.cdn.sos.ca.gov/div-on-boards/dob-report-2022.pdf>.

The minority mandate effect is negative, very close to zero, and not statistically significant for firms compliant with both mandates. However, the female mandate effect is significantly positive for firms compliant with both mandates. For firms that are totally non-compliant, the effect of both court decisions is significantly positive, regardless of whether I include non-reporters or not.

In Table 2, I examine the partial compliers.

Table 2: Effects of Court Decision for Partially Complying California Firms		
(Standard Errors Clustered by Firm and Day)		
	Compliant with Minority Mandate Only	Compliant with Female Mandate Only
Minority Mandate Invalidated	0.0054** (0.0024)	0.0087*** (0.0008)
Female Mandate Invalidated	0.0152*** (0.0034)	0.0017 (0.0015)
Firm-Specific Constants	Yes	Yes
Firm-Specific Market Effects	Yes	Yes
Note: Data cover April 7, 2021 through March 31, 2022 and the event days of April 1, 2022 and May 13, 2022.		
*** $p < 0.01$		
** $p < 0.05$		

In both cases, the effect of the invalidation of the mandate the firm is not compliant with is associated with large statistically significant abnormal returns. For the mandate with which they are already complying, the estimated effect is much smaller, and it is not statistically significant for the Female mandate compliers.

These results are largely in line with the invalidation of the mandates leading to large abnormal returns, and the abnormal returns appear to be especially large for the firms that are not already in compliance, which is consistent with the mandates imposing costs without offsetting benefits from the perspective of the financial markets.

In Table 3, I present the results of a difference-in-difference analysis, using non-California headquartered firms as the control group. These models continue to allow for firm-specific fixed effects and market return slopes, and I continue to multi-way cluster at the firm and day level. This model adds date fixed effects which account for any idiosyncratic shocks occurring across firms on any given day. I examine three different aggregations of the treatment effects associated with the court outcomes: 1) the average effect for all California firms; 2) the average effect for all totally non-compliant firms headquartered in California (i.e., those firms that comply with neither mandate) dropping all other California firms; and 3) the general average effect on all California firms while allowing for differential effects for firms that are not in compliance separately with each mandate.

Table 3: Difference-in-Difference Model of Effects of Court Decision on California Firms Relative to Rest of USA (Standard Errors Clustered by Firm and Day)			
	Treatment Group		
	All CA Firms	Fully Non-Compliant	Incremental Effect of Non-Compliance
Minority Mandate Invalidated	0.0030*** (0.0004)	0.0030*** (0.0005)	-0.0005 (0.0008)
Female Mandate Invalidated	0.0084*** (0.0013)	0.0117*** (0.0016)	0.0001 (0.0012)
Minority Mandate Invalidated * Specific Non-Compliance			0.0043*** (0.0007)
Female Mandate Invalidated * Specific Non-Compliance			0.0114*** (0.0016)
Firm-Specific Constants	Yes	Yes	Yes
Firm-Specific Market Effects	Yes	Yes	Yes
Date Fixed Effects	Yes	Yes	Yes
Note: Data cover April 7, 2021 through March 31, 2022 and the event days of April 1, 2022 and May 13, 2022. *** p < 0.01			

The difference-in-difference estimates continue to suggest that there were positive effects on California headquartered firms when each mandate was invalidated, and this effect is not observed among firms headquartered outside of California. The second two specifications indicate that the California effect is concentrated among those firms not in compliance with the model allowing for differential effects across complying and non-complying California headquartered firms suggesting that all of the positive effect is due to firms not in compliance with each of the mandates. The effects are large and statistically significant.

There is some concern that there may be size distortions in difference-in-difference tests using financial data with relatively few event observations.¹¹ One alternate approach to inference is to use non-parametric permutation tests which have generally been shown to have correct size and good power. Essentially, I ran the Table 3 regressions using each of the 250 trading days in the estimation period as if it were the date of the court reversal to yield a distribution of placebo estimates. In each instance, the effect of the reversal of the minority mandate was not extreme relative to the placebo distribution, lowering confidence that anything systematic was occurring on that day. However, for the treatment effects of the court decision invalidating the female mandate, the Table 3 treatment effect estimates would stand above the 92nd percentile (all CA firms as treated), the 93rd percentile (completely non-compliant CA firms as treated; other CA firms dropped), and the 99th percentile (all CA firms included but allowing for differential effects for CA firms in general on decision days and incremental effects for CA firms not complying with each mandate separately) respectively.

¹¹ The results and intuition of Gelbach et al (2013) generalize to the difference-in-difference case, as shown in Conley and Taber (2011) for the generic micro case; simulations in Bunnenberg and Meyer (2016) suggest that the permutation approach works well for financial return data.

A weak interpretation of these results suggests, at a minimum, that invalidating the California mandates did not generate a negative effect on firm value, noting that the non-parametric inference approach generally entails substantially better power than other inference methods. A stronger interpretation suggests that invalidating the female board mandate was greeted with higher valuations for firms that were not in compliance. Interpreting the estimated effects associated with the invalidation of the minority mandate is harder. While that invalidation does not appear to be related to systematically higher returns, one argument would be that markets were waiting to see what would happen to the female mandate given that its resolution likely provides information about the prospects of any attempt by California to appeal the rulings.

While compelling, the difference-in-difference model presented above may be problematic if firms headquartered inside and outside of California are not good comparators. To help mitigate this concern, Table 4 implements an entropy balancing approach (Hainmueller 2012, Hainmueller and Xu 2013), weighting the sample such that the California headquartered firms are similar to the non-California firms along a number of dimensions. Specifically, I use Hainmueller and Xu's entropy balancing program to ensure that both the California treatment group and the non-California control group have similar average market slopes, trading volumes, and market capitalizations, separately and together. The balanced difference-in-difference estimates lead to effects of the invalidation of the minority board member mandate that are quite similar to the unbalanced estimates. As for the invalidation of the female board member mandate, the point estimates of the treatment effect are smaller, but they are still large and statistically significant.

Table 4: Difference-in-Difference Model of Effects of Court Decision on California Firms Relative to Rest of USA (Entropy Weighting on Means) (Standard Errors Clustered by Firm and Day)			
	Weighting Variable		
	Market Slope	Volume	Market Cap
Minority Mandate Invalidated	0.0035*** (0.0004)	0.0034*** (0.0004)	0.0033*** (0.0004)
Female Mandate Invalidated	0.0033*** (0.0011)	0.0084*** (0.0013)	0.0085*** (0.0013)
Firm-Specific Constants	Yes	Yes	Yes
Firm-Specific Market Effects	Yes	Yes	Yes
Date Fixed Effects	Yes	Yes	Yes
Note: Data cover April 7, 2021 through March 31, 2022 and the event days of April 1, 2022 and May 13, 2022. *** p < 0.01			

One benefit of the entropy balancing approach is that it need not balance just on the means of the matching variables but can ensure balance with respect to higher moments as well. In Table 5, I re-do the analysis with weightings based on all three of the variables above (market slope, volume, and market capitalization) with respect to their means, variances, and measures of skewness. Again, I continue to find that both court decisions had statistically significant positive effects on the returns of California firms.

Table 5: Difference-in-Difference Model of Effects of Court Decision on California Firms Relative to Rest of USA (Entropy Weighting on Different Moments of Market Slope, Volume, and Market Cap) (Standard Errors Clustered by Firm and Day)			
	Mean	Mean and Variance	Mean, Variance, and Skewness
Minority Mandate Invalidated	0.0037*** (0.0004)	0.0028*** (0.0003)	0.0028*** (0.0003)
Female Mandate Invalidated	0.0031*** (0.0012)	0.0028*** (0.0009)	0.0031*** (0.0009)
Firm-Specific Constants	Yes	Yes	Yes
Firm-Specific Market Effects	Yes	Yes	Yes
Date Fixed Effects	Yes	Yes	Yes
Note: Data cover April 7, 2021 through March 31, 2022 and the event days of April 1, 2022 and May 13, 2022. *** p < 0.01			

While the court decision shock analysis provides a good natural experiment to examine the effect of mandated board diversity on market evaluations of expected value, instantaneous effects might obscure lagged (or forward) effects due to leakage or market hesitation. They might also miss learning and reevaluation that might go on in the market. To examine these possibilities, Figure 1 provides a graph of the cumulative abnormal returns for each of the compliance groups for the period from one month before the first court decision to two and a half months after the second decision. These graphs examine the aggregate effect on portfolios comprised of the firms in each compliance category (as well as a portfolio of the non-California headquartered firms). The graph largely validates the results above. It does highlight that the positive effects primarily manifest after the second court decision. As suggested above, intuitively this makes sense as the possibility of SB 826 being upheld would have immediately put the first holding in danger on appeal, whereas once two determinations are made, the risk of reversal on appeal likely declines substantially.

**Figure 1: Cumulative Abnormal Returns
by Compliance Group**

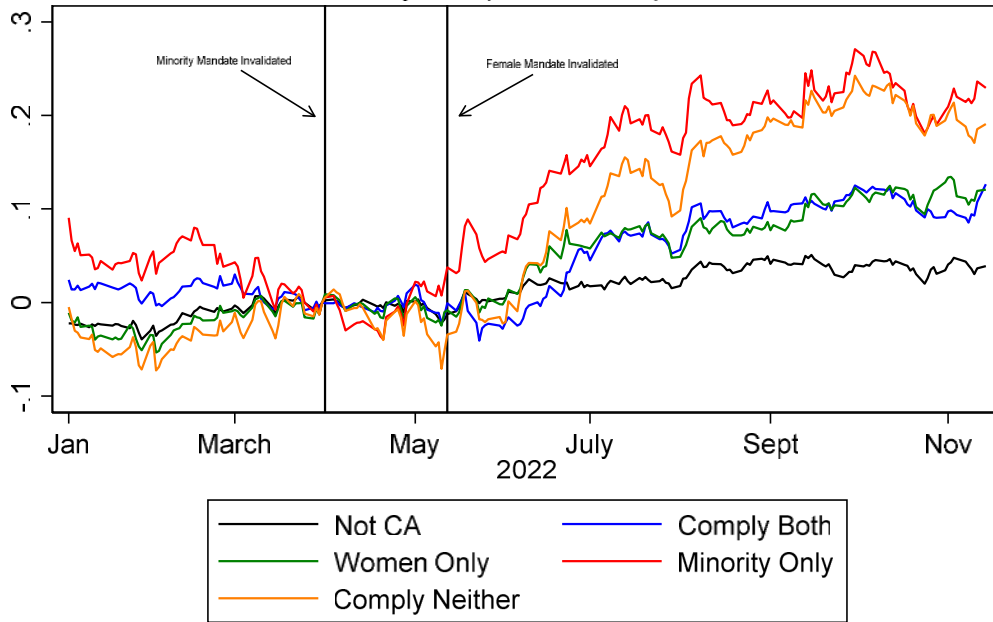


Figure 2 provides a smoothed version of the average cumulative abnormal return series.

**Figure 2: Smoothed Cumulative Abnormal Returns
by Compliance Group**

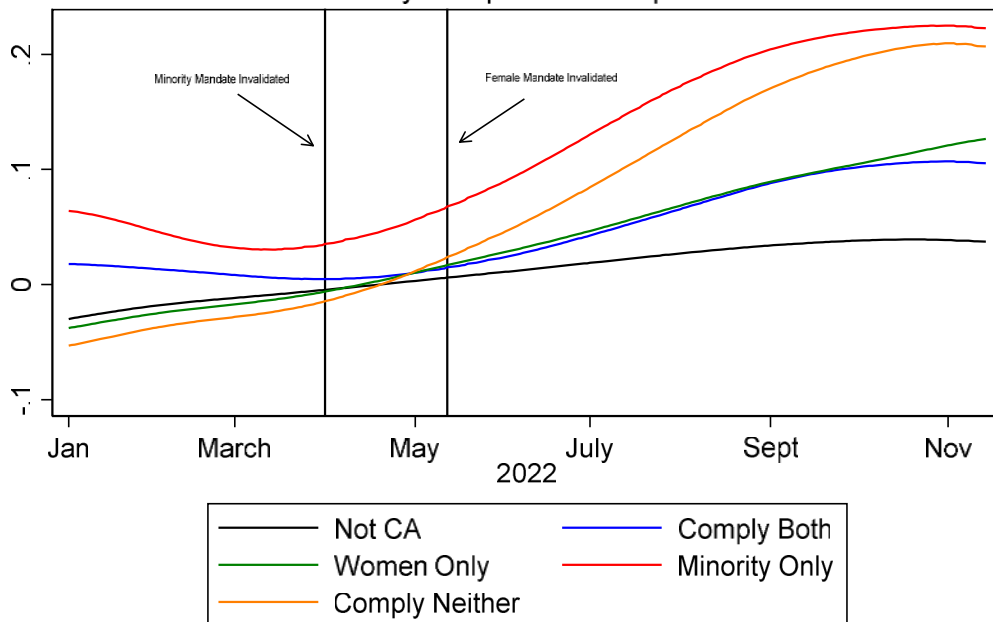


Table 6 provides a potentially more targeted falsification exercise. In the 2021 California diversity on boards report, there are 14 firms that are included in the report list but had moved their corporate

headquarters out of state by the time of the court decisions. One of the firms, Envirotech Vehicles Inc (EVTV), did not start trading until after the court decisions, leaving a usable group of 13 firms. In principle, while these firms would have otherwise been part of the sample of firms affected by the diversity mandates, their relocation renders the mandates meaningless for them. If they too exhibit large positive abnormal returns, it would lower confidence in a causal interpretation of the foregoing results, or at least it might suggest something like the von Meyerinck et al (2022) spillovers story. Unfortunately, without some largely untestable assumptions, it is impossible to differentiate a spillover explanation from a falsification/omitted variable bias. While many other papers will use firms in other states for their falsifications or will engage in matching to create a comparator group for their regressions, such matching approaches obviously can only match on observable characteristics when, often, it is reasonable to worry that unobservable characteristics jointly influence value and where to locate.

Focusing on this set of firms for my falsification/comparison has at least two virtues. First, the choice is, in some sense, predetermined by the coincidental inclusion in the California report, limiting researcher degrees of freedom in choice of comparators. Second, these firms were California firms quite recently and, so, might share many of the unobservable characteristics with the California firms studied above.

There is a downside to focusing on this limited comparison sample. The small number of firms draws into question standard approaches to statistical inference. Gelbach et al (2013) provides a non-parametric inference technique known as the SQ test where the estimated event effect is compared to the distribution of abnormal returns in the estimation period to determine how unlikely the estimate would be under the null hypothesis of a zero event effect. Gelbach et al (2013) show analytically and via simulation that the SQ has correct size and good power even in the case where there are few event observations. In Table 6, in addition to presenting the event effect estimates for each of these 13 departed firms, I also provide indications for whether the effects are large relative to the residual distribution. Specifically, I indicate whether the estimated effects are above the 90th, 95th, and 99th quantiles. With 13 firms and two estimated effects, if there is indeed nothing material happening on the event days for these firms, there should be between 2 and 3 effects that exceed the 90th quantile, 1 and 2 effects that exceed the 95th quantile, and no more than 1 effect should exceed the 99th quantile. On the other hand, if many more effects exceed those thresholds, the best interpretation is likely that there is some unmodeled effect that raises suspicion about my estimates for the California firms.

Table 6: Firms That Moved Headquarters Out of California as Falsification Tests Treatment Effects for Court Decisions in Single-Firm Event Studies							
TICKER	ACM	ALGN	ASGN	DLR	EVTV	FFWM	GDOT
Minority	0.0049 (0.0126)	0.0168 (0.0184)	0.0050 (0.0141)	0.0266** (0.0132)	N/A	-0.0096 (0.0166)	0.0095 (0.0213)
Women	-0.0108 (0.0128)	0.0129 (0.0187)	-0.0010 (0.0143)	0.0180 (0.0133)	N/A	-0.0306* (0.0168)	0.0200 (0.0216)
>SQ90	Neither	Neither	Neither	Both		Neither	Neither
>SQ95	Neither	Neither	Neither	Minority		Neither	Neither
>SQ99	Neither	Neither	Neither	Neither		Neither	Neither
TICKER	KALU	MBII	MEG	ORCL	PEAK	SNOW	TSLA
Minority	0.0014 (0.0247)	0.0122 (0.0548)	0.0150 (0.0295)	-0.0130 (0.0163)	0.0172 (0.0109)	0.0146 (0.0301)	-0.0036 (0.0289)
Women	-0.0270 (0.0251)	-0.0453 (0.0556)	-0.0011 (0.0299)	-0.0179 (0.0165)	-0.0057 (0.0111)	0.0638** (0.0305)	0.0050 (0.0293)
>SQ90	Neither	Neither	Neither	Neither	Minority	Women	Neither
>SQ95	Neither	Neither	Neither	Neither	Neither	Women	Neither
>SQ99	Neither	Neither	Neither	Neither	Neither	Neither	Neither

While the falsification group yields slightly more than expected effects larger than the 90th quantile, the more demanding 95th and 99th quantile standards imply that nothing notable was happening with respect to the comparison firms on the days of the California court cases. This more targeted (though also more limited) falsification exercise reinforces the causal interpretation of the market appreciation associated with the California courts invalidating the state's diversity mandates.

Conclusion

Those who advocate for more diversity on corporate boards generally claim that more diverse boards improve firm performance, and they claim that identifying, attracting, and retaining female and minority board members will not generate large costs. Supporters of diversity mandates, such as those adopted in California, at least implicitly suggest that firms are unwilling to exploit this diversity premium without legal intervention. The market reaction to the invalidation of California's board diversity mandates suggests otherwise.

When California judges found AB 979 and SB 826 to be in conflict with the equal protection clause of the state's constitution, firms headquartered in California appreciated in value, with non-compliant firms gaining more than compliant firms. Because the court decisions had no repercussions for other changes in corporate law and regulation in the state, which cannot be said with as much confidence for the original adoption of these mandates, these results improve confidence in the conclusion that board diversity mandates do not improve firm value and, perhaps, they even lead investors to lower their value estimates.

This study does not explain specifically why the market reacted positively to the invalidation of diversity quotas, although it does provide evidence that the substance of the quotas themselves is at issue, as opposed to other issues that are associated with the quotas. Although Matsa and Miller (2013) present

some possibilities, namely concerns that female directors may be more likely to appoint CEOs who are more tolerant of excess labor costs and lower profitability, Eckbo et al (2021) draws this conclusion into question, not to mention external validity concerns that arise when extrapolating effects observed among Norwegian firms almost two decades ago to present-day U.S. firms. Future research might focus on the performance of those California firms that diversified their boards as a result of the California mandates and maintained diverse boards even after those mandates were invalidated to excavate the causal effects of diversity on firm performance.

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Appendix A: Firms Compliant with Both Mandates (66)

Ticker	Name	Ticker	Name
AAPL	APPLE INC	LRCX	LAM RESH CORP
ADBE	ADOBE INC	LYFT	LYFT INC
AGCB	ALTIMETER GROWTH CORP 2	MAT	MATTEL INC
AMAT	APPLIED MATERIALS INC	MNOV	MEDICINOVA INC
ASAN	ASANA INC	MODN	MODEL N INC
BYND	BEYOND MEAT INC	NAII	NATURAL ALTERNATIVES INTL INC
CDMO	AVID BIOSERVICES INC	NMIH	N M I HOLDINGS INC
CDZI	CADIZ INC	NVDA	NVIDIA CORP
CLX	CLOROX CO	NVST	ENVISTA HOLDINGS CORP
COHU	COHU INC	OPBK	O P BANCORP
CRDF	CARDIFF ONCOLOGY INC	OPNT	OPIANT PHARMACEUTICALS INC
CSCO	CISCO SYSTEMS INC	OXSQ	OXFORD SQUARE CAPITAL CORP
CVX	CHEVRON CORP NEW	PCG	P G & E CORP
DBX	DROPBOX INC	PEN	PENUMBRA INC
DIS	DISNEY WALT CO	PINS	PINTEREST INC
DLB	DOLBY LABORATORIES INC	PLAN	ANAPLAN INC
EBAY	EBAY INC	PLD	PROLOGIS INC
EGHT	8X8 INC NEW	RAMP	LIVERAMP HOLDINGS INC
EIX	EDISON INTERNATIONAL	RH	R H
ELF	E L F BEAUTY INC	RMD	RESMED INC
EVFM	EVOFEM BIOSCIENCES INC	SILK	SILK ROAD MEDICAL INC
EW	EDWARDS LIFESCIENCES CORP	SMTC	SEMTECH CORP
FLGT	FULGENT GENETICS INC	SNX	TD SYNnex CORP
GBT	GLOBAL BLOOD THERAPEUTICS INC	SRE	SEMPRA ENERGY
GOOG	ALPHABET INC	STAA	STAAR SURGICAL CO
GPS	GAP INC	THMO	THERMOGENESIS HOLDINGS INC
HPQ	H P INC	UBER	UBER TECHNOLOGIES INC
IMMR	IMMERSION CORP	V	VISA INC
INTC	INTEL CORP	WDC	WESTERN DIGITAL CORP
INTU	INTUIT INC	WFC	WELLS FARGO & CO NEW
ISRG	INTUITIVE SURGICAL INC	WOOF	PETCO HEALTH & WELLNESS CO INC
KBH	K B HOME	WSM	WILLIAMS SONOMA INC
KLAC	K L A CORP	ZEN	ZENDESK INC

Appendix B: Firms Compliant with Minority Mandate Only (44)

Ticker	Name	Ticker	Name
ACMR	A C M RESEARCH INC	KOD	KODIAK SCIENCES INC
ADTX	ADITXT INC	MXL	MAXLINEAR INC
ADVM	ADVERUM BIOTECHNOLOGIES INC	NPTN	NEOPHOTONICS CORP
AI	C3 AI INC	OPRT	OPORTUN FINANCIAL CORP
AIRG	AIRGAIN INC	PDFS	P D F SOLUTIONS INC
AMD	ADVANCED MICRO DEVICES INC	PFMT	PERFORMANT FINANCIAL CORP
AMEH	APOLLO MEDICAL HOLDINGS INC	PLMR	PALOMAR HOLDINGS INC
ARLO	ARLO TECHNOLOGIES INC	PMCB	PHARMACYTE BIOTECH INC
ARQT	ARCUTIS BIOTHERAPEUTICS INC	POSH	POSHMARK INC
AVY	AVERY DENNISON CORP	POWI	POWER INTEGRATIONS INC
BEN	FRANKLIN RESOURCES INC	RBB	R B B BANCORP
CATY	CATHAY GENERAL BANCORP	SANM	SANMINA CORP
CCXI	CHEMOCENTRYX INC	SITM	SITIME CORP
CDNS	CADENCE DESIGN SYSTEMS INC	SMCI	SUPER MICRO COMPUTER INC
CRC	CALIFORNIA RESOURCES CORP	SRNE	SORRENTO THERAPEUTICS INC
EQ	EQUILLIUM INC	SSSS	SURO CAPITAL CORP
FSLY	FASTLY INC	TAIT	TAITRON COMPONENTS INC
GH	GUARDANT HEALTH INC	TWST	TWIST BIOSCIENCE CORP
GRTS	GRITSTONE BIO INC	TXG	10X GENOMICS INC
GSIT	G S I TECHNOLOGY INC	VSAT	VIASAT INC
HOPE	HOPE BANCORP INC	XNCR	XENCOR INC
KEYS	KEYSIGHT TECHNOLOGIES INC	ZUO	ZUORA INC

Appendix C: Firms Compliant with Female Mandate Only (109)

Ticker	Name	Ticker	Name
A	AGILENT TECHNOLOGIES INC	IONS	IONIS PHARMACEUTICALS INC
ADSK	AUTODESK INC	JACK	JACK IN THE BOX INC
AGE	AGEX THERAPEUTICS INC	JNPR	JUNIPER NETWORKS INC
AL	AIR LEASE CORP	LBC	LUTHER BURBANK CORP
AMGN	AMGEN INC	LCTX	LINEAGE CELL THERAPEUTICS INC
ANET	ARISTA NETWORKS INC	LIFE	ATYR PHARMA INC
APPF	APPFOLIO INC	LTC	L T C PROPERTIES INC
ASMB	ASSEMBLY BIOSCIENCES INC	MAC	MACERICH CO
ATEC	ALPHATEC HOLDINGS INC	MEIP	M E I PHARMA INC
AWR	AMERICAN STATES WATER CO	MNKD	MANNKIND CORP
AYX	ALTERYX INC	NET	CLOUDFLARE INC
BANC	BANC OF CALIFORNIA INC	NEWR	NEW RELIC INC
BEEM	BEAM GLOBAL	NFLX	NETFLIX INC
BGFV	BIG 5 SPORTING GOODS CORP	NOW	SERVICENOW INC
BJRI	BJS RESTAURANTS INC	NTGR	NETGEAR INC
BMRC	BANK OF MARIN BANCORP	NTUS	NATUS MEDICAL INC
BMRN	BIOMARIN PHARMACEUTICAL INC	OKTA	OKTA INC
BSRR	SIERRA BANCORP	OLMA	OLEMA PHARMACEUTICALS INC
CCAP	CRESCENT CAPITAL B D C INC	ONCT	ONCTERNAL THERAPEUTICS INC
CMG	CHIPOTLE MEXICAN GRILL INC	OOMA	OOMA INC
COO	COOPER COMPANIES INC	OVLY	OAK VALLEY BANCORP
CRM	SALESFORCE INC	PFSI	PENNYMAC FINANCIAL SVCS INC NEW
CVCY	CENTRAL VALLEY COMM BANCORP	PSTG	PURE STORAGE INC
CWBC	COMMUNITY WEST BANCSHARES	QCOM	QUALCOMM INC
CWT	CALIFORNIA WATER SERVICE GROUP	QDEL	QUIDEL CORP
CYTK	CYTOKINETICS INC	QLYS	QUALYS INC
DARE	DARE BIOSCIENCE INC	QUOT	QUOTIENT TECHNOLOGY INC
DEI	DOUGLAS EMMETT INC	RGLS	REGULUS THERAPEUTICS INC
DIN	DINE BRANDS GLOBAL INC	ROKU	ROKU INC
DNLI	DENALI THERAPEUTICS INC	ROST	ROSS STORES INC
DRRX	DURECT CORP	RS	RELIANCE STEEL & ALUMINUM CO
EB	EVENTBRITE INC	RWT	REDWOOD TRUST INC
ECPG	ENCORE CAPITAL GROUP INC	SBRA	SABRA HEALTHCARE REIT INC
EQIX	EQUINIX INC	SHO	SUNSTONE HOTEL INVESTORS INC NEW
ESS	ESSEX PROPERTY TRUST INC	SIBN	SI BONE INC
FAF	FIRST AMERICAN FINL CORP NEW	SJW	S J W GROUP
FCPT	FOUR CORNERS PROPERTY TRUST INC	SNAP	SNAP INC
FORM	FORMFACTOR INC	SNPS	SYNOPSYS INC

GDRX	GOODRX HOLDINGS INC	SONO	SONOS INC
GERN	GERON CORP	SPLK	SPLUNK INC
GES	GUESS INC	SWAV	SHOCKWAVE MEDICAL INC
GKOS	GLAUKOS CORP	SYNA	SYNAPTICS INC
GO	GROCERY OUTLET HOLDING CORP	TCBK	TRICO BANCSHARES
GVA	GRANITE CONSTRUCTION INC	TDY	TELEDYNE TECHNOLOGIES
HALO	HALOZYME THERAPEUTICS INC	TNDM	TANDEM DIABETES CARE INC
HLI	HOULIHAN LOKEY INC	TNET	TRINET GROUP INC
HPP	HUDSON PACIFIC PROPERTIES INC	TTMI	TTM TECHNOLOGIES INC
HTBK	HERITAGE COMMERCE CORP	TWLO	TWILIO INC
HTGC	HERCULES CAPITAL INC	UBX	UNITY BIOTECHNOLOGY INC
ICHR	ICHR HOLDINGS LTD	VCYT	VERACYTE INC
IGMS	I G M BIOSCIENCES INC	WABC	WESTAMERICA BANCORPORATION
IMH	IMPAC MORTGAGE HOLDINGS INC	WDFC	WD 40 CO
INGN	INOGEN INC	XENT	INTERSECT E N T INC
INVE	IDETIVE INC	YELP	YELP INC

Appendix D: Firms Reporting as Compliant with Neither Mandate (159)

Ticker	Name	Ticker	Name
AAT	AMERICAN ASSETS TRUST INC	INVA	THERAVANCE INC
ACAD	ACADIA PHARMACEUTICALS	JJSF	J & J SNACK FOODS CORP
ACM	A E C O M	KRC	KILROY REALTY CORP
ACRX	ACELRX PHARMACEUTICALS INC	KURA	KURA ONCOLOGY INC
ADMP	ADAMIS PHARMACEUTICALS CORP	KZR	KEZAR LIFE SCIENCES INC
AEHR	AEHR TEST SYSTEMS	LAZR	LUMINAR TECHNOLOGIES INC
AEMD	AETHLON MEDICAL INC	LGND	LIGAND PHARMACEUTICALS INC
AER	AERCAP HOLDINGS N V	LMT	LOCKHEED MARTIN CORP
AJRD	AEROJET ROCKETDYNE HOLDINGS INC	LTRY	LOTTERY COM INC
ALGN	ALIGN TECHNOLOGY INC	MASI	MASIMO CORP
ALLK	ALLAKOS INC	MAXR	MAXAR TECHNOLOGIES INC
AMRK	A MARK PRECIOUS METALS INC	MCK	MCKESSON H B O C INC
ANAB	ANAPTYSBIO INC	MCY	MERCURY GENERAL CORP NEW
ANIX	ANIXA BIOSCIENCES INC	MMI	MARCUS & MILLICHAP INC
ANPC	ANPAC BIO MEDICAL SCIENCE CO LTD	MNDT	MANDIANT INC
AQMS	AQUA METALS INC	MNST	MONSTER BEVERAGE CORP NEW
ARC	A R C DOCUMENTS SOLUTIONS INC	MOH	MOLINA HEALTHCARE INC
ARDS	ARIDIS PHARMACEUTICALS INC	MTCR	METACRINE INC
ARE	ALEXANDRIA REAL EST EQUITIES INC	NH	NANTHEALTH INC
ARWR	ARROWHEAD PHARMACEUTICALS INC	NLOK	NORTONLIFELOCK INC
ASGN	ASGN INC	NUZE	NUZEE INC
ASRT	ASSERTIO HOLDINGS INC	NVNO	ENVVENO MEDICAL CORP
ATOM	ATOMERA INC	OCX	ONCOCYTE CORP
ATRO	ASTRONICS CORP	ONEM	1LIFE HEALTHCARE INC
ATVI	ACTIVISION BLIZZARD INC	ONTF	ON24 INC
AUR	AURORA INNOVATION INC	ORCL	ORACLE CORP
AVAV	AEROVIRONMENT INC	ORIC	ORIC PHARMACEUTICALS INC
AVNW	AVIAT NETWORKS INC	OSIS	O S I SYSTEMS INC
AVO	MISSION PRODUCE INC	OTIC	OTONOMY INC
BH	BIGLARI HOLDINGS INC	PACW	PACWEST BANCORP DE
BH	BIGLARI HOLDINGS INC	PDEX	PRO DEX INC COLO
BIO	BIO RAD LABORATORIES INC	PEAK	HEALTHPEAK PROPERTIES INC
BIO	BIO RAD LABORATORIES INC	PIXY	SHIFTPIXY INC
BIOL	BIOLASE INC	PLBC	PLUMAS BANCORP
BMRA	BIOMERICA INC	PLSE	PULSE BIOSCIENCES INC
CAKE	CHEESECAKE FACTORY INC	PLTR	PALANTIR TECHNOLOGIES INC
CALX	CALIX INC	POLY	PLANTRONICS INC NEW
CAPR	CAPRICOR THERAPEUTICS INC	PSN	PARSONS CORP
CBAY	CYMABAY THERAPEUTICS INC	PSNL	PERSONALIS INC
CBRE	C B R E GROUP INC	PTGX	PROTAGONIST THERAPEUTICS INC

CENT	CENTRAL GARDEN & PET CO	PXLW	PIXELWORKS INC
CLNE	CLEAN ENERGY FUELS CORP	RARE	ULTRAGENYX PHARMACEUTICALS INC
CLPT	CLEARPOINT NEURO INC	RDNT	RADNET INC
CPSH	C P S TECHNOLOGIES CORP	RDW	REDWIRE CORP
CRNX	CRINETICS PHARMACEUTICALS INC	REXR	REXFORD INDUSTRIAL REALTY INC
CRVS	CORVUS PHARMACEUTICALS INC	RHI	ROBERT HALF INTERNATIONAL INC
CRWD	CROWDSTRIKE HOLDINGS INC	RIBT	RICEBRAN TECHNOLOGIES
CTRE	CARETRUST REIT INC	ROIC	RETAIL OPPORTUNITY INVST CORP
CVGW	CALAVO GROWERS INC	ROVR	ROVER GROUP INC
CYRX	CRYOPORT INC	RVNC	REVANCE THERAPEUTICS INC
DCO	DUCOMMUN INC DE	SCHW	SCHWAB CHARLES CORP NEW
DGNU	DRAGONEER GROWTH OPP CORP III	SCKT	SOCKET MOBILE INC
DLR	DIGITAL REALTY TRUST INC	SI	SILVERGATE CAP CORP
DMTK	DERMTECH INC	SKLZ	SKILLZ INC
DOLE	DOLE PLC	SKX	SKECHERS U S A INC
DZSI	D Z S INC	SLNO	SOLENO THERAPEUTICS INC
ELY	CALLAWAY GOLF CO	SNCE	SCIENCE 37 HOLDINGS INC
EMKR	EMCORE CORP	SONM	SONIM TECHNOLOGIES INC
ENPH	ENPHASE ENERGY INC	SOVO	SOVOS BRANDS INC
ERII	ENERGY RECOVERY INC	SPNE	SEASPINE HOLDINGS CORP
EVOK	EVOKE PHARMA INC	SUMO	SUMO LOGIC INC
EXTR	EXTREME NETWORKS INC	SWKS	SKYWORKS SOLUTIONS INC
EYES	SECOND SIGHT MEDICAL PRODUCTS IN	TASK	TASKUS INC
FAT	F A T BRANDS INC	TCON	TRACON PHARMACEUTICALS INC
FBRX	FORTE BIOSCIENCES INC	TRC	TEJON RANCH CO
FIVN	FIVE 9 INC	TRUE	TRUECAR INC
FOXF	FOX FACTORY HOLDING CORP	TVTX	TRAVERE THERAPEUTICS INC
FXLV	F45 TRAINING HOLDINGS INC	UBFO	UNITED SECURITY BANKSHARES
GFS	GLOBALFOUNDRIES INC	UEIC	UNIVERSAL ELECTRONICS INC
GHSI	GUARDION HEALTH SCIENCES INC	UNAM	UNICO AMERICAN CORP
GNSS	GENASYS INC	VEEV	VEEVA SYSTEMS INC
GOSS	GOSSAMER BIO INC	VEL	VELOCITY FINANCIAL INC
GPRO	GOPRO INC	VIAV	VIAVI SOLUTIONS INC
HARP	HARPOON THERAPEUTICS INC	VIRX	VIRACTA THERAPEUTICS INC
HGBL	HERITAGE GLOBAL INC	VKTX	VIKING THERAPEUTICS INC
HGEN	HUMANIGEN INC	WCC	WESCO INTERNATIONAL INC
HPE	HEWLETT PACKARD ENTERPRISE CO	WWD	WOODWARD INC
HROW	HARROW HEALTH INC	XGN	EXAGEN INC
INBX	INHIBRX INC	ZM	ZOOM VIDEO COMMUNICATIONS INC
INMB	INMUNE BIO INC		

Appendix E: Firms Not Reporting Board Composition (367)

Ticker	Name	Ticker	Name
AAIC	ARLINGTON ASSET INVESTMENT CORP	LOCO	EL POLLO LOCO HOLDINGS INC
ABNB	AIRBNB INC	LOGI	LOGITECH INTERNATIONAL SA
ADV	ADVANTAGE SOLUTIONS INC	LPLA	L P L FINANCIAL HOLDINGS INC
AFIB	ACUTUS MEDICAL INC	LSEA	LANDSEA HOMES CORP
AFRM	AFFIRM HOLDINGS INC	LTRX	LANTRONIX INC
AKRO	AKERO THERAPEUTICS INC	LUNG	PULMONX CORP
ALEC	ALECTOR INC	LVO	LIVEONE INC
ALGS	ALIGOS THERAPEUTICS INC	LVOX	LIVEVOX HOLDING INC
ALLO	ALLOGENE THERAPEUTICS INC	LYV	LIVE NATION ENTERTAINMENT INC
ALXO	ALX ONCOLOGY HOLDINGS INC	MAX	MEDIAALPHA INC
AMBA	AMBARELLA INC	MBII	MARRONE BIO INNOVATIONS INC
AMK	ASSETMARK FINANCIAL HOLDINGS INC	MEG	MONTROSE ENVIRONMENTAL GROUP INC
AMPH	AMPHASTAR PHARMACEUTICALS INC	METV	LISTED FUNDS TRUST
AMRS	AMYRIS INC	MGNI	MAGNITE INC
AMS	AMERICAN SHARED HOSPITAL SVCS	MGRC	MCGRATH RENTCORP
AMTI	APPLIED MOLECULAR TRANSPORT INC	MILE	METROMILE INC
AMTX	AEMETIS INC	MIRM	MIRUM PHARMACEUTICALS INC
ANNX	ANNEXON INC	MITK	MITEK SYSTEMS INC
ARRAY	ACCURAY INC DE	MITQ	MOVING IMAGE TECHNOLOGIES INC
ARCT	ARCTURUS THERAPEUTICS HLDNGS INC	MKFG	MARKFORGED HOLDING CORP
ARDX	ARDELYX INC	MNTS	MOMENTUS INC
ARES	ARES MANAGEMENT CORP	MNTV	MOMENTIVE GLOBAL INC
ARMP	ARMATA PHARMACEUTICALS INC	MPAA	MOTORCAR PARTS OF AMERICA INC
ARTL	ARTELO BIOSCIENCES INC	MRIN	MARIN SOFTWARE INC
ATEN	A10 NETWORKS INC	MRTX	MIRATI THERAPEUTICS INC
ATI	ALLEGHENY TECHNOLOGIES	MRVI	MARAVAI LIFESCIENCES HLDGS INC
ATNF	180 LIFE SCIENCES CORP	MTMT	MEGA MATRIX CORP
ATRA	ATARA BIOTHERAPEUTICS INC	MULN	MULLEN AUTOMOTIVE INC
AVD	AMERICAN VANGUARD CORP	MYPS	PLAYSTUDIOS INC
AVGO	BROADCOM INC	NAPA	DUCKHORN PORTFOLIO INC
AVGR	AVINGER INC	NARI	INARI MEDICAL INC
AVPT	AVEPOINT INC	NBIX	NEUROCRINE BIOSCIENCES INC
AXNX	AXONICS INC	NBY	NOVABAY PHARMACEUTICALS INC
AXTI	A X T INC	NGM	N G M BIOPHARMACEUTICALS INC
AZN	ASTRAZENECA PLC	NHS	NEUBERGER BERMAN HG YD STRAT FD
BBAI	BIGBEAR AI HOLDINGS INC	NKTR	NEKTAR THERAPEUTICS
BBIO	BRIDGEBIO PHARMA INC	NKTX	NKARTA INC
BCAB	BIOATLA INC	NRIX	NURIX THERAPEUTICS INC

BCDA	BIOCARDIA INC	NRT	NORTH EUROPEAN OIL RTY TR
BCEL	ATRECA INC	NTAP	NETAPP INC
BCML	BAYCOM CORP	NTNX	NUTANIX INC
BE	BLOOM ENERGY CORP	NTWK	NETSOL TECHNOLOGIES INC
BIG	BIG LOTS INC	NUVA	NUVASIVE INC
BILL	BILL COM HOLDINGS	NVfy	NOVA LIFESTYLE INC
BIOC	BIOCEPT INC	NVRO	NEVRO CORP
BIOR	BIORA THERAPEUTICS INC	NVTA	INVITAE CORP
BIVI	BIOVIE INC	O	REALTY INCOME CORP
BL	BLACKLINE INC	OACB	OAKTREE ACQUISITION CORP II
BLI	BERKELEY LIGHTS INC	OCSL	OAKTREE SPECIALTY LENDING CORP
BNGO	BIONANO GENOMICS INC	OM	OUTSET MEDICAL INC
BNTC	BENITEC BIOPHARMA INC	OMCL	OMNICELL INC
BOLT	BOLT BIOTHERAPEUTICS INC	OMF	ONEMAIN HOLDINGS INC
BOOT	BOOT BARN HOLDINGS INC	ONVO	ORGANOVO HOLDINGS INC
BOX	BOX INC	OPHC	OPTIMUMBANK HOLDINGS INC
BRID	BRIDGFORD FOODS CORP	OSS	ONE STOP SYSTEMS INC
BRSP	BRIGHTSPIRE CAPITAL INC	OTRK	ONTRAK INC
BTX	BROOKLYN IMMUNOTHERAPEUTICS INC	PACB	PACIFIC BIOSCIENCES CALIF INC
BYFC	BROADWAY FINANCIAL CORP DEL	PANW	PALO ALTO NETWORKS INC
CACI	CACI INTERNATIONAL INC	PBYI	PUMA BIOTECHNOLOGY INC
CALA	CALITHERA BIOSCIENCES INC	PCB	P C B BANCORP
CALB	CALIFORNIA BANCORP	PCVX	VAXCYTE INC
CAMP	CALAMP CORP	PD	PAGERDUTY INC
CBIO	CATALYST BIOSCIENCES INC	PGR	PROGRESSIVE CORP OH
CDNA	CAREDx INC	PIAI	PRIME IMPACT ACQUISITION I
CDTX	CIDARA THERAPEUTICS INC	PLBY	PLBY GROUP INC
CDXC	CHROMADEX CORP	PLRX	PLIANT THERAPEUTICS INC
CDXS	CODEXIS INC	PNC	P N C FINANCIAL SERVICES GRP INC
CERS	CERUS CORP	POLA	POLAR POWER INC
CGRN	CAPSTONE GREEN ENERGY CORP	PPBI	PACIFIC PREMIER BANCORP INC
CHRS	COHERUS BIOSCIENCES INC	PROV	PROVIDENT FINANCIAL HOLDINGS INC
CLAS	CLASS ACCELERATION CORP	PRSO	PERASO INC
CNXC	CONCENTRIX CORP	PRTS	CARPARTS COM INC
COHR	COHERENT INC	PSA	PUBLIC STORAGE
COOL	CORNER GROWTH ACQUISITION CORP	PSMT	PRICESMART INC
CORT	CORCEPT THERAPEUTICS INC	PSTX	POSEIDA THERAPEUTICS INC
COUP	COUPA SOFTWARE INC	PTE	POLARITYTE INC
CRSR	CORSAIR GAMING INC	PUBM	PUBMATIC INC
CRTX	CORTEXIME INC	PYPL	PAYPAL HOLDINGS INC
CTAQ	CARNEY TECHNOLOGY ACQ CORP II	QLGN	QUALIGEN THERAPEUTICS INC
CTMX	CYTOMX THERAPEUTICS INC	QMCO	QUANTUM CORP

CUTR	CUTERA INC	QNST	QUINSTREET INC
CVBF	C V B FINANCIAL CORP	QS	QUANTUMSCAPE CORP
CWBR	COHBAR INC	QUIK	QUICKLOGIC CORP
DASH	DOORDASH INC	RAPT	R A P T THERAPEUTICS INC
DCRD	DECARBONIZATION PL ACQ CORP IV	RCEL	AVITA MEDICAL INC
DECK	DECKERS OUTDOOR CORP	RCUS	ARCUS BIOSCIENCES INC
DJCO	DAILY JOURNAL CORP	RDI	READING INTERNATIONAL INC
DOCU	DOCUSIGN INC	RDIB	READING INTERNATIONAL INC
DPSI	DECISIONPOINT SYSTEMS INC	REAL	REALREAL INC
DSP	VIAANT TECHNOLOGY INC	RFIL	R F INDUSTRIES LTD
DVAX	DYNAVAX TECHNOLOGIES CORP	RGP	RESOURCES CONNECTION INC
DXCM	DEXCOM INC	RIGL	RIGEL PHARMACEUTICALS INC
EA	ELECTRONIC ARTS INC	RILY	B RILEY FINANCIAL INC
EAR	EARGO INC	RKDA	ARCADIA BIOSCIENCES INC
EGAN	EGAIN CORP	RMBS	RAMBUS INC
EHTH	EHEALTH INC	RMED	R A MEDICAL SYSTEMS INC
EIGR	EIGER BIOPHARMACEUTICALS INC	RNA	AVIDITY BIOSCIENCES INC
EKSO	EKSO BIONICS HOLDINGS INC	RNG	RINGCENTRAL INC
ELDN	ELEDON PHARMACEUTICALS INC	ROCC	RANGER OIL CORP
ENOB	ENOCHIAN BIOSCIENCES INC	ROCG	ROTH C H ACQUISITION IV CO
ENSG	ENSIGN GROUP INC	RSLS	RESHAPE LIFESCIENCES INC NEW
ENVX	ENOVIX CORP	RSVR	RESERVOIR MEDIA INC
EOLS	EVOLUS INC	RUN	SUNRUN INC
EPHY	EPIPHANY TECHNOLOGY ACQ CORP	RVLV	REVOLVE GROUP INC
ESTC	ELASTIC N V	RVMD	REVOLUTION MEDICINES INC
ETAC	E MERGE TECHNOLOGY ACQ CORP	RVPH	REVIVA PHARMACEUTICALS HLDG INC
ETNB	89BIO INC	RZLT	REZOLUTE INC
EVC	ENTRAVISION COMMUNICATIONS CORP	SEER	SEER INC
EWBC	EAST WEST BANCORP INC	SFIX	STITCH FIX INC
EXEL	EXELIXIS INC	SFT	SHIFT TECHNOLOGIES INC
EXPO	EXPONENT INC	SGMO	SANGAMO THERAPEUTICS INC
FATE	FATE THERAPEUTICS INC	SIEN	SIENTRA INC
FB	META PLATFORMS INC	SIVB	S V B FINANCIAL GROUP
FDMT	4D MOLECULAR THERAPEUTICS INC	SLGG	SUPER LEAGUE GAMING INC
FFWM	FIRST FOUNDATION INC	SLP	SIMULATIONS PLUS INC
FGEN	FIBROGEN INC	SNA	SNAP ON INC
FKWL	FRANKLIN WIRELESS CORP	SNOW	SNOWFLAKE INC
FLUX	FLUX POWER HOLDINGS INC	SOFI	SOFI TECHNOLOGIES INC
FROG	JFROG LTD	SON	SONOCO PRODUCTS CO
FSR	FISKER INC	SPRB	SPRUCE BIOSCIENCES INC
FTNT	FORTINET INC	SPWR	SUNPOWER CORP
FVAM	5 01 ACQUISITION CORP	SQFT	PRESIDIO PROPERTY TRUST INC

GAN	G A N LTD	SRAX	S R A X INC
GBOX	GREENBOX P O S	SSD	SIMPSON MANUFACTURING CO INC
GDOT	GREEN DOT CORP	SSTI	SHOTSPOTTER INC
GDYN	GRID DYNAMICS HOLDINGS INC	STRO	SUTRO BIOPHARMA INC
GHLD	GUILD HOLDINGS CO	STSA	SATSUMA PHARMACEUTICALS INC
GILD	GILEAD SCIENCES INC	SUNW	SUNWORKS INC
GNUS	GENIUS BRANDS INTERNATIONAL INC	SVFA	S V F INVESTMENT CORP
GOEV	CANOO INC	SVVC	FIRSTHAND TECHNOLOGY VAL FD INC
GOOGL	ALPHABET INC	TARS	TARSUS PHARMACEUTICALS INC
GRAY	GRAYBUG VISION INC	TBLT	TOUGHBUILT INDUSTRIES INC
GWRE	GUIDEWIRE SOFTWARE INC	TCPC	BLACKROCK T C P CAPITAL CORP
HAFC	HANMI FINANCIAL CORP	TDC	TERADATA CORP DE
HFFG	H F FOODS GROUP INC	TER	TERADYNE INC
HIMS	HIMS & HERS HEALTH INC	TERN	TERNS PHARMACEUTICALS INC
HLIT	HARMONIC INC	TLIS	TALIS BIOMEDICAL CORP
HNNA	HENNESSY ADVISORS INC	TLYS	TILLYS INC
HRTX	HERON THERAPEUTICS INC	TMAC	MUSIC ACQUISITION CORP
HSTO	HISTOGEN INC	TNGX	TANGO THERAPEUTICS INC
HTH	HILLTOP HOLDINGS INC	TPC	TUTOR PERINI CORP
HYRE	HYRECAR INC	TPTX	TURNING POINT THERAPEUTICS INC
IBRX	IMMUNITYBIO INC	TPVG	TRIPLEPOINT VENTURE GR BDC CORP
ICUI	I C U MEDICAL INC	TRKA	TROIKA MEDIA GROUP INC
IDYA	IDEAYA BIOSCIENCES INC	TRMB	TRIMBLE INC
IIIN	INSTEEL INDUSTRIES INC	TRNO	TERRENO REALTY CORP
IIVI	II VI INC	TSLA	TESLA INC
ILMN	ILLUMINA INC	TTCF	TATTOOED CHEF INC
INFN	INFINERA CORP	TTD	TRADE DESK INC
INPX	INPIXON	TTEK	TETRA TECH INC
INTA	INTAPP INC	TTNP	TITAN PHARMACEUTICALS INC DEL
INTG	INTERGROUP CORP	TWND	TAILWIND ACQUISITION CORP
IOVA	IOVANCE BIOTHERAPEUTICS INC	U	UNITY SOFTWARE INC
IPOD	SOCIAL CAP HEDO HLDGS CORP IV	UCTT	ULTRA CLEAN HOLDINGS INC
IPOF	SOCIAL CAP HEDO HLDGS CORP VI	UPH	UPHEALTH INC
IPW	IPOWER INC	UPST	UPSTART HOLDINGS INC
IRIX	IRIDEX CORP	UPWK	UPWORK INC
IRTC	IRHYTHM TECHNOLOGIES INC	VAQC	VECTOR ACQUISITION CORP II
ISDR	ISSUER DIRECT CORP	VII	7GC & CO HOLDINGS INC
ITI	ITERIS INC	VINC	VINCERX PHARMA INC
IVAC	INTEVAC INC	VIR	VIR BIOTECHNOLOGY INC
JAGX	JAGUAR HEALTH INC	VIRC	VIRCO MFG CORP
JAKK	JAKKS PACIFIC INC	VLDR	VELODYNE LIDAR INC
JYAC	JIYA ACQUISITION CORP	VMW	VMWARE INC
KALU	KAISER ALUMINUM CORP	VTGN	VISTAGEN THERAPEUTICS INC

KFY	KORN FERRY	VXRT	VAXART INC
KINZ	KINS TECHNOLOGY GROUP INC	WATT	ENERGOUS CORP
KLR	KALEYRA INC	WDAY	WORKDAY INC
KNTE	KINNATE BIOPHARMA INC	WHLM	WILHELMINA INTERNATIONAL INC
KRON	KRONOS BIO INC	WISA	WISA TECHNOLOGIES INC
KRUS	KURA SUSHI USA INC	WISH	CONTEXTLOGIC INC
KTRA	KINTARA THERAPEUTICS INC	WLDN	WILLDAN GROUP INC
KW	KENNEDY WILSON HOLDINGS INC	WMC	WESTERN ASSET MORTGAGE CAP CORP
LAB	STANDARD BIOTOOLS INC	WSTG	WAYSIDE TECHNOLOGY GROUP INC
LC	LENDINGCLUB CORP	XL	X L FLEET CORP
LDI	LOANDEPOT INC	XOMA	XOMA CORP
LEVI	LEVI STRAUSS & CO	XPER	XPERI HOLDING CORP
LGF	LIONS GATE ENTERTAINMENT CORP	ZD	ZIFF DAVIS INC
LGF	LIONS GATE ENTERTAINMENT CORP	ZEV	LIGHTNING EMOTORS INC
LH	LABORATORY CORP AMERICA HLDGS	ZIM	Z I M INTEGRATED SHIP SERV LTD
LHDX	LUCIRA HEALTH INC	ZNGA	ZYNGA INC
LITE	LUMENTUM HOLDINGS INC	ZS	ZSCALER INC
LMNR	LIMONEIRA CO	ZSAN	ZOSANO PHARMA CORP
LNDC	LANDEC CORP		
Bolded firms relocated their headquarters outside of California by the time of the court decisions in Crest I and Crest II.			