PROXY ACCESS IN THE UNITED STATES

Revisiting the Proposed SEC Rule

CFA Institute

IEc

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CFA Institute is the global association of investment professionals that sets the standards for professional excellence. We are a champion for ethical behavior in investment markets and a respected source of knowledge in the global financial community.

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Industrial Economics, Incorporated, is a nationally recognized leader in financial and economic impact analysis. Its clients span private and public sector organizations, including numerous regulatory agencies.

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CFA Institute Findings

In this summary of CFA Institute findings, we take a brief look at the history of proxy access, discuss the pertinent academic studies, examine the benefits and limits of cost–benefit analysis, analyze the use of proxy access in non-US jurisdictions, and draw some conclusions.

How We Got Here

Proxy access refers to the ability of shareowners to place their nominees for director on a company's proxy ballot. This right is available in many markets, though not in the United States. Supporters of proxy access argue that it increases the accountability of corporate boards by allowing shareowners to nominate a limited number of board directors. Afraid that special-interest groups could hijack the process, opponents of proxy access are also concerned about its cost and are not convinced that proxy access would improve either company or board performance.

The US Securities and Exchange Commission (SEC) most recently attempted to give shareowners proxy access in 2010, when it passed a proxy access rule (Rule 14a-11)[1] pursuant to section 971 of the Dodd–Frank Act. A lawsuit challenging the rule succeeded when the US Court of Appeals for the District of Columbia Circuit vacated the SEC's proposed rule, holding that the SEC had failed to adequately assess the economic effects of the proposed rule.[2] The SEC did not appeal the court's decision.

This report attempts to address the questions raised by the DC Circuit Court by analyzing event studies, other data, and examples of proxy access in non-US jurisdictions with respect to the costs and benefits of proxy access. Taken together, the event studies analyzed in this report examine whether proxy access, on the particular event date, would have been beneficial or harmful to market performance, stock performance, and board performance and whether the potential use of proxy access by special-interest groups would have reduced shareowner wealth.

Academic Studies

In conducting this research, CFA Institute retained the services of Industrial Economics, Incorporated (IEc), to assess the economic impacts associated with the SEC's proposed proxy access rule. The remainder of this report,

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[1]SEC Final Proxy Access Rule (http://www.sec.gov/rules/final/2010/33-9136.pdf).

[2]Business Roundtable and Chamber of Commerce v. Securities and Exchange Commission, slip op. 10-1305 (DC Cir., 22 July 2011).

following this executive summary, comprises IEc's analysis and discussion. **Table 1** summarizes the results of the five event studies[3] reviewed by IEc in the context of five shortcomings of the SEC's economic analysis of Rule 14a-11, as identified by the DC Circuit Court.

Table 1.	Summary of Event Studies regarding the Shareowner Wealth Effects of Proxy Access				
Event Study (Does Proxy Access Reform Increase Overall Market Capitalization?)	Does Proxy Access Reform Increase Shareowner Wealth?	Does Proxy Access Reform Improve Board Performance?	Does Potential for Increased Proxy Contest Costs Reduce Shareowner Wealth?	Does Potential Use of Proxy Access by Special-Interest Groups Reduce Shareowner Wealth?	Does Proxy Access Reform Reduce Shareowner Wealth at Investment Companies?
Becker et al. (2013, peer reviewed)	Yes	Inconclusive		No	
Campbell et al. (2012, peer reviewed)	Yes	Yes			
Cohn et al. (2012, as corrected)	Yes	Yes		Yes	
Jochem (2012)	Yes	Yes	No	No	
Stratmann and Verret (2012, peer reviewed)	No				

Notes: Grey shading indicates areas not contemplated by the event study and thus areas for which no empirical findings are available. See Appendix A for summaries of the findings and underlying methodologies of each event study. See Appendix B for calculations of underlying market-wide impacts.

The event studies cited in Table 1 attempt to identify empirically whether proxy access benefits or harms shareowners. Using econometric methods, these studies estimate firm-level abnormal returns, defined as the deviation of the actual return from its expected value on an array of event dates. Each study focuses on an event window relevant to the *availability*

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[3]Bo Becker, Daniel Bergstresser, and Guhan Subramanian, "Does Shareholder Proxy Access Improve Firm Value? Evidence from the Business Roundtable's Challenge," *Journal of Law and Economics*, vol. 56, no. 1 (2013):127–160; Joanna T. Campbell, T. Colin Campbell, David G. Sirmon, L. Bierman, and Christopher S. Tuggle, "Shareholder Influence over Director Nomination via Proxy Access: Implications for Agency Conflict and Stakeholder Value," *Strategic Management Journal*, vol. 33, no. 12 (December 2012):1431–1451; J. Cohn, S. Gillan, and J. Hartzell, "On Enhancing Shareowner Control: A (Dodd-) Frank Assessment of Proxy Access," working paper (University of Texas at Austin, December 2012); T. Jochem, "Does Proxy Access Increase Shareowner Wealth? Evidence from a Natural Experiment," working paper (University of Pittsburgh, August 2012); T. Stratmann and J.W. Verret, "Does Shareowner Proxy Access Damage Share Value in Small Publicly Traded Companies?" *Stanford Law Review*, vol. 64, no. 6 (June 2012):1431–1468.

of proxy access rights that the authors contend is economically significant and generally unexpected by the market. On the basis of their findings, the authors conclude whether proxy access creates or destroys shareowner wealth.
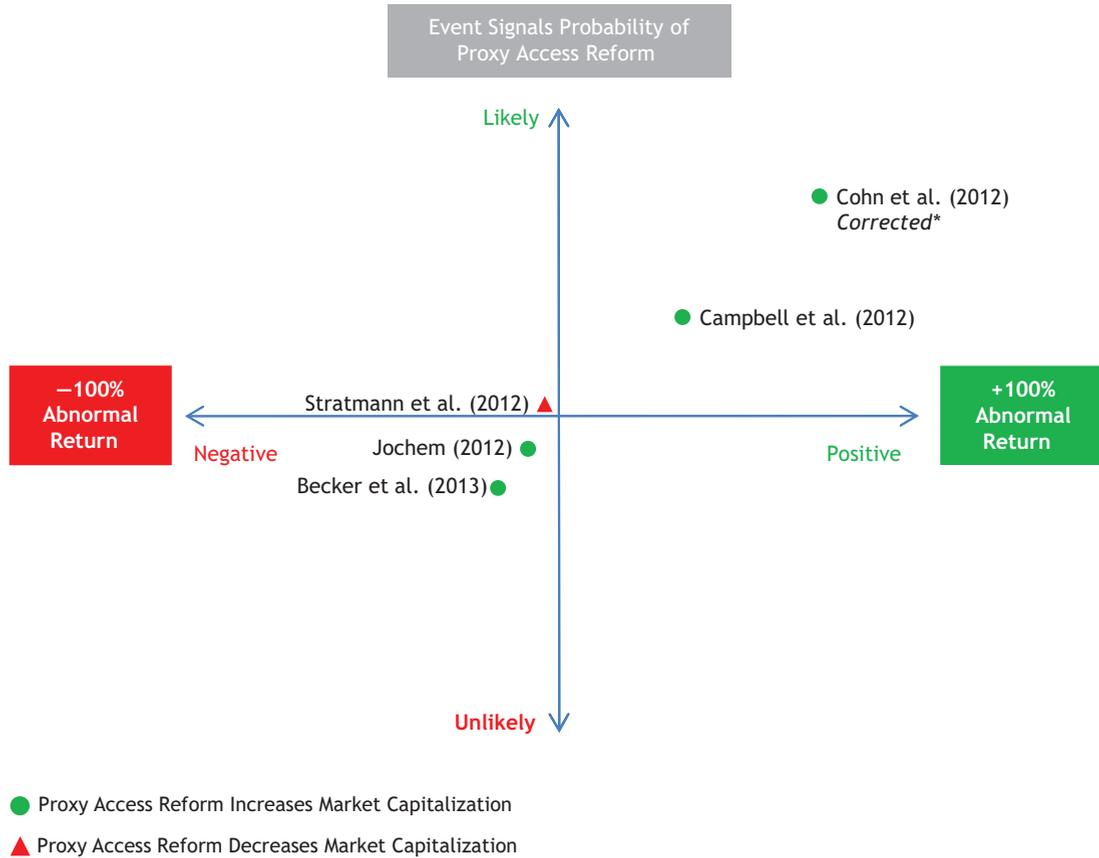
Three studies offer evidence that proxy access reform enhances board performance. Of the three studies that assess whether the use of proxy access by special-interest groups reduces shareowner wealth, two studies provide evidence that it does not. Finally, only one event study assesses the impact of increased proxy contest costs on shareowner wealth; the results of this study show evidence that increased proxy contest costs do not appear to reduce shareowner wealth.

With respect to the relative distribution of findings across studies, four studies affirm that proxy access contributes to an increase in shareowner wealth and one study does not affirm this hypothesis (**Figure 1**). Two studies are excluded from the analysis because the estimated abnormal returns reflect event dates that are not specific to the SEC's vacated proxy access rule and thus likely do not reflect the market's reaction to the specifics of Rule 14a-11. The results of these two studies[4] are omitted from Figure 1 and **Figure 2**, and a discussion of their methodological shortcomings in the context of this impact assessment is provided in Appendix A.

The vertical line (y-axis) in Figure 1 describes the relationship between the occurrence of an event and the market's expectations about the likelihood of proxy access reform. The horizontal line (x-axis) captures the abnormal return associated with an event. For example, Jochem (2012) found that the market experienced negative abnormal returns following the DC Circuit Court's decision to rule against proxy access—that is, the decreased likelihood of proxy access resulted in declines in stock prices, suggesting that proxy access is beneficial to the overall market. Hence, in Figure 1, Jochem (2012) falls within the lower left quadrant, with a green circle to illustrate a beneficial impact. Essentially, event studies that result in findings that suggest proxy access is beneficial will fall within the lower left and upper right quadrants; event studies that result in findings that are adverse to proxy access will fall within the lower right and upper left quadrants.

[4]A. C. Akyol, W.F. Lim, and P. Verwijmeren, "Shareholders in the Boardroom: Wealth Effects of the SEC's Proposal to Facilitate Director Nominations," *Journal of Financial and Quantitative Analysis*, vol. 47, no. 5 (October 2012):1029–1057; D.F. Larcker, G. Ormazabal, and D.J. Taylor, "The Market Reaction to Corporate Governance Regulation," *Journal of Financial Economics*, vol. 101, no. 2 (August 2011):431–448.

Figure 1.   Relative Distribution of Event Studies by Abnormal Returns

Event Signals Probability of
Proxy Access Reform

Likely

Cohn et al. (2012)
*Corrected**

Campbell et al. (2012)

−100%
Abnormal
Return

Stratmann et al. (2012) ▲

Negative

Jochem (2012) ●

Becker et al. (2013)●

Positive

+100%
Abnormal
Return

Unlikely

● Proxy Access Reform Increases Market Capitalization

▲ Proxy Access Reform Decreases Market Capitalization

*Average firm-level market capitalization presented by Cohn et al. (2012) appears to be overstated when bench-marked against S&P 1500 data. We ascribed this inconsistency to a possible transcription error in the authors' under-lying data tables. We amended the average firm-level market capitalization to reflect the mean value for the S&P 1500 as of June 2010. See the Analysis section of this report for details on this correction.

As shown in Figure 2, we extended the study results to estimate the implications for overall US market capitalization. In so doing, we estimated that the average impact of proxy access reform may range from $3.5 billion to $140.3 billion across those studies that evidence a positive relationship between proxy access reform and shareowner wealth. This range reflects the average market capitalization across a sample of firms and event dates, both of which are specific to each event study.[5] When benchmarked against estimated total US market capitalization, as represented by the S&P 1500 for the respective event dates, these estimates reflect between 0.023% and 1.134% of total US market capitalization.[6]

The exception—Stratmann and Verret (2012)—identified a negative relationship between proxy access reform and shareowner wealth. When we extend Stratmann and Verret's results to estimate potential US market-wide impacts, applying the same assumptions as those discussed earlier, the impact of this negative relationship appears nominal relative to overall US market capitalization. Specifically, the estimated negative impact of proxy access reform on market capitalization is $0.347 billion, which, all else being equal, contributes to a decline in US market capitalization of less than 0.003%.[7]

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[5]If authors reported actual market data for firms in their sample, we relied on those data. There was a subset of event studies for which the authors did not report actual firm-wide market data. In such cases, we applied S&P 500 and S&P 1500 data. The selection of S&P 500 or S&P 1500 data depended on the basket of firms represented in each study's sample. For example, Becker et al. (2013) defined their sample on the basis of firms in the S&P 1500, whereas Campbell et al. (2012) defined their sample on the basis of firms in the S&P 500. To ensure methodological consistency, we applied data from each index according to the configuration of the specific sample sets, as defined by the authors. See later sections of this report for a more detailed discussion of methodology.

[6]Monthly historical data on *total* US market capitalization are not publicly available. For purposes of deriving market-wide comparisons, we extended monthly time-series data from the S&P 1500 to approximate overall US market capitalization. Standard & Poor's represents that the S&P 1500 accounts for approximately 90% of overall US market capitalization. For each event date, we estimated total US market capitalization as the aggregate market value of the S&P 1500 on the specific event date divided by 0.90. See http://us.spindices.com/indices/equity/sp-composite-1500.

[7]The assessment of impacts on total market-wide US capitalization reflects estimates as of the specific event dates in each study. These event dates range from June 2010 through July 2011. All else being equal, if we scale these impacts to today's economy on a straight-line basis, using S&P 1500 data to approximate overall US market capitalization as of February 2014, we arrive at a range of potential positive impacts of $4.98 billion to $649.67 billion, with a potential negative impact of $610.58 million.

Figure 2.   Estimated Relative Impact of Proxy Access Reform on US Market Capitalization
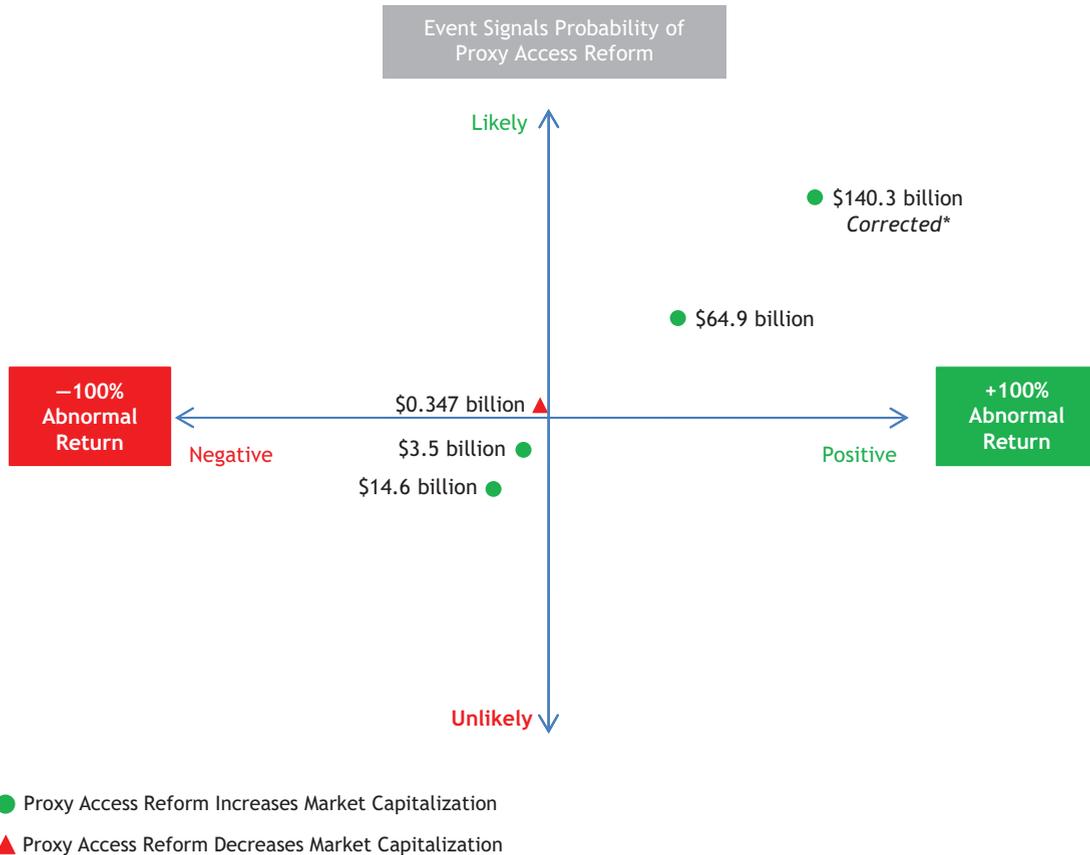
Event Signals Probability of
Proxy Access Reform

Likely

● $140.3 billion
Corrected*

● $64.9 billion

| −100%
Abnormal
Return | | +100%
Abnormal
Return |

$0.347 billion ▲

Negative

Positive

$3.5 billion ●

$14.6 billion ●

Unlikely

● Proxy Access Reform Increases Market Capitalization

▲ Proxy Access Reform Decreases Market Capitalization

*Average firm-level market capitalization presented by Cohn et al. (2012) appears to be overstated when bench-marked against S&P 1500 data. We ascribed this inconsistency to a possible transcription error in the authors' underlying data tables. We amended the average firm-level market capitalization to reflect the mean value for the S&P 1500 as of June 2010. See the Analysis section of this report for details on this correction.

The Benefits and Limits of Cost–Benefit Analysis

Some of the information we used to examine the potential impacts of proxy access arises from the DC Circuit Court's decision to strike down the proxy access rule. These event studies were possible because the Court's decision was a surprise to the markets and thus could not have been priced into the SEC's initial analysis.

On an *ex post* basis, the event study technique allows for a before-and-after comparison of stock prices with respect to regulation. When the SEC conducted its cost–benefit analysis of the proposed proxy access rule in 2010, it did not have the benefit of hindsight. Stock price data to assess the market's valuation of proxy access were unavailable until the SEC passed its proxy access rule in August 2010 (the SEC stayed the rule in October 2010, and the DC Circuit Court vacated it in July 2011). In 2014, with the benefit of hindsight, we can assess the stock price return for firms affected by proxy access relative to those unaffected by proxy access—precisely because a rule was passed and then vacated.

Notwithstanding the brief tenure of the rule, the stock price return for firms affected by proxy access relative to those unaffected by proxy access inherently reflects the market's valuation of the net impact of proxy access, including nonmarket benefits. For example, if investors expected the benefits of proxy access to outweigh its costs, affected firms should have experienced positive abnormal returns relative to unaffected firms following the implementation of Rule 14a-11. Conversely, if investors expected the costs of proxy access to outweigh its benefits, affected firms should have experienced negative abnormal returns relative to unaffected firms.

Proposed rules such as the SEC's 2010 proxy access rule have the potential to significantly affect US financial markets. Proxy access could give shareowners a useful tool to help promote greater board accountability, a tool that could be used sparingly and still influence board behavior. In the particular case of proxy access, the event study technique allows the value of proxy access to be quantified, whereas other cost–benefit techniques do not allow for the same degree of quantification concerning economic impacts. The DC Circuit Court's decision striking down the proxy access rule challenged the SEC's ability to promulgate rules in the future and, ironically, provided an event that facilitates cost–benefit analysis. For this reason, we decided to consider the event study technique as a means of cost–benefit analysis—a cost–benefit analysis that appears to support the implementation of proxy access.

Analysis of Proxy Access Use in Other Jurisdictions

We also considered how proxy access has been implemented in non-US markets that allow shareowners to place the names of director nominees directly on the corporate proxy. In general, we found that proxy access is used sparingly where it is permitted. In the United Kingdom and Australia, for example, where the style of proxy access in use is similar to that proposed by the SEC, investors have used proxy access to nominate directors for board service an average of fewer than 10 times a year over the past three years.

On the basis of data from the global governance proxy adviser Manifest, we found that over the past three years, proxy access has been used only once in Canada to nominate directors to a board (where it was used successfully). In Australia, proxy access was used 11 times in the past three years, only once successfully. In the United Kingdom, proxy access was used 16 times over the past three years; it was successful on 8 occasions and was defeated 6 times, and nominees' names were withdrawn on 2 occasions. These data suggest that proxy access is a rarely used shareowner right that is typically used only when other outlets for shareowner concerns about a company or its board—such as engagement between shareholders and companies—have been exhausted or have otherwise proved unfruitful.

Further, preliminary analysis of stock returns among companies that have successfully elected shareowner nominees via proxy access suggests that proxy access has not consistently reduced shareowner value, as its critics might suggest. For example, over the past three years, approximately two-thirds of the companies that elected directors via proxy access experienced positive returns on the day following the vote, and a comparable share also experienced improved performance the year following proxy access relative to the preceding year.

Conclusions

On the basis of our investigation of the available global data, we will discuss in this report the following conclusions in greater detail:

- Limited examples of proxy access and director nominations globally, coupled with the limited availability of corresponding market impact data, challenge whether a more detailed cost–benefit analysis was possible in the context of the Court's decision.

- The results of event studies suggest that proxy access has the potential to enhance board performance and raise overall US market capitalization by between $3.5 billion and $140.3 billion.

- Assessing and measuring increased board accountability and effectiveness is challenging. None of the event studies indicate that proxy access reform will hinder board performance.

- Proxy access is used infrequently around the world, even where low thresholds for ownership and duration of ownership exist. Evidence in these markets suggests that proxy access has not disrupted the election process in jurisdictions that allow it.

- Likewise, there is limited evidence to suggest that special-interest groups can use proxy access to hijack the election process or to pursue special-interest agendas.

On the basis of these findings, we conclude that proxy access would serve as a useful tool for shareowners in the United States and would ultimately benefit both the markets and corporate boardrooms, with little cost or disruption to companies and the markets as a whole.

We therefore urge the SEC to revisit the issue of proxy access in the United States and to consider all available data in order to conduct the most meaningful cost–benefit analysis possible in assessing whether the proxy access rule benefits shareowners and the market.

Recent Events Related to US Proxy Access

When the SEC adopted the now-vacated proxy access rule, it also adopted an amendment to Rule 14a-8 that modified the stipulations surrounding shareowner-sponsored proposals.[8] Prior to this amendment, companies were allowed to exclude from their proxy materials any shareowner proposals that pertained to the procedures for nominating and/or electing candidates to the company's board of directors. As amended, Rule 14a-8 enables eligible shareowners to submit, for inclusion in a company's proxy materials, proposals that facilitate proxy access on a company-by-company basis.[9] In its opinion regarding Rule 14a-11, the DC Circuit Court of Appeals offered no comment with respect to the SEC's amendment to Rule 14a-8; the SEC adopted the amendment to Rule 14a-8 in September 2011.

The amendment to Rule 14a-8 set the stage for private ordering, giving rise to a new class of shareowner proposals—that is, proxy access proposals.[10] Beginning with the 2012 proxy season, proxy access proposals were submitted to more than 20 companies, of which 9 reached a shareowner vote and 2 received majority support.[11] During the 2013 proxy season, shareowners at 15 companies submitted proxy access proposals, of which all 15 reached a shareowner vote and 5 received majority support.[12] **Figure 3** illustrates the relationship between the outcomes of these proposals and market capitalization.

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[8]SEC, Final Rule for Facilitating Shareowner Director Nominations (Release Nos. 33-9136, 34-62764, IC-29384; File No. S7-10-09).

[9]SEC, Final Rule for Facilitating Shareowner Director Nominations. To qualify, shareowners must continuously own at least $2,000 in market value, or 1% of a company's voting power, for at least one year prior to the proposal submission; see SEC, Division of Corporate Finance, Staff Legal Bulletin No. 14 (13 July 2001).

[10]See J. Murphy, "2012 Proxy Season Review: Overall Trends in Shareowner Proposals," Harvard Law School Forum on Corporate Governance and Financial Regulation (21 July 2012): https://blogs.law.harvard.edu/corpgov/2012/07/21/2012-proxy-season-review-overall-trends-in-shareowner-proposals/.

[11]Proxy access proposals that did not reach a vote were either withdrawn by shareowners or deemed excludable by the SEC. See J. Murphy, "Proxy Access Proposals: Review of 2012 Results and Outlook for 2013," Harvard Law School Forum on Corporate Governance and Financial Regulation (28 June 2012): https://blogs.law.harvard.edu/corpgov/2012/07/21/2012-proxy-season-review-overall-trends-in-shareholder-proposals/.

[12]For source information, see notes to Appendix C.

Figure 3. Relationship between Proxy Access Proposal Outcomes and Market Capitalization

- ● Proxy Access Proposals Submitted Pursuant to Rule 14a-8 That Received Majority Support
- ▲ Proxy Access Proposals Submitted Pursuant to Rule 14a-8 That Did Not Receive Majority Support
- ⊘ Although the Nabors Proposal Received a Majority of Votes Cast, the Proposal "Failed" Because the Company Counted Nonvotes as Dissenting Votes

Notes: Proposals were submitted in both 2012 and 2013 at Charles Schwab, CME Group, and Nabors Industries. Shareowner support for these proposals was similar year over year at each company. Additionally, proposals submitted at KSW, Inc., and Princeton National Bank reached a shareowner vote in 2012; however, these proposals are not represented here because reliable data on market capitalization are unavailable. For source information, see notes to Appendix C.

In general, the proxy access proposals vary according to four criteria:

- *The nature of the proposal (i.e., binding or precatory)*. Binding proposals require amendments to a company's bylaws, whereas precatory proposals recommend that a company's board amend its bylaws.

- *The ownership requirement*, which defines the percentage of outstanding shares that an investor (or group of investors) must hold before gaining access to a company's proxy statements. For example, Rule 14a-11 required that shareowners (or a coalition thereof) own 3% of a company's outstanding shares in order to exercise proxy access.

- *The duration requirement*, which defines the length of time that a shareowner (or group of shareowners) is required to meet the ownership threshold before gaining access to a company's proxy statements. For example, Rule 14a-11 required that shareowners (or a coalition thereof) own shares for at least three years to exercise proxy access.

- *The nomination threshold*, which defines the limit (if any) on the number of shareowner-sponsored nominations that may be included in the company's proxy statements.

In the absence of a universal standard for proxy access (akin to Rule 14a-11), the 2012 proxy season immediately following the DC Circuit Court's decision serves as an experimental year for proxy access proposals. Through a variety of binding and nonbinding proposal submissions, proponents of proxy access tested the degree to which both shareowners and the SEC would support an array of requirements for ownership, duration, and nomination caps. Conversely, proposals submitted in 2013 reflect refinements based on responses to 2012 proposals.

As illustrated in **Figure 4** and **Figure 5**, the proxy access proposals that received majority support were nonbinding proposals that mimicked the SEC's Rule 14a-11 ownership and duration requirements (i.e., at least 3% ownership for three years). On average, such proposals received 53% support, whereas those with more-relaxed ownership requirements received 23% support.

Figure 4. Relationship between Proxy Access Proposal Outcomes and Ownership Requirements
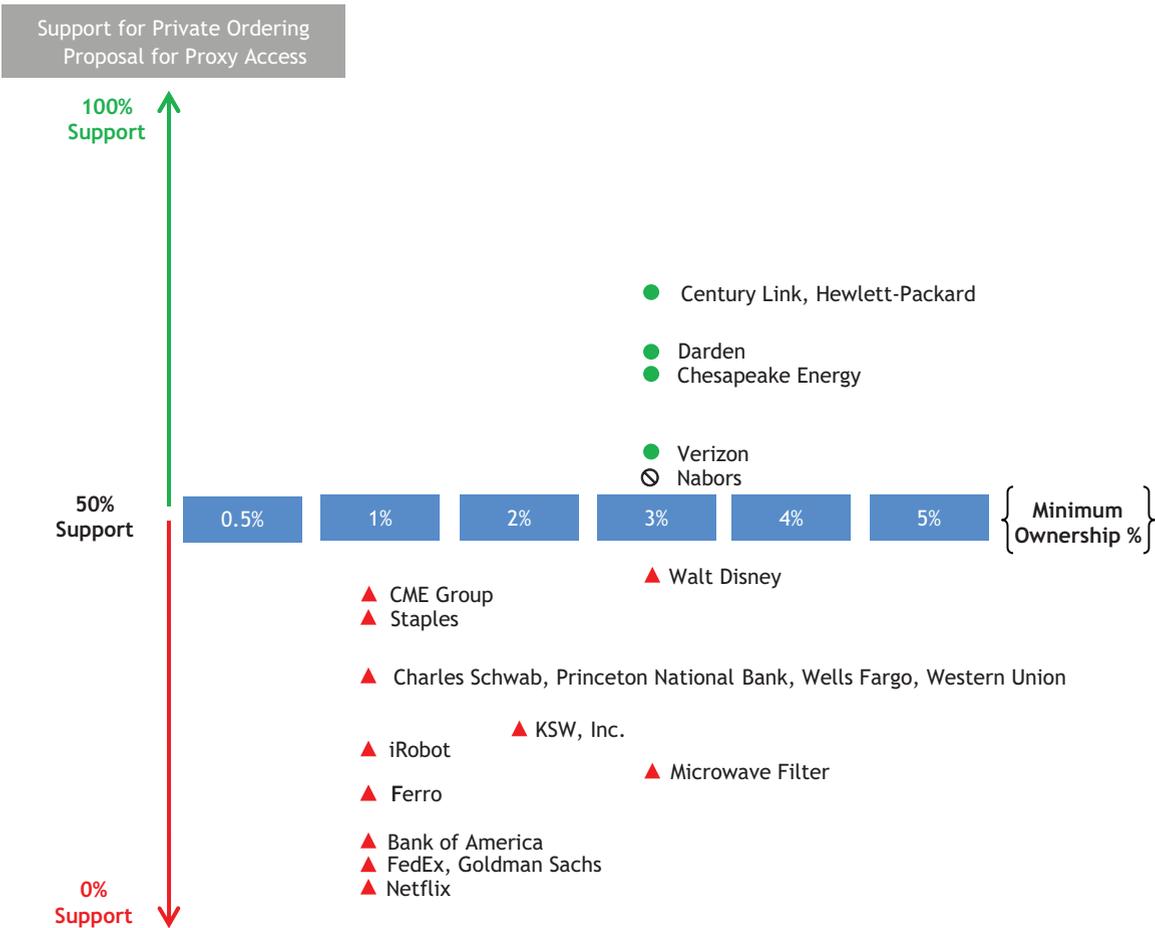
● Proxy Access Proposals Submitted Pursuant to Rule 14a-8 That Received Majority Support

▲ Proxy Access Proposals Submitted Pursuant to Rule 14a-8 That Did Not Receive Majority Support

⊘ Although the Nabors Proposal Received a Majority of Votes Cast, the Proposal "Failed" Because the Company Counted Nonvotes as Dissenting Votes

Notes: Where firms specified different ownership requirements for individual investors and coalitions of investors, the figure illustrates the requirements for individual investors. When ownership requirements are presented as a range (e.g., 1% to 5%), the figure depicts the minimum ownership requirement dictated by the range. For source information, see notes to Appendix C.

Figure 5. **Relationship between Proxy Access Proposal Outcomes and Duration Requirements**
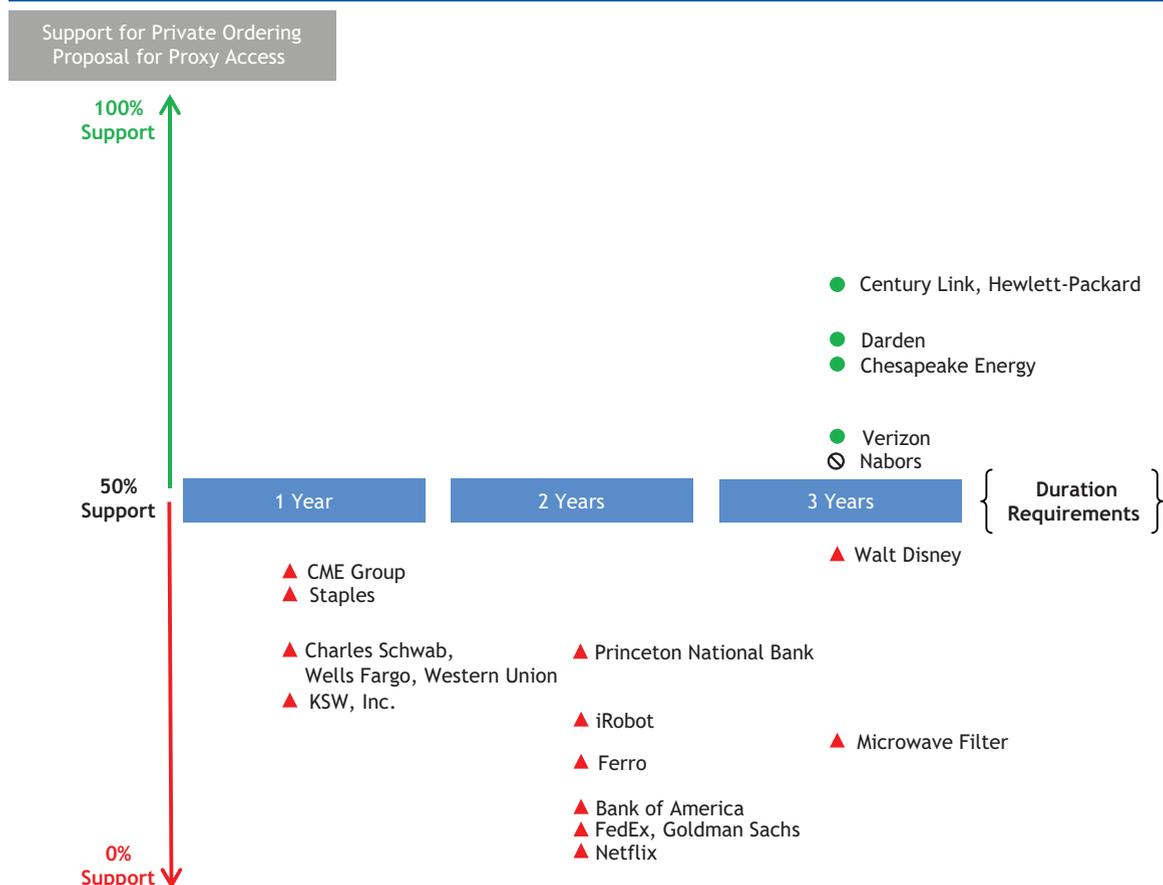
Support for Private Ordering Proposal for Proxy Access

100% Support

- ● Century Link, Hewlett-Packard
- ● Darden
- ● Chesapeake Energy
- ● Verizon
- ⊘ Nabors

50% Support

| 1 Year | 2 Years | 3 Years | Duration Requirements |

- ▲ CME Group
- ▲ Staples
- ▲ Walt Disney

- ▲ Charles Schwab, Wells Fargo, Western Union
- ▲ Princeton National Bank
- ▲ KSW, Inc.
- ▲ iRobot
- ▲ Microwave Filter
- ▲ Ferro
- ▲ Bank of America
- ▲ FedEx, Goldman Sachs
- ▲ Netflix

0% Support

● Proxy Access Proposals Submitted Pursuant to Rule 14a-8 That Received Majority Support

▲ Proxy Access Proposals Submitted Pursuant to Rule 14a-8 That Did Not Receive Majority Support

⊘ Although the Nabors Proposal Received a Majority of Votes Cast, the Proposal "Failed" Because the Company Counted Nonvotes as Dissenting Votes

Notes: Where firms specified different duration requirements for individual investors and coalitions of investors, the figure illustrates the requirements for individual investors. For source information, see notes to Appendix C.

The set of proposals providing proxy access to individual shareowners with at least 1% but less than 5% of shares (or 0.5% to 5%, collectively) appears to have been particularly disfavored. On average, those proposals garnered less than 10% of shareowner votes. Those proposals differed from the SEC's 3% ownership threshold because they simultaneously granted proxy access to small shareowners (1% ownership) and prohibited proxy access to large shareowners (5% ownership). Conversely, the SEC's 3% ownership requirement imposed a higher minimum ownership threshold, at 3%, but no maximum ownership threshold. Figures 3 through 5 and **Table 2** may inform the selection of market-driven proxy access terms.

Table 2.   Summary of Company-Specific Proxy Access Proposal Terms

Proposal Characteristics	Proposals That Reached a Shareowner Vote	Proposals Receiving Majority Vote	Proposals Receiving Majority Vote	Average Support
Shareowner owns 3% of stock for 3 years Nominations can be made for up to 20% of board seats	Century Link (2013) Hewlett Packard (2013) Verizon Wireless (2013)	Century Link (2013) Hewlett Packard (2013) Verizon Wireless (2013)	100%	64.2%
Shareowner owns 3% of stock for 3 years Nomination cap not specified	Darden Restaurants (2013)	Darden Restaurants (2013)	100%	62.0%
Shareowner owns 3% of stock for 3 years Nominations can be made for up to 25% of board seats	Chesapeake Energy (2012) Microwave Filter (2013) Nabors[a] (2012, 2013) Walt Disney (2013)	Chesapeake Energy (2012) Nabors (2012, 2013)[a]	60%	44.4%
Average shareowner support for proposals *with* the SEC's vacated Rule 14a-11 ownership requirement of 3% for 3 years: **53%**				
Shareowner owns 1% of stock for 1 year Nominations can be made for up to 25% of board seats	Charles Schwab[b] (2012, 2013) CME Group[b] (2012, 2013) Staples (2013) Wells Fargo (2012) Western Union (2012)	NA	0%	33.7%
Shareowner owns 1% of stock for 2 years, or 100 investors own at least $2k for 1 year Nominations can be made for up to 12% of board seats	Ferro Corp. (2012) Princeton Nat'l Bank (2012)	NA	0%	22.8%
Shareowner owns 2% of stock for 1 year Nomination cap not specified	KSW, Inc. (2012)	NA	0%	21.0%

(continued)

Table 2.	Summary of Company-Specific Proxy Access Proposal Terms (continued)			
Proposal Characteristics	Proposals That Reached a Shareowner Vote	Proposals Receiving Majority Vote	Proposals Receiving Majority Vote	Average Support
Shareowner owns 1% to 5% of stock for 2 years, or 50+ investors own at least $2k of stock & 0.5% to 5% of stock collectively for 1 year Nominations can be made for up to 24% of board seats	Bank of America (2013) FedEx (2013) Goldman Sachs (2013) iRobot (2013) Netflix (2013)	NA	0%	8.6%
Average shareowner support for proposals *without* the SEC's vacated Rule 14a-11 ownership requirement of 3% for 3 years: **23%**				
Total number of proposals	24	7	29.2%	NM

NA = not applicable; proposal(s) did not receive a majority vote. NM = not meaningful.

Notes: See Appendix C for additional details on (un)successful proxy access proposals. For source information, see notes to Appendix C.

[a]Although the 2012 and 2013 Nabors proposals received a majority of votes cast, the company deemed the proposals failures. See "Nabors Owners Back Proxy Access Resolution," *Wall Street Journal* (5 June 2012); "Nabors Gets Rebuke from Shareowners," *Wall Street Journal* (6 June 2013).

[b]Charles Schwab and CME Group (re)submitted proposals in 2012 and 2013. Both sets of proposals failed to reach a majority vote.

Recent Events Related to Global Proxy Access

While the majority of US shareowners are not afforded proxy access, shareowners in many other developed economies (e.g., Australia, Canada, and the United Kingdom) enjoy the right to nominate and elect board members at company meetings.

To evaluate the global impact of proxy access, we analyzed stock price returns among companies in a subset of international markets with shareowners who elected directors via proxy access. This evaluation included the US companies that have passed proxy access proposals pursuant to private ordering.

Specifically, we identified the dates on which shareholders at companies in Australia, Canada, and the United Kingdom successfully elected nominees via proxy access and the dates on which shareholders at companies in the United States adopted proxy access via private ordering. This evaluation was limited to 2011–2013 to coincide with the period in which private ordering was available in the United States. We refer to the dates on which nominees were elected or proposals approved as proxy access events. For each company, we calculated one-day stock price returns immediately following the proxy access event, as well as annual returns for the year preceding and following the event. For comparison purposes, we benchmarked company-specific returns against respective industry returns. We posited that if proxy access benefits shareholders, returns should increase following the proxy access event.

As shown in **Figure 6**, approximately 63% of the companies experienced positive one-day returns following proxy access, and around 71% outperformed their industries. Year-over-year returns (**Figure 7**) show that approximately 63% of the companies experienced positive performance in the year following the proxy access event, relative to the preceding year.

Figure 6. Comparison of Proxy Access Event Returns: Company vs. Industry for Companies That Elected Shareholder-Nominated Directors or Passed Proxy Access Proposals

1-Day Return (%)

63% of Companies Experience Positive 1-Day Returns Following Proxy Access Events

71% of Companies Outperform Respective Industry Returns
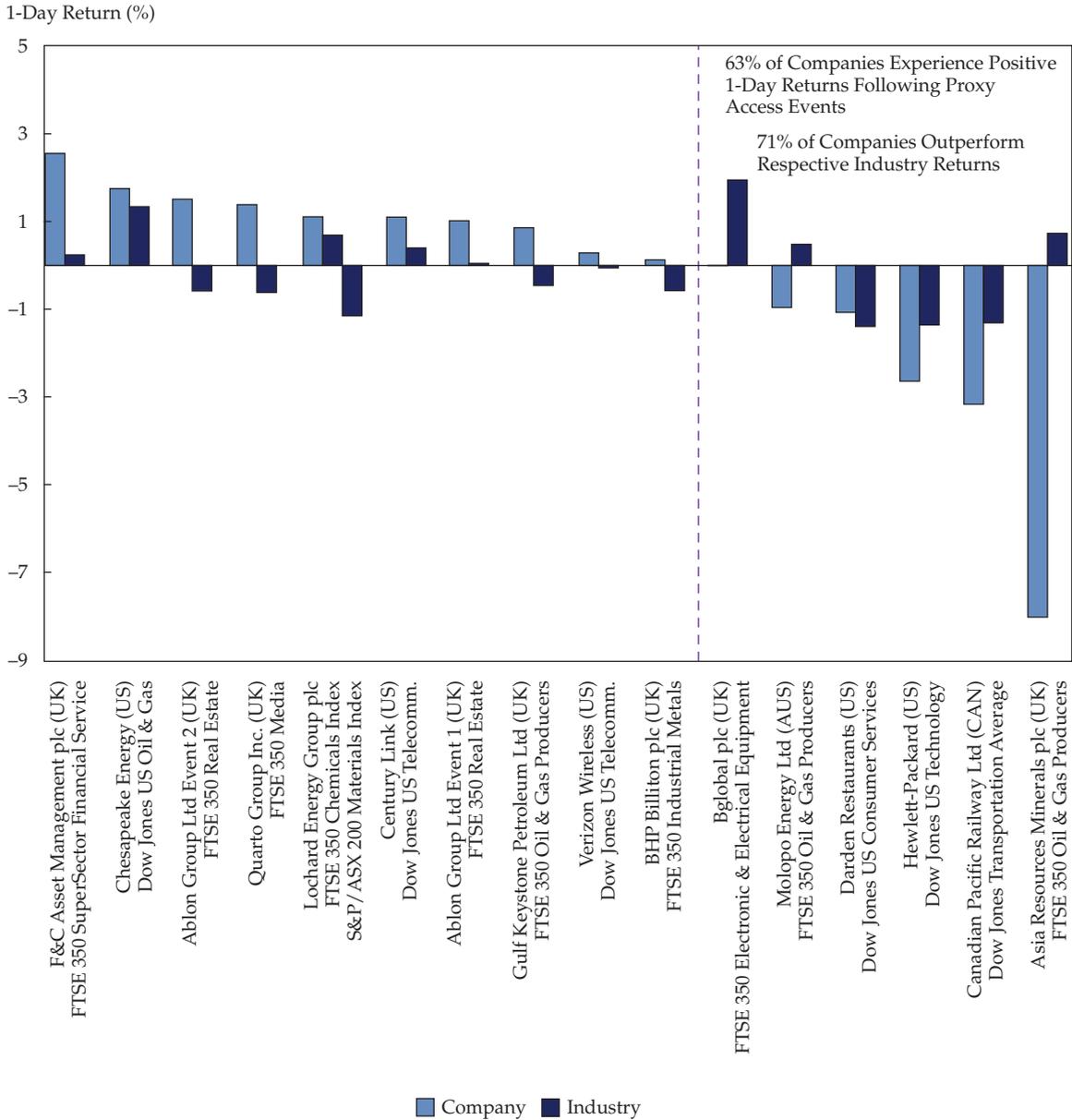
Company   Industry

(continued)

Figure 6. **Comparison of Proxy Access Event Returns: Company vs. Industry for Companies That Elected Shareholder-Nominated Directors or Passed Proxy Access Proposals (continued)**

Notes: Zero returns, or no bar, indicates no change in the percentage return. We obtained data on international proxy access events from Manifest; source information for US proxy access events is provided in Appendix C. Industries were identified from Bloomberg company snapshots. We obtained stock price data from Google Finance, using the following exchanges, tickers, and event dates: LON:ABL (12/5/12 and 2/1/13), LON:ARMS (2/21/13), LON:BGBL (8/15/13), LON:BLT (10/24/13), TSE:CP (5/17/12), NYSE:CTL (5/22/13), NYSE:CHK (6/14/13), NYSE:DRI (6/8/12), LON:FCAM (2/3/11), LON:GKP (7/25/13), NYSE:HPQ (3/20/13), LON:LHD (4/23/12), ASX:MPO (2/15/11), LON:QRT(11/7/12), NYSE:VZ (5/2/13), INDEXFTSE:UB8600, INDEXFTSE:NMX2730, INDEXFTSE:NMX1750, INDEXFTSE:UB8700, INDEXFTSE:UB1300, INDEXFTSE:NMX5550, INDEXDJX:DJT, INDEXDJX:DJUSTL, INDEXDJX:DJUSEN, INDEXDJX:DJUSCY, INDEXDJX:DJUSTC, and INDEXASX:XMJ. Annual results for Ablon Group reflect the partial year as of 30 May 2013 because the company delisted for the London Stock Exchange. Annual results for BHP Billiton, Bglobal Plc, Chesapeake Energy, and Gulf Keystone Petroleum reflect the partial year as of 10 June 2014.

Figure 7. Comparison of Year-over-Year Proxy Access Event Returns

Company Annual Returns (%)

56% of Companies Experience Positive Annual Returns Following Proxy Access Events

63% of Companies Outperform Annual Returns the Year Following Proxy Access Events, Relative to the Preceding Year

■ Year Preceding Proxy Access Event ■ Year Following Proxy Access Event
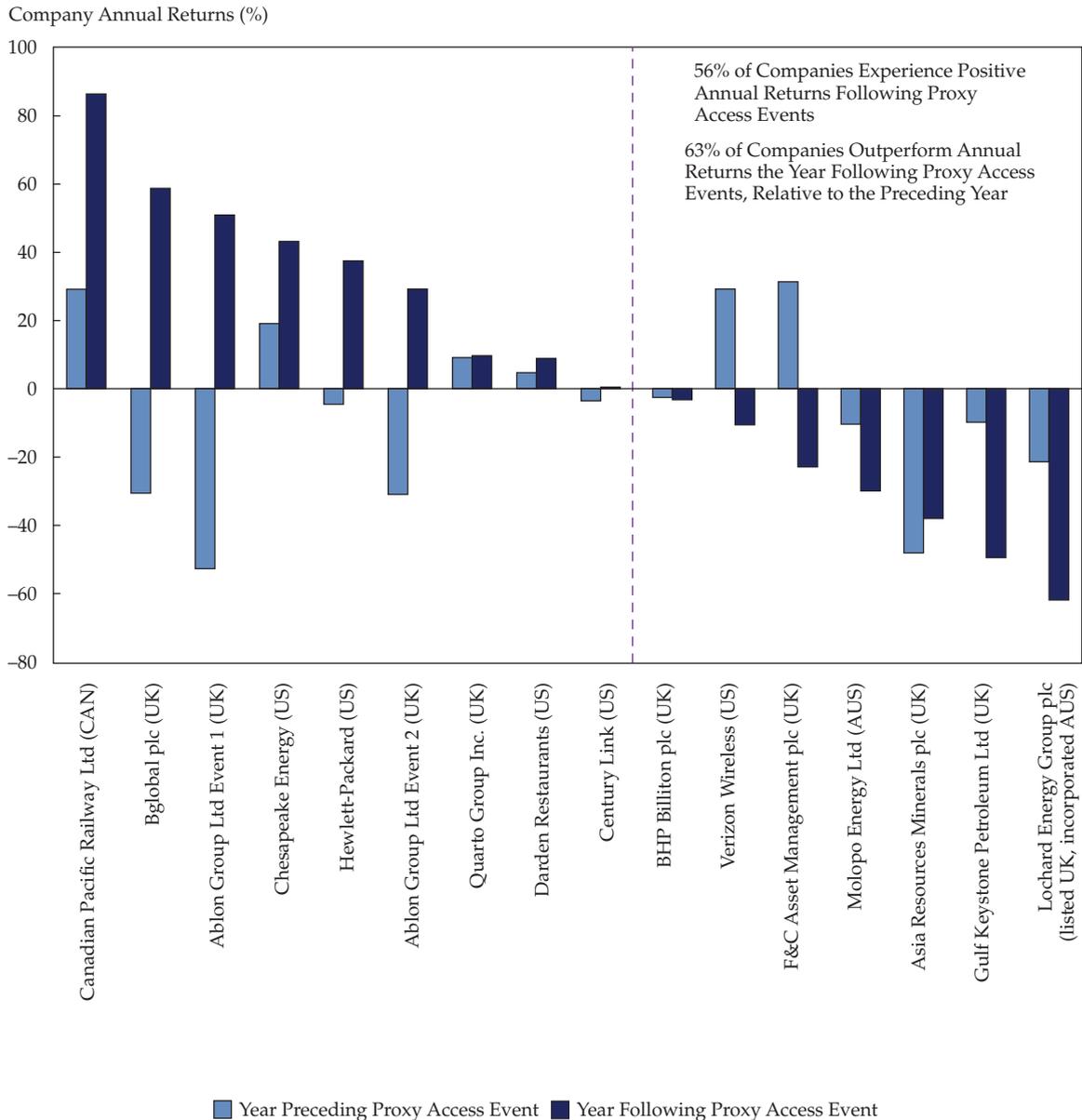
Note: Zero returns, or no bar, indicates no change in the percentage return.

These results are anecdotal, and a direct causal interpretation of the relationship between returns and proxy access events should not be based solely on the strength of these results. Notably, trends in company-specific returns and news wholly unrelated to proxy access also affect returns. However, the absence of consistently negative price movements surrounding proxy access events suggests that proxy access has not universally reduced shareowner value, as some critics have argued.

Further, this evaluation reveals that among countries that have proxy access, it tends to be used sparingly to elect directors. As suggested by Becker, Bergstresser, and Subramanian (2013), this tendency may occur because the potential use of proxy access fosters a meaningful engagement between shareowners and management, thereby increasing bipartisan representation on a company's board of directors. To the extent that proxy access provides governance benefits from a policy perspective, a preliminary analysis suggests that adverse financial impacts are negligible.

Background

We now discuss the background of proxy access in terms of policy, the SEC's vacated proxy access rule, and the use of event studies in economic impact analysis.

Policy Context

When developing regulations, federal agencies must analyze the impacts of the regulatory alternatives under consideration. Several laws and executive orders require consideration of the economic effects of proposed rules.

■ *Executive Order 12866 (E.O. 12866)—Regulatory Planning and Review.* Federal agencies are required to consider the costs and benefits of available regulatory alternatives and to select approaches that maximize net benefits, unless a statute requires another regulatory approach. The Circular A-4 of the Office of Management and Budget (OMB) further elaborates on the characteristics of a "good" regulatory analysis.

■ *Executive Order 13563 (E.O. 13563)—Improving Regulation and Regulatory Review.* Reaffirms the framework for regulatory analyses established by E.O. 12866 and requires federal agencies to develop plans to periodically conduct a retrospective review of existing rules. It also promotes increased public participation in the rule-making process by requiring searchable, online access to dockets before issuing a notice of proposed rule making.

■ *Executive Order 13579 (E.O. 13579)—Regulation and Independent Regulatory Agencies.* Encourages independent regulatory agencies to comply with the provisions of E.O. 13563, to the extent permitted by law, and requires each independent regulatory agency to develop a publicly available plan, consistent with its law and reflecting resources and regulatory priorities and processes, under which the agency will periodically review its existing significant regulations.

■ *Regulatory Flexibility Act of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996.* Federal agencies are required to prepare a regulatory flexibility analysis and take other steps to assist small entities—unless the agency certifies that a rule will not have a "significant economic impact on a substantial number of small entities."

■ *Unfunded Mandates Reform Act (UMRA) of 1995.* Federal agencies are required to assess the effects of their regulatory actions on state, local, and tribal governments and on the private sector. Under section 202 of UMRA, federal agencies must prepare a written statement, including a cost–benefit analysis, for rules that may result in the expenditure by state, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more in any one year.

Federal laws and executive orders have very specific requirements regarding the process for conducting regulatory analyses in support of rule-making actions. For example, under Executive Order 12866,[13] federal agencies are required to consider the costs and benefits of available regulatory alternatives for significant regulatory actions. On the basis of these analyses, agencies are charged with selecting approaches that maximize net benefits. Regulatory actions are deemed significant if they meet at least one of the following criteria:

■ have an annual effect on the economy of $100 million or more, or adversely affect (in a material way) the economy, a sector of the economy, productivity, competition, jobs, the environment, public health and safety, or state, local, or tribal governments or other communities;

■ create a serious inconsistency with actions taken or planned by other agencies; or

■ materially alter the budgetary impact of entitlements, grants, user fees, or loan programs.

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[13]Exec. Order No. 12866, Regulatory Planning and Review (30 September 1993): http://www.archives.gov/federal-register/executive-orders/pdf/12866.pdf.

The results of regulatory assessments, including cost–benefit and cost-effectiveness analyses, help federal agencies anticipate and evaluate the likely consequences of proposed regulatory actions. In particular, regulatory impact analysis ensures that decision makers are better able to (1) evaluate whether the anticipated benefits of a particular action justify the attendant costs and (2) identify which regulatory alternative is likely to be most reasonable (or cost-effective). In addition to the aforementioned laws and orders, OMB Circular A-4 requires that federal agencies, through their regulatory analyses, explain how the compliance options of proposed regulatory actions are linked to expected benefits.[14] Specifically, a comprehensive regulatory assessment should include

- the baseline characterization of the industry affected by the rule,

- costs of regulatory alternatives,

- direct and ancillary benefits of these alternatives, and

- distributional effects of the rule (i.e., identifying the impact of the rule on sensitive subgroups or specific geographic regions, whether domestic or international).

Figure 8 depicts how this framework might apply to the SEC's proposed proxy access rule that was vacated by the DC Circuit Court of Appeals on 22 July 2011.

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[14]OMB, Circular A-4, Regulatory Analysis (17 September 2003): http://www.whitehouse.gov/omb/circulars_a004_a-4; see also Regulatory Impact Analysis: Frequently Asked Questions (FAQ): http://www.whitehouse.gov/sites/default/files/omb/assets/OMB/circulars/a004/a-4_FAQ.pdf.

Figure 8. Overview of Cost–Benefit Analysis

Define Baseline Conditions

➡️ Economic Conditions, Market Environment, Efficiency, Competition, Capital Formation

➡️ Existing Regulatory/Compliance Situation

Characterize the Response of the Regulated Community to the Requirements

➡️ Private Ordering

➡️ Different Thresholds Relative to Size

➡️ Special Shareholder Meetings

Quantify Costs

➡️ Misuse of Proxy Rights, Cost of Compliance, Arbitrage

Quantify Benefits

➡️ Efficiency Gains, Increased Accountability, Cost of Capital, Risk Premia

Describe and/or Quantify Distributional Effects

➡️ Impacts to Small Entities

➡️ Impact on Financial Markets, Economic Indices

SEC Proxy Access—Rule 14a-11

The federal proxy rules proceed from the notion that the proxy process should function, to the greatest extent possible, as a replacement for an in-person meeting among shareowners. The proxy process is the primary means by which the shareowners of public companies elect boards of directors. Typically, incumbent directors nominate candidates for vacant board seats in advance of a company's annual meeting. Information about each nominee is included in the company's proxy materials, which are distributed to all shareowners. Shareowners are then able to vote for or against nominees by mailing in their proxy voting cards or via electronic voting.[15]

Shareowners can also nominate candidates by initiating a proxy contest, wherein they must separately file a proxy statement and solicit votes from shareowners. As part of its review of the proxy process, the SEC found that shareowners had minimal prospects for electing their nominees at the annual general meeting (AGM) via proxy contests for two reasons. First, the majority of shareowners cast their proxy voting cards *prior to* the in-person meeting at which they may nominate director candidates. Second, proxy contests often require the nominating shareowner to engage in time-consuming and prohibitively expensive public relations campaigns to support its nominee.[16]

Over the past decade, in an attempt to improve shareowner access to companies' proxy statements, the SEC has proposed a number of changes to the federal proxy rules. For example, in October 2003, the SEC proposed a proxy access rule intended to institute corporate governance reform. Following its receipt of more than 13,000 comment letters, the SEC dropped the proposal from its regulatory agenda.[17] More recently, in August 2010, the SEC adopted Rule 14a-11, a mandatory proxy access rule that would require all public US companies to include qualifying shareowner nominations to the board in the companies' proxy materials. Specifically, shareowners (or groups thereof) that continuously held at least 3% of a company's securities for at least three years would be eligible to nominate candidates for a maximum of 25% of the company's board seats. Rule 14a-11 was scheduled to become effective in November 2010 and would have applied to companies that mailed their proxy materials on or after 13 March 2011.[18]

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[15]See Business Roundtable and Chamber of Commerce v. Securities and Exchange Commission, slip op. 10-1305 (DC Cir., 22 July 2011).

[16]SEC, Final Rule for Facilitating Shareowner Director Nominations (Release Nos. 33-9136, 34-62764, IC-29384; File No. S7-10-09).

[17]SEC, Proposed Rule: Security Holder Director Nominations (Release Nos. 34-48626, IC-26206; File No. S7-19-03).

[18]See SEC, Final Rule for Facilitating Shareowner Director Nominations.

As shown in the timeline in **Figure 9**, the SEC decided to voluntarily stay mandatory proxy access following a petition filed by the Business Roundtable (BRT) and the US Chamber of Commerce (Chamber) for a review of Rule 14a-11 in the US Court of Appeals for the DC Circuit. The BRT and the Chamber argued that Rule 14a-11 was arbitrary and capricious and violated the Administrative Procedure Act (APA) as well as the First and Fifth Amendments to the US Constitution. On 22 July 2011, the DC Circuit Court of Appeals ruled in favor of the BRT and the Chamber in a unanimous decision to vacate the SEC's proposed proxy access rule. In the Court's opinion, the SEC failed to adequately "assess the economic effects" of Rule 14a-11.[19] The remainder of this analysis is limited to a discussion of proxy access events that have occurred since 2010, in the context of the July 2011 DC Circuit Court's decision.

Figure 9. Timeline of Events Related to Proxy Access since 2010

24 June 2010
Proposal Dropped and SEC's 1%, 3%, 5% Ownership Thresholds Restored

25 August 2010
SEC Passes Rule 14a-11 with 3%, 3-Year Threshold

4 October 2010
SEC Voluntarily Stays Rule 14a-11

22 July 2011
DC Court of Appeals Vacates Rule 14a-11

2013 Proxy Season
15 Proxy Access Proposals Submitted; 15 Voted On; 4 Pass

16 June 2010
Proposal Announced Mandating 5% Ownership Requirements for Proxy Access

21 July 2010
Dodd–Frank Act Passes with SEC Mandate for Proxy Access Reform

29 August 2010
Chamber of Commerce Files Petition with DC Circuit Court to Vacate 14a-11 and Stay Its Effectiveness

7 April 2011
Hearing at the DC Court of Appeals

2012 Proxy Season
20+ Proxy Access Proposals Submitted; 9 Voted On; 2 Pass

Use of Event Studies in Economic Impact Analysis

The SEC is an independent agency, as opposed to an executive agency.[20] Arguably, as an independent agency, the SEC is not required to conduct a formal cost–benefit analysis as part of its rule making under E.O. 12866 and E.O. 13563.[21] However, as a matter of policy

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[19]See Business Roundtable and Chamber of Commerce v. Securities and Exchange Commission, slip op. 10-1305 (DC Cir., 22 July 2011).

[20]SEC Commissioner Daniel M. Gallagher, "The SEC Speaks in 2013" (remarks, SEC, Washington, DC, 22 February 2013): https://www.sec.gov/News/Speech/Detail/Speech/1365171492342#.UvJ9iGJdVLg.

[21]See 58 FR 51735 (4 October 1993); 76 FR 3821 (21 January 2011).

and pursuant to E.O. 13579 (which encourages independent regulatory agencies to follow certain policies set forth in E.O. 13563), the SEC maintains that an evaluation of the potential costs and benefits of a rule constitutes good regulatory practice.[22]

In addition, when engaged in rule making, statutory provisions contained in the US Code require the SEC to consider "whether the action will promote efficiency, competition, and capital formation," in addition to protecting investors.[23] When considered in conjunction with the requirement under the APA that a rule making may not be "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law," the DC Circuit Court's July 2011 opinion imposes on the SEC a "statutory obligation to determine as best it can the economic implications of the rule."[24]

The predominant theories of regulation generate opposing hypotheses about predicted economic impacts. For example, public interest theory assumes that regulation arises in response to market failure and is an attempt to improve social welfare and create shareowner wealth.[25] This theory is consistent with the view that proxy proposals are an important mechanism by which shareowners can discipline managers, thereby reducing costs that may arise from conflicts of interest between shareowners and management (i.e., agency costs).[26] Conversely, special interest theory (also known as capture theory) posits that regulation responds to various political support groups and is aimed at producer protection rather than consumer protection.[27] This theory is consistent with the view that proxy access will be used by special-interest institutional investors (e.g., unions and pensions) to promote private agendas that destroy shareowner wealth.[28] Ultimately, the wealth effect of proxy access is an empirical question.

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[22]SEC, "Re: Current Guidance on Economic Analysis in SEC Rulemaking," memorandum (16 March 2012): http://www.sec.gov/divisions/riskfin/rsfi_guidance_econ_analy_secrulemaking.pdf.

[23]15 U.S.C. § 78c(f).

[24]5 U.S.C. § 706; see Chamber of Commerce v. SEC, 412 F.3d 133, 144–145 (DC Cir., 2005).

[25]A. Posner, "Theories of Economic Regulation," *Bell Journal of Economics and Management Science*, vol. 5, no. 2 (Autumn 1974):335–358.

[26]L. Bebchuk, "The Case for Increasing Shareholder Power," *Harvard Law Review*, vol. 118, no. 3 (January 2005):833–914.

[27]Posner, "Theories of Economic Regulation."

[28]S. Bainbridge, "Director Primacy and Shareholder Disempowerment," *Harvard Law Review*, vol. 119, no. 6 (April 2006):1735–1758; M. Lipton, "Pills, Polls, and Professors Redux," *University of Chicago Law Review*, vol. 69, no. 3 (Summer 2002):1037–1065.

As first introduced by Schwert (1981), the *event study technique* has been applied widely to estimate the costs and benefits of regulation. Notably, a substantial portion of the literature has been devoted to examining the effects of financial regulation.[29] Event studies provide an empirical framework to identify the economic impacts of government action on regulated firms and, in our view, are a readily quantifiable tool with which the SEC can fulfill its mandate to conduct economic analyses of proposed regulations.[30]

Specifically, event studies infer changes in firm, industry, and market value following an event on the basis of changes in the underlying security prices of affected firms. This analysis is predicated on the efficient market hypothesis, which posits that security prices reflect all available information.[31] Thus, unanticipated events contemporaneously affect firms' security prices, and these price changes provide an unbiased estimate of the economic impact of an event.

The quality of the results generated by an event study lies in the rigor of the study's design. A successful event study analyzes an event (or series of events) that meets two conditions:

■ *The event must be unexpected by the market.* Regulations are often anticipated by the market, because they tend to be debated publicly (in the media) prior to promulgation and implementation. Thus, the wealth effects accompanying a new regulation tend to be priced into securities by the time the regulation is enacted. So, the event date must be the precise date on which information about the regulation's potential becomes *anticipated* by the market.

■ *The event must be economically significant.* The event must convey meaningful information about the likelihood of the regulation and its effect on stock prices. Events that have directionally unclear implications for the probability that the regulation will occur may render the results of an event study meaningless.

[29]J. Binder, "Measuring the Effects of Regulation with Stock Price Data," *RAND Journal of Economics*, vol. 16, no. 2 (Summer 1985):167–183; J.H. Mulherin, "Measuring the Costs and Benefits of Regulation: Conceptual Issues in Securities Markets," *Journal of Corporate Finance*, vol. 13, no. 2–3 (June 2007):421–437.
[30]G.W. Schwert, "Using Financial Data to Measure Effects of Regulation," *Journal of Law and Economics*, vol. 24, no. 1 (April 1981):121–158.
[31]E. Fama, "Efficient Capital Markets: A Review of Theory and Empirical Work," *Journal of Finance*, vol. 25, no. 2 (May 1970):383–417.

If an event meets these criteria, a study of the event may yield meaningful information about corresponding economic impacts. Simply stated, an event study comprises four steps:

Step 1. The relevant dates surrounding an event or set of events are identified, usually via a news and literature search; this period is referred to as the event window.

Step 2. Stock prices for firms and market-wide indices are collected, along with information on other relevant company-specific variables, for the period preceding the event window (the control period or baseline) and the event window.

Step 3. Econometric methods (e.g., regression analysis) are used to estimate firm-level abnormal returns on the event date. Abnormal return is the deviation of a security's actual return from its expected return—that is, the return that would have occurred but for the event. Expected return is estimated by using the historical relationship between a firm's stock return and the market's return (e.g., the return on the S&P 500 Index), as well as additional variables (e.g., industry return) that also influence stock prices. By removing variations in stock returns that stem from market-wide and industry-wide price fluctuations, the abnormal return reflects only the portion of the firm's return attributable to the event. Statistical tests are performed to evaluate whether firms' abnormal returns are significantly different from their expected returns.

Step 4. Additional regressions are run to determine the effects of firm-specific characteristics (e.g., company size) on abnormal returns.[32]

In the sections that follow, we summarize the academic studies that used this methodology to evaluate the potential costs and benefits of proxy access. We discuss these findings in the context of the five shortcomings identified by the DC Circuit Court of Appeals in its July 2011 opinion vacating the SEC's Rule 14a-11. In our discussion of each study, we extend its results to estimate the effect of proxy access on overall US market capitalization. We focus on overall market capitalization as an approximation of shareowner wealth and the potential impact of the SEC's proposed proxy access reform on the broader economy. In so doing, we apply the following formula to authors' estimates of abnormal return:

$$\Delta Market\ cap_{total} = Abnormal\ return_{sample} * Market\ cap_{sample} * Firms_{sample},$$

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[32]See http://web.mit.edu/doncram/www/eventstudy.html.

where

- $\Delta Market\ cap_{total}$ is equal to the change in total market capitalization (i.e., stock price multiplied by shares outstanding) for all firms in the authors' sample, expressed in dollars. Following events that increase the likelihood of proxy access reform, a positive value indicates that the market expected proxy access to increase shareowner wealth. Conversely, a negative value indicates that the market expected proxy access to decrease shareowner wealth. Following events that decrease the likelihood of proxy access reform, a positive value indicates that the market expected proxy access to decrease shareowner wealth. Conversely, a negative value indicates that the market expected proxy access to increase shareowner wealth.

- $Abnormal\ return_{sample}$ is equal to the abnormal return attributable to proxy access reform, as identified in the authors' regression results pursuant to step 3. In cases where multiple regression specifications were performed, we selected the authors' "preferred" specification. If the authors did not identify a preferred specification, we applied the most statistically significant or conservative abnormal return. Abnormal return is expressed either as a percentage or in basis points. In cases where abnormal return is expressed in basis points, we converted the change to a percentage by multiplying regression coefficients by 0.0001.

- $Market\ cap_{sample}$ is equal to the average firm-level market capitalization for the firms in the authors' sample, expressed in dollars. Whenever possible, we relied on the average firm-level market capitalization presented in the studies' summary statistics, as provided by the authors. When authors did not provide this information, we approximated the average firm-level market capitalization in the sample by using data from comparable market indices as of the event date.

- $Firms_{sample}$ is equal to the number of firms in the authors' sample.

For example, Campbell, Campbell, Sirmon, Bierman, and Tuggle (2012) found that firms experienced abnormal returns of 83 bps, or 0.83%, following the SEC's adoption of proxy access on 25 August 2010. Their sample consisted of 392 firms in the S&P 500. Applying

our methodology and using the average market capitalization for firms in the S&P 500 as of 31 August 2010, we found that this amounts to an increase of approximately $64.9 billion in total market capitalization:[33]

$$\Delta Market\ cap_{total} = 0.0083 \times \$19.94\ billion \times 392\ firms = \$64.9\ billion$$

As illustrated in this example, we estimated aggregate market impacts on the basis of the abnormal return for a particular event date and the average firm-level market capitalization on that event date. We used data (provided by S&P Capital IQ) on the historical month-end aggregate market value for the S&P 500 and S&P 1500 indices. Using these data, we calculated the average firm-level market capitalization for the basket of firms in each index as of each event date. In so doing, we ensured that the estimates of aggregate market impacts reflect the characteristics of the economy that were present at the time the event occurred.

In instances where authors reported actual market data for firms in their sample, we relied on those data. For the subset of event studies in which the authors did not report actual firm-wide market data, we applied S&P 500 and S&P 1500 data. The selection of S&P 500 or S&P 1500 data depended on the basket of firms represented in each study's sample. For example, Becker et al. (2013) defined their sample as based on a subset of firms in the S&P 1500, whereas Campbell et al. (2012) defined their sample as based on a subset of firms in the S&P 500. To ensure methodological consistency, we applied the average firm-level market capitalization from each index according to the configuration of the sample sets, as defined by the authors. To illustrate the magnitude of the impact of proxy access on the overall economy, we report aggregate market impacts both in dollars and as a share of total market capitalization on the event date.[34]

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[33]Mean total market capitalization for the S&P 500 is based on the aggregate market value of the S&P 500 Index as of 31 August 2010 divided by 500 (source: S&P Capital IQ; these data are available for purchase at https://www.capitaliq.com/home.aspx).

[34]Monthly historical data on *total* US market capitalization are not publicly available. For purposes of deriving market-wide comparisons, we extended monthly time-series data from the S&P 1500 to approximate overall US market capitalization. Specifically, Standard & Poor's represents that the S&P 1500 accounts for approximately 90% of overall US market capitalization. For purposes of analysis, we estimated total US market capitalization (as of each event date) as the aggregate market value of the S&P 1500 on the specific event date divided by 0.90. See http://us.spindices.com/indices/equity/sp-composite-1500.

However, it is important to recognize that this method assumes that the characteristics of the sample firms included in the various event studies are, on average, identical to those of all the firms represented in the S&P 500 or S&P 1500. To the extent that the sample firms have, on average, lower (higher) market capitalizations than those in the S&P 500 or S&P 1500, the impacts offered in this report may be overstated (understated).

In addition to estimating the overall impact of proxy access reform on shareowner wealth, we also considered three nuanced impacts of Rule 14a-11 as identified by the DC Circuit Court. Specifically, we evaluated the economy-wide impacts of proxy access reform on board performance, special-interest empowerment, and proxy contest costs.[35] In so doing, we applied a methodology similar to that described earlier (and as documented in greater detail in Appendix B). As described at length in the sections that follow, the overall and sector-specific impacts of proxy access reform respond to the shortcomings identified in the DC Circuit Court's opinion and provide a preliminary impact analysis of the SEC's proposed proxy access rule.

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[35]We were unable to evaluate economy-wide effects of the impact of proxy access on investment companies because, in our view, none of the studies under review provide a robust analysis of this relationship.

Analysis

In July 2011, the DC Circuit Court of Appeals held that the SEC failed to adequately assess the economic impacts of Rule 14a-11. Specifically, the court identified five shortcomings with respect to the SEC's economic analysis:[36]

1. The SEC relied on insufficient empirical data when it concluded that Rule 14a-11 would increase shareowner value.

2. The SEC relied on insufficient empirical data when it concluded that Rule 14a-11 would improve board performance.

3. The SEC failed to quantify the costs companies might incur to challenge shareowner nominees despite available empirical data on costs of proxy contests.

4. The SEC failed to quantify the costs imposed on companies if special-interest shareowner groups use Rule 14a-11 to further agendas that do not maximize shareowner value.

5. The SEC failed to address (a) whether regulatory requirements of the Investment Company Act reduce the need for, and hence the benefit to be had from, proxy access, and (b) whether Rule 14a-11 would impose greater costs on investment companies by disrupting their governance structures.

Although economic theory cannot predict the wealth effects of proxy access, empirical research can be used to inform opposing hypotheses about the *potential* costs and benefits of proxy access. Through examination of the empirical economic literature on proxy access, we were able to explore the potential benefits and costs of the SEC's Rule 14a-11 and assess its net impact on shareowner wealth. Specifically, we reviewed independent event studies, conducted between 2011 and 2013, that used stock price data to assess the impact of the proposed proxy access rule on financial markets. We analyzed the findings of each study in

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[36]See Business Roundtable and Chamber of Commerce v. Securities and Exchange Commission, slip op. 10-1305 (DC Cir., 22 July 2011).

the context of the DC Circuit Court's opinion to determine whether investors can reasonably expect the costs of proxy access to outweigh the benefits, or vice versa. We reviewed the following event studies:[37]

■ Becker, Bergstresser, and Subramanian (2013, peer reviewed), "Does Shareholder Proxy Access Improve Firm Value? Evidence from the Business Roundtable's Challenge." The authors measured the market value of proxy access following the SEC's decision to voluntarily stay proxy access on 4 October 2010. They found that financial markets placed a *positive* value on shareowner access.

■ Campbell, Campbell, Sirmon, Bierman, and Tuggle (2012, peer reviewed), "Shareholder Influence over Director Nomination via Proxy Access: Implications for Agency Conflict and Stakeholder Value." The authors looked at the impact of the SEC's 25 August 2010 announcement of the proxy access rule on shareowners and bondholders. They concluded that proxy access created shareowner wealth, especially among firms with greater agency costs. Furthermore, they found that firms' creditors placed a *positive* value on proxy access.

■ Jochem (2012), "Does Proxy Access Increase Shareowner Wealth? Evidence from a Natural Experiment." The author estimated the wealth effects of proxy access following the DC Circuit Court's decision against the SEC's proposed proxy access rule on 22 July 2011. He concluded that whenever proxy access was strong enough to affect firm valuations, the market placed a *positive* value on proxy access reform, leading to an increase in shareowner wealth.

■ Stratmann and Verret (2012, peer reviewed), "Does Shareowner Proxy Access Damage Share Value in Small Publicly Traded Companies?" The authors looked at the wealth effects of the SEC's 25 August 2010 announcement of the proxy access rule on small-, medium-, and large-cap firms. They found that the unexpected application of the proxy access rule to small firms resulted in *negative* wealth effects among firms with less than $75 million in market capitalization.

Our review also included one event study that analyzed the SEC's proxy access rule but appears to overstate average firm-level market capitalization when benchmarked against comparable S&P 1500 data. We ascribed this inconsistency to a possible transcription error in the authors' underlying data tables. We corrected for this possible transcription error by amending the average firm-level market capitalization to reflect the mean value for the S&P 1500 as of June 2010.

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[37]IEc will augment its literature review as other event studies become available.

- Cohn, Gillan, and Hartzell (2012), "On Enhancing Shareowner Control: A (Dodd-) Frank Assessment of Proxy Access." The authors measured the market value of proxy access following changes in the proposed ownership thresholds required for a shareowner to gain access to a firm's proxy statement. They found that increases in perceived shareowner control have *positive* wealth effects and that the effects are strongest for poorly performing firms, for firms with shareowners likely to exercise control, and for firms where acquiring an ownership stake is relatively inexpensive. Notably, IEc's correction to the underlying data tables with respect to average firm-level market capitalization render their findings less supportive of proxy access. Nevertheless, the corrected findings continue to evidence *positive* wealth effects that appear to be more in scale with the findings of Campbell et al. (2012).

Finally, we identified the following two event studies, conducted between 2011 and 2012, that used stock price data to assess the impact of proxy access on financial markets. We opted not to include the results of these studies in our analysis because the estimated abnormal returns reflect event dates that are not specific to the SEC's vacated proxy access rule and thus likely do not reflect the market's reaction to the specifics of Rule 14a-11. Correcting for this shortcoming would have required us to apply each study's methodology to event dates more relevant to Rule 14a-11 and, in effect, conduct a new event study. Doing so was deemed beyond the scope of this preliminary impact assessment. A discussion of the various studies' methodological shortcomings is provided in Appendix A.

- Akyol, Lim, and Verwijmeren (2012, peer reviewed), "Shareholders in the Boardroom: Wealth Effects of the SEC's Proposal to Facilitate Director Nominations." The authors estimated the wealth effects of 17 events related to proxy access between 2006 and 2010. They found that increases in perceived shareowner control are associated with negative abnormal returns, especially among firms whose shareowners are most likely to use proxy access.

- Larcker, Ormazabal, and Taylor (2011, peer reviewed), "The Market Reaction to Corporate Governance Regulation." The authors estimated the wealth effects of 10 events related to proxy access between 2007 and 2009. They found that, on average, events associated with increased proxy access are also associated with negative wealth effects.

We did not rely on the findings of these two studies to inform our analysis of the market's expectations regarding the economic impacts of proxy access reform. We so elected because, in our view, methodological shortcomings in the context of this impact assessment undermine both studies. We discuss the studies, and their related shortcomings, in detail in Appendix A.

We have organized the sections that follow according to the five shortcomings identified in the DC Circuit Court's July 2011 opinion. We comment on the specific events analyzed

in each study, methodological rigor, and, ultimately, the robustness of the results generated. Where appropriate, we offer monetized, dollar-denominated estimates of the impact of proxy access on overall US market capitalization. Summaries of the data relied on, the statistical and econometric analyses conducted, and the findings on the impact of proxy access on shareowner wealth are provided in Appendix A. Calculations underlying market-wide impacts are summarized in Appendix B.

DC Circuit Court Finding

1. The SEC relied on insufficient empirical data when it concluded that Rule 14a-11 would increase shareowner value.

> Empirical question: Did proxy access reform increase overall US market capitalization?

Each of the event studies responds to the DC Circuit Court's finding. Specifically, by design, the five event studies are data-driven empirical analyses, all of which are intended to objectively assess whether proxy access creates or destroys shareowner wealth.[38]

Each study uses the events surrounding proxy access to evaluate the market's reaction to exogenous changes in the degree of shareowner control in the board nomination process. If the marketplace perceives that shareowner access to the proxy statement increases firm value, then positive abnormal returns should follow events that increase the likelihood of a proxy access rule and negative abnormal returns should follow events that decrease the likelihood of a proxy access rule (see **Figure 10** for a theoretical illustration; the dotted green line (H_0) shows how these findings appear in the context of *increased shareowner wealth* and abnormal returns). If, however, the marketplace perceives that shareowner access to the proxy statement decreases firm value, then negative abnormal returns should follow events that increase the likelihood of a proxy access rule and positive abnormal returns should follow events that decrease the likelihood of a proxy access rule (see Figure 10 for a theoretical illustration; the dashed red line (H_1) shows how these findings appear in the context of *decreased shareowner wealth* and abnormal returns).

Analysis of the underlying fundamentals of each event study suggests that proxy access was received more positively than negatively by financial markets. Specifically, Becker et al. (2013), Campbell et al. (2012), Cohn et al. (2012, as corrected), and Jochem (2012) found that the

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[38]See Becker et al. (2013, p. 128); Campbell et al. (2012, pp. 1432–1433); Cohn et al. (2012, p. 8); Jochem (2012, pp. 10–11); Stratmann and Verret (2012, p. 1435).

Figure 10. Theoretical Illustration of Hypotheses Related to the Impact of Proxy Access on Shareowner Wealth

Event Signals Probability of Proxy Access Reform

Likely

Hypothesis (H₀): Proxy Access Reform
Increases Shareowner Wealth

−100% Abnormal Return

Negative

Positive

+100% Abnormal Return

Hypothesis (H₁): Proxy Access Reform
Decreases Shareowner Wealth

Unlikely
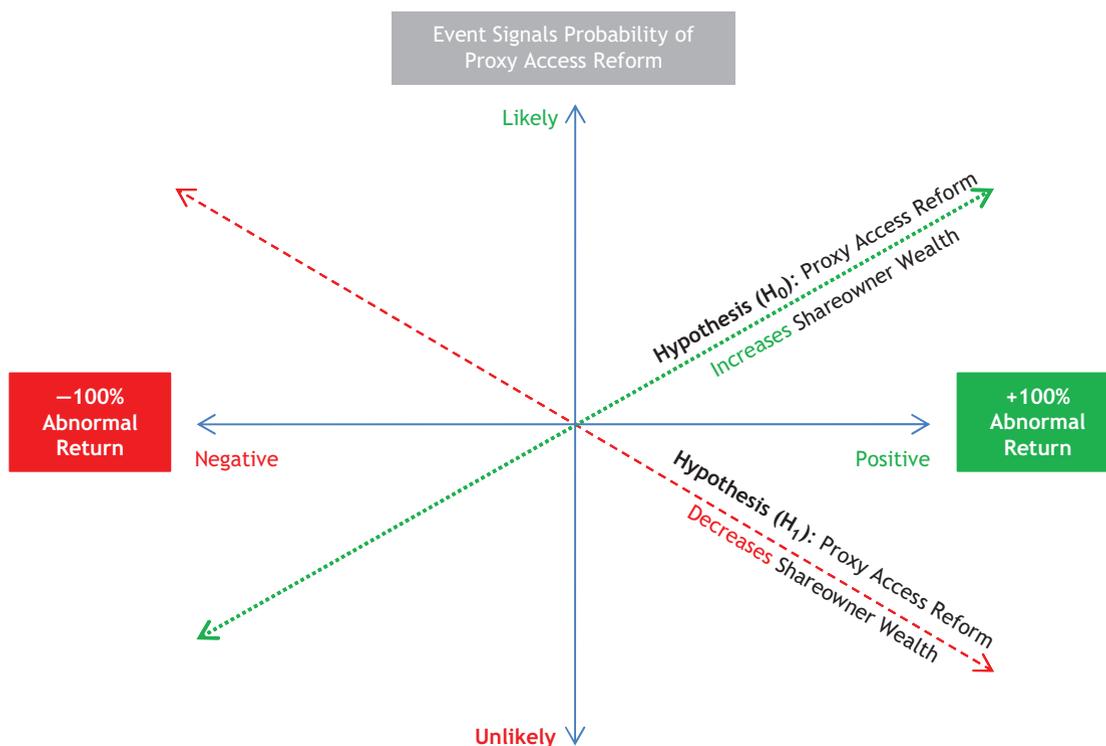
market viewed proxy access as value enhancing. As shown in **Figure 11**, when we extended the results of these studies to estimate potential implications for overall market capitalization, we estimated that the average impact of proxy access reform ranges from $3.5 billion to $140.3 billion for those studies that found a positive relationship between proxy access reform and shareowner wealth. This range of estimates reflects the average market capitalization across a sample of firms and event dates, both of which are specific to each event study.[39] When

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[39]Where authors reported actual market data for firms in their sample, we relied on those data. For the subset of event studies in which the authors did not report actual firm-wide market data, we applied S&P 500 and S&P 1500 data. The selection of S&P 500 data or S&P 1500 data depended on the basket of firms represented in each study's sample. For example, Becker et al. (2013) defined their sample as firms in the S&P 1500, whereas Campbell et al. (2012) defined their sample as firms in the S&P 500. To ensure methodological consistency, we applied data from each index according to the samples, as defined by the authors. See later sections of this report for a more detailed discussion of methodology.

Figure 11. Empirical Impact of Proxy Access Events on Shareowner Wealth
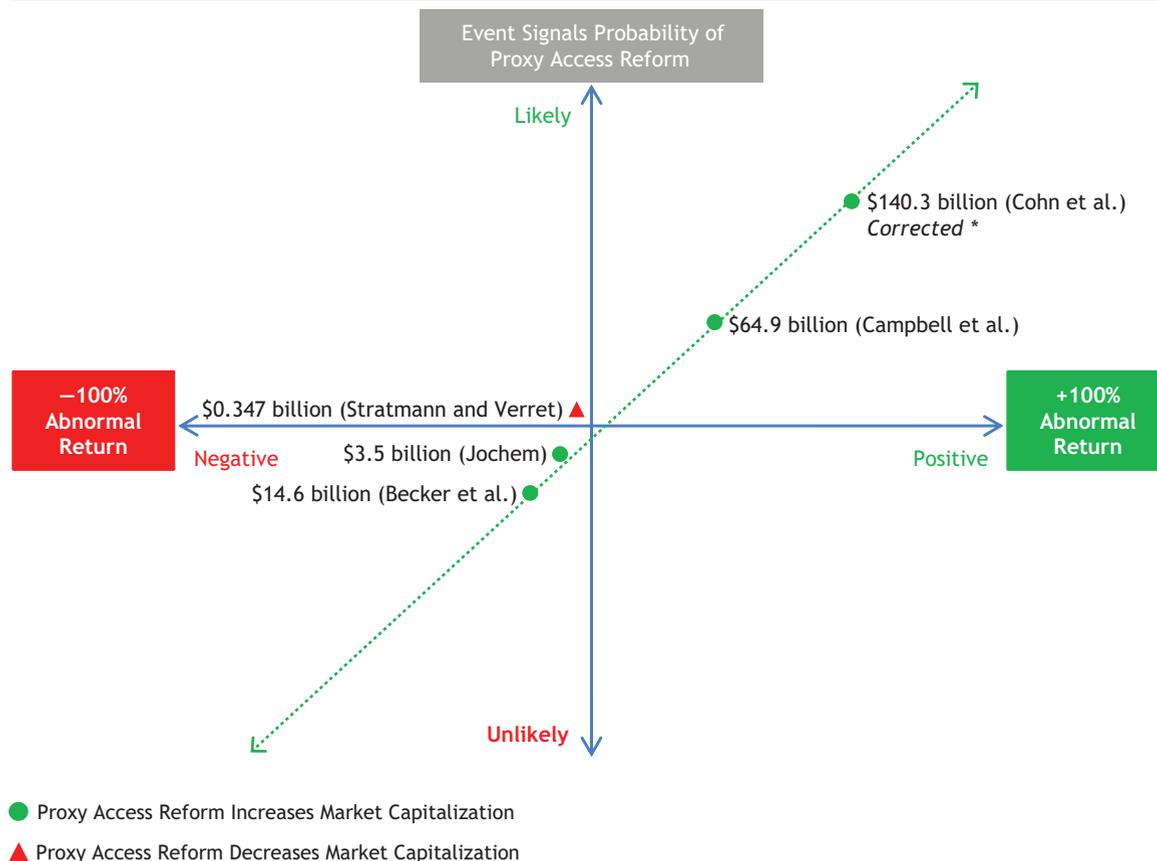
Event Signals Probability of
Proxy Access Reform

Likely

$140.3 billion (Cohn et al.)
*Corrected **

$64.9 billion (Campbell et al.)

−100%
Abnormal
Return

$0.347 billion (Stratmann and Verret) ▲

+100%
Abnormal
Return

Negative

Positive

$3.5 billion (Jochem)

$14.6 billion (Becker et al.)

Unlikely

● Proxy Access Reform Increases Market Capitalization

▲ Proxy Access Reform Decreases Market Capitalization

*Average firm-level market capitalization presented by Cohn et al. (2012) appears to be overstated when benchmarked against S&P 1500 data. We ascribed this inconsistency to a possible transcription error in the authors' underlying data tables. We amended the average firm-level market capitalization to reflect the mean value for the S&P 1500 as of June 2010. See the Analysis section for details on this correction.

benchmarked against estimated total US market capitalization, as represented by the S&P 1500 for the various event dates, these estimates reflect between 0.023% and 1.134% of total US market capitalization.[40]

[40]For purposes of overall market-wide comparisons, we relied on data from the S&P 1500 as a reasonable representation of the overall US market. Standard & Poor's represents that the S&P 1500 accounts for approximately 90% of US market capitalization. For purposes of analysis, we estimated total US market capitalization for each event date as the aggregate market value of the S&P 1500 on the specific event date divided by 0.9. See http://us.spindices.com/indices/equity/sp-composite-1500.

The results for Cohn et al. (2012) apparently rely on average firm-level market capitalization estimates that appear to be overstated when benchmarked against comparable S&P 1500 data. We ascribed this inconsistency to a possible transcription error in the authors' underlying data tables.[41] Specifically, according to Cohn et al. (2012), the average firm-level market capitalization for the 3,102 companies included in their analysis was $19.2 billion as of 2009.[42] As we understand their discussion, these firms reflect nonfinancial companies included in the Center for Research in Security Prices (CRSP) US database, which contains a compendium of information on all stocks listed on the NYSE, Amex, and NASDAQ exchanges.[43]

A review of CRSP's data indicates that the average firm-level market capitalization for *all* (financial and nonfinancial) US companies included in the database was reported to be $5.7 billion as of March 2014 (i.e., $13.5 billion less than the 2009 estimate reported by Cohn et al. in their 2012 analysis).[44] In our view, on the heels of the market correction in late 2008, it is unlikely that the average market capitalization for nonfinancial firms in 2009 totaled more than three times the current average market capitalization for all US firms in 2014. To correct for this possible error, we amended the average firm-level market capitalization applied by Cohn et al. (2012) to reflect the mean value for the S&P 1500 as of June 2010. We selected the S&P 1500 as opposed to the S&P 500 owing to the number of firms included in the analysis by Cohn et al. (2012).[45] Note that the correction to the underlying data tables with respect to average firm-level market capitalization renders their findings less supportive of proxy access. Nevertheless, the corrected findings continue to show directionally positive wealth effects that appear to be more in scale with the findings of Campbell et al. (2012).

Conversely, Stratmann and Verret (2012) identified a negative relationship between proxy access reform and shareowner wealth. When we extend this negative relationship to estimate potential US market-wide impacts, applying the same assumptions as those discussed earlier, the result appears to be nominal relative to overall US market capitalization. Specifically, the estimated negative impact of proxy access reform on market capitalization is $0.347 billion, which, all else being equal, contributes to a decline in US

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[41]IEc reached out to Cohn et al. to corroborate the validity of the market-cap figures presented in their paper. To date, IEc has not received a reply.

[42]See Cohn et al. (2012, Table 1 on p. 38 and n=3,102 on p. 10).

[43]http://www.crsp.com/

[44]See the average company market capitalization for the CRSP database per the Quarterly Performance Report for the CRSP US Total Market Cap Index: http://www.crsp.com/files/CRSPTM1%20Quarterly%20Report-March2014.pdf.

[45]We were unable to use data from the CRSP because historical information was not publicly available.

market capitalization of less than 0.003%.[46] For details on the underlying calculations, see **Table B1** (Appendix B).

Campbell et al. (2012) and Stratmann and Verret (2012) evaluated the shareowner wealth effects of the same event: the SEC's 25 August 2010 adoption of proxy access reform. They notably reached different conclusions about its impact. As shown in **Table 3**, Campbell et al. (2012) found that proxy access reform is associated with positive abnormal returns of 0.83%, whereas Stratmann and Verret (2012) found that proxy access reform is associated with negative abnormal returns of 0.75%. This divergence is likely due to differences in the characteristics of the sample firms underlying each study. Specifically, Campbell et al. (2012) evaluated abnormal returns among a subset of 392 firms in the S&P 500, an index comprising 500 *large* firms in the US market. As of August 2010, the average firm-level market capitalization for the S&P 500 was $19.943 billion.[47] Stratmann and Verret (2012) analyzed abnormal returns for a portfolio of 980 *small* firms, which had an average firm-level market capitalization of $47 million as of August 2010.[48]

Table 3. Event Study Findings: Did Proxy Access Increase Shareowner Wealth?

Finding: Evidence suggests that proxy access was viewed positively by the market, with the potential to contribute an estimated $3.5 billion to $363.0 billion in market capitalization, or 0.023% to 2.934% of total US market capitalization.

Event Study	Summary	Empirical Question: Does Proxy Access Increase Shareowner Wealth?	Estimated Impact ($ billions)
Becker et al. (2013)	The authors evaluate abnormal returns following the SEC's decision to stay proxy access on 4 October 2010, which arguably decreased the market's expectations about proxy access. They identify the impact of proxy access by comparing abnormal returns of a portfolio of firms that should have been affected by proxy access (i.e., firms with institutional and activist institutional investors) with those of a portfolio of firms that should not have been affected by proxy access.	**YES:** The authors identify a statistically significant, negative relationship between abnormal returns and a firm's exposure to proxy access following the SEC's decision to stay Rule 14a-11. A 10% increase in institutional ownership is associated with an additional 11 bp loss.	$14.6 billion loss in market capitalization following SEC decision to stay proxy access[a]
Campbell et al. (2012)	The authors evaluate abnormal returns following the SEC's announcement that the proxy access rule had passed on 25 August 2010, which increased the market's expectations about proxy access. They identify the impact by comparing abnormal returns among firms in the S&P 500 with abnormal returns on a Canadian index.	**YES:** The authors find a statistically significant and positive abnormal stock market return of 0.83% on 25 August 2010.	$64.9 billion appreciation in market capitalization following passage of proxy access[b]

(continued)

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[46]The assessment of impacts on market-wide US capitalization reflects estimates as of the specific event dates reflected in each study. These event dates range from June 2010 through July 2011. All else being equal, if we scale these impacts to today's economy on a straight-line basis, assuming S&P 1500 data as of February 2014, we arrive at a range of potential positive impacts of $23.67 billion to $613.31 billion, with a potential negative impact of $610.56 million.

[47]Mean total market capitalization for the S&P 500 is based on the aggregate market value of the S&P 500 Index as of 31 August 2010 divided by 500 (source: S&P Capital IQ; these data are available for purchase at https://www.capitaliq.com/home.aspx).

[48]See Stratmann and Verret (2012, p. 1462).

Table 3.	Event Study Findings: Did Proxy Access Increase Shareowner Wealth? (continued)		
Event Study	**Summary**	**Empirical Question: Does Proxy Access Increase Shareowner Wealth?**	**Estimated Impact ($ billions)**
Cohn et al. (2012, as corrected)	The authors evaluate abnormal returns on (a) 16 June 2010, when a proposal was announced mandating that the SEC require an investor to own at least 5% of a firm's shares before gaining access to a firm's proxy (as opposed to the SEC's proposed 5%, 3%, and 1% thresholds for small, medium, and large firms, respectively), and on (b) 24 June 2010, when the proposal was dropped and the SEC's proposed ownership thresholds were restored. They identify the impact of proxy access by comparing abnormal returns among a portfolio of firms likely to be affected by the announcements (large firms) with those of a portfolio of firms not likely to be affected (small firms). *Correction:* We apply the average firm-level market capitalization for the S&P 1500 as of June 2010 (i.e., $7.4 billion) to the abnormal returns identified by Cohn et al. In our view, the mean market capitalization for the S&P 1500 is a more reasonable and conservative value than the value reported by the authors ($19.2 billion).	**YES:** The authors identify a statistically significant and positive relationship between abnormal returns and events that increased the likelihood of proxy access reform. Specifically, combined abnormal returns were 1.5% higher at large firms than at small firms.	$140.3 billion appreciation in market capitalization (corrected amount)
Jochem (2012)	The author evaluates abnormal returns following the DC Circuit Court's decision to vacate the SEC's proposed proxy access rule on 22 July 2011. Jochem identifies the impact of proxy access by comparing abnormal returns among a portfolio of firms that should have been affected by proxy access (i.e., firms with investors that meet the SEC's eligibility requirements) with those of a portfolio of firms that should not have been affected by proxy access (i.e., those without investors who meet the SEC's eligibility requirements).	**YES:** The author identifies a statistically significant and negative relationship between abnormal returns and the decision to vacate proxy access. Specifically, abnormal returns were −1.2% lower at firms with eligible investors than at those without eligible investors.	$3.5 billion loss in market capitalization following DC Circuit Court decision to vacate proxy access[c]
Stratmann and Verret (2012)	The authors evaluate abnormal returns following the SEC's announcement that the proxy access rule had passed on 25 August 2010, which arguably increased the market's expectations about proxy access. They identify the impact by comparing abnormal returns of firms with market caps of $75 million to $125 million against those of firms with market caps of $25 million to $75 million, which expected to be exempt from Rule 14a-11 but were unexpectedly given only a temporary exemption from it.	**NO:** The authors find statistically significant and negative wealth effects among firms with less than $75 million in market capitalization. Abnormal returns were 0.8% lower at these firms than at those with $75 million to $125 million in market cap.	$0.347 billion depreciation in market capitalization associated with proxy access

[a]Authors did not provide information on mean market capitalization for sample firms included in their analysis. To evaluate market-wide impacts, we assume that the average firm has a mean market capitalization of $8.218 billion (based on the average firm market capitalization of the S&P 1500 as of 30 September 2010).

(continued)

Table 3.	Event Study Findings: Did Proxy Access Increase Shareowner Wealth? (continued)

[b]Authors did not provide information on mean market capitalization for sample firms included in their analysis. To evaluate market-wide impacts, we assume that the average firm has a mean market capitalization of $19.943 billion (based on the average firm market capitalization of the S&P 500 as of 31 August 2010).

[c]Author did not provide information on mean market capitalization for sample firms included in his analysis. To evaluate market-wide impacts, we assume that the average firm has a mean market capitalization of $9.364 billion (based on the average firm market capitalization of the S&P 1500 as of 31 July 2011).

The countervailing findings suggest that proxy access reform may result in differential impacts across firm size. Specifically, they suggest that small firms may be disproportionately burdened by proxy access reform. The SEC appears to have considered this potential impact in the rule-making process—small issuers were exempted from Rule 14a-11 for three years.[49] Nevertheless, these results suggest that even with the three-year exemption, Rule 14a-11 may impose an economic burden on small entities. In our view, should the SEC decide to reintroduce proxy access in the future, the agency may wish to consider options for offering regulatory flexibility to small entities.

2. The SEC relied on insufficient empirical data when it concluded that Rule 14a-11 would improve board performance.

> Empirical question: Did proxy access reform enhance board performance?

Four of the five event studies that we reviewed expressly considered the relationship between proxy access and board performance (the exception is Stratmann and Verret 2012). From the results of these analyses, evidence suggests that the market expected proxy access reform to either enhance board performance or have no impact on board performance. In no case do results suggest that the market expected proxy access reform to hinder board performance. When we extended these results to estimate potential implications for overall market capitalization, we found that improved board performance, arising from proxy access reform, may increase overall market capitalization by as much as $22.4 billion, or 0.18% of total US market capitalization.[50] For details of this calculation, see **Table B2** (Appendix B).

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[49]See 2010 Proxy Access Rule (supra, Note 8) at 56,668 and 56,730–56,732.

[50]For purposes of overall market-wide comparisons, we relied on data from the S&P 1500 as a reasonable representation of the overall US market. Standard & Poor's represents that the S&P 1500 accounts for approximately 90% of US market capitalization. For purposes of analysis, we estimated total US market capitalization for each event date as the aggregate market value of the S&P 1500 on the specific event date divided by 0.90. See http://us.spindices.com/indices/equity/sp-composite-1500.

The studies posit that if proxy access improves board performance, its impact should be greatest among companies whose scope for improvement is greatest. In other words, firms with highly responsive management likely offer few opportunities for shareowner intervention in the nomination process, whereas shareowners at firms with unresponsive management may benefit from the opportunity to influence the board nomination process. See **Figure 12** for a theoretical illustration of this relationship; the dotted green line (H_0) shows how these findings appear in the context of *improved board performance*). **Figure 13** presents empirical results.

Figure 12. **Theoretical Illustration of Hypothesis Related to the Impact of Proxy Access on Board Performance**

● Firms with Poor-Performing, Unresponsive, and/or Plausibly Entrenched Boards

▲ Firms with High-Performing, Responsive, and/or Nonentrenched Boards
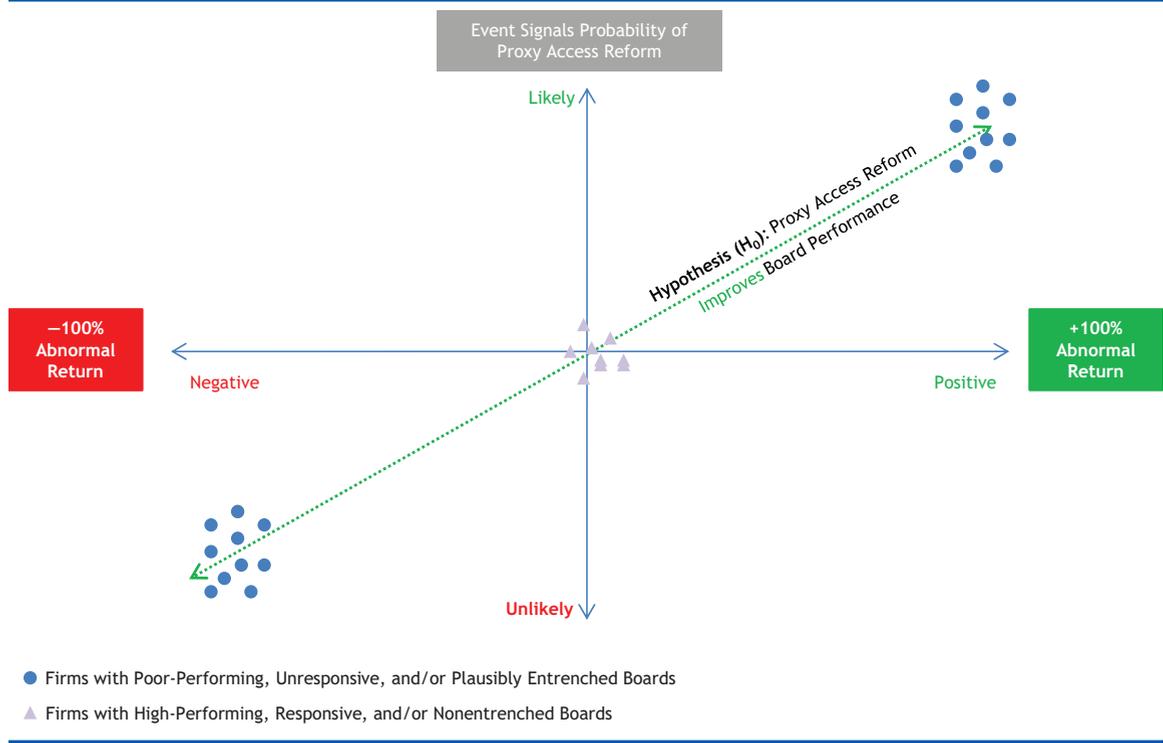
Figure 13. Empirical Impact of Proxy Access Reform on Board Performance

- ● Proxy Access Reform Improves Board Performance
- ▲ Proxy Access Reform Hinders Board Performance
- ⊘ Results Do Not Evidence a Statistically Significant Relationship between Proxy Access Reform and Board Performance
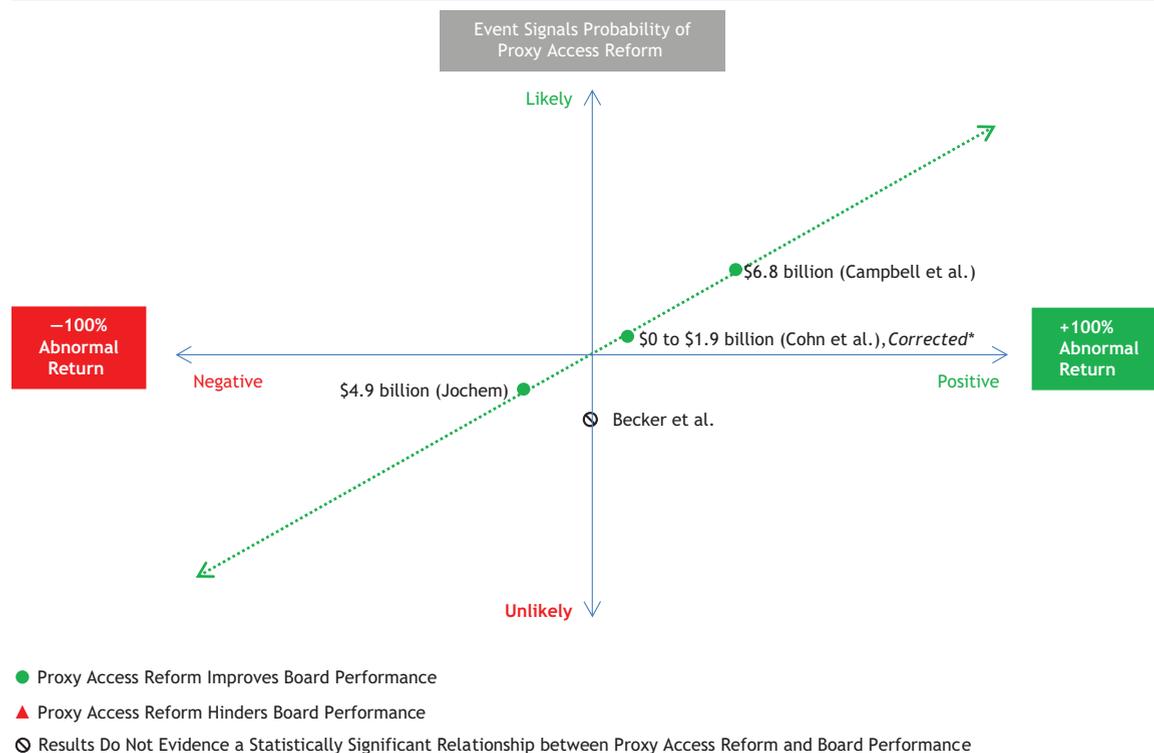
Using firm-level governance characteristics and recent historical performance to approximate the degree of management responsiveness, the authors of the four studies identified the impact of proxy access on board performance by testing

- whether abnormal returns are larger for firms with entrenched boards than for those with nonentrenched boards, and

- whether abnormal returns are larger for firms with poor recent performance than for those with strong recent performance.

The authors of the four studies posited that if the market expects that proxy access will increase board performance, then positive abnormal returns should be observed among entrenched or poorly performing firms following events that increase the likelihood of proxy access. The authors categorized the degree of a board's entrenchment according to the firm's governance provisions. Typically, entrenched boards are associated with provisions for staggered boards,

poison pills, golden parachutes, limits to shareowner bylaw amendments, and supermajority requirements for merger and charter amendments. Firm-level performance is captured by recent historical stock returns, return on assets, and book-to-market value.

Jochem (2012) and Campbell et al. (2012) compared abnormal returns among firms with plausibly unresponsive, entrenched management against returns for firms with responsive, nonentrenched management. Jochem (2012) found a statistically significant and negative relationship between abnormal returns and the degree of board entrenchment following the DC Circuit Court's decision to vacate the SEC's proxy access rule. Similarly, Campbell et al. (2012) found a statistically significant and positive relationship between abnormal returns and the degree of board entrenchment following the SEC's approval of a proxy access rule on 25 August 2010. Cohn et al. (2012) identified a statistically significant and positive relationship between proxy access reform and firm performance.

Becker et al. (2013) did not identify a statistically significant relationship between proxy access and board performance. Their findings, as well as the findings of the other three relevant event studies, are summarized in greater detail in **Table 4**. Additional details of the estimation of market-wide impacts are provided in Table B2.

Table 4.	Event Study Findings: Did Proxy Access Reform Enhance Board Performance?		

Finding: Evidence suggests that proxy access either would have enhanced board performance or had no impact on board performance, with the potential to contribute as much as $22.4 billion in market capitalization.

Event Study	Summary	Does Proxy Access Improve Board Performance?	Estimated Impact ($ billions)
Becker et al. (2013)	The authors estimate the shareowner wealth effects of greater proxy access on board performance by comparing abnormal returns at high-performing firms with abnormal returns at low-performing firms. The authors posit that if proxy access is expected to enhance board performance, abnormal returns should be most negative among firms whose scope for improvement is greatest following the SEC's decision to stay proxy access. To test this hypothesis, they identify the relationship between abnormal returns and lagged stock returns relative to industry, as well as book-to-market ratio relative to industry. Low returns and/or high book-to-market values might indicate that managers are not using firm assets to optimize shareowner wealth.	**INCONCLUSIVE:** The authors do not find a statistically significant relationship between abnormal returns and performance.	Financial markets did not expect that proxy access reform would have a statistically significant impact on board performance.

Table 4.	Event Study Findings: Did Proxy Access Reform Enhance Board Performance? (continued)		
Event Study	Summary	Does Proxy Access Improve Board Performance?	Estimated Impact ($ billions)
Campbell et al. (2012)	The authors identify the shareowner wealth effects of greater proxy access on board performance by estimating the impact of three firm-level governance characteristics on abnormal returns. They posit that if proxy access increases board performance, then firms with weak (strong) governance characteristics should experience more (less) positive abnormal returns than those with strong (weak) governance provisions following the SEC's announcement of Rule 14a-11 on 25 August 2010.	**YES:** The authors find that the market valued proxy access positively among firms with weak governance characteristics. They find abnormal returns are 0.2% higher among firms with classified boards than among those without; 0.7% lower for each additional outsider on the board; and 8.7% higher among firms with CEOs with large ownership stakes than among those without. Results are statistically significant at the 10%, 10%, and 5% levels, respectively.	Financial markets expected that improved board performance as a result of proxy access would increase overall market capitalization by $6.8 billion to $22.4 billion.[a]
Cohn et al. (2012, as corrected)	The authors identify the shareowner wealth effects of greater proxy access on board performance by estimating the impact of firm-level performance metrics on abnormal returns for small versus large firms. They posit that if proxy access increases board performance, firms with poor recent performance (which is indicative of a poorly performing board) should experience more positive abnormal returns following events that increase the likelihood of proxy access. Further, because the events studied did not have an impact on ownership thresholds at small firms, subtracting abnormal returns at small firms from those at large firms filters out the effects of aggregate market movements. *Correction:* We apply the average firm-level market capitalization for the S&P 1500 as of June 2010 (i.e., $7.4 billion) on the abnormal returns identified by Cohn et al. In our view, the mean market capitalization for the S&P 1500 is a more reasonable and conservative value than the value presented by the authors (i.e., $19.2 billion).	**YES:** The authors find that the market valued proxy access positively among low-performing firms. Specifically, they find that a 10% decrease in ROA is associated with a 0.4% increase in abnormal returns and that a 10% decrease in sales growth is associated with a 0.02% increase in abnormal returns. These results are significant at the 1% level.	Financial markets expected that improved board performance as a result of proxy access would increase overall market capitalization by $0.0 billion to $1.9 billion. (corrected amount)

(continued)

Table 4.	Event Study Findings: Did Proxy Access Reform Enhance Board Performance? (continued)		
Event Study	Summary	Does Proxy Access Improve Board Performance?	Estimated Impact ($ billions)
Jochem (2012)	Jochem identifies the shareowner wealth effects of greater proxy access on board performance by estimating the impact of various board characteristics on abnormal returns. He posits that if proxy access increases board performance, then firms with provisions that entrench management (which is indicative of a poorly performing board) should experience more negative abnormal returns than firms without provisions that entrench management, following the repeal of proxy access reform. Firms are characterized as having entrenched management if the board has provisions for poison pills, staggered boards, golden parachutes, etc.	**YES:** Jochem finds that the market valued proxy access positively for plausibly entrenched firms. Specifically, he finds that abnormal returns are 0.72% lower for plausibly entrenched firms than for nonentrenched firms on the day the DC Circuit Court decided to vacate proxy access. This result is statistically significant at the 5% level.	Financial markets expected that improved board performance as a result of proxy access would increase overall market capitalization by $4.9 billion.[b]

[a]To evaluate market-wide impacts, we assumed that the average firm has a mean market capitalization of $19.9 billion (based on the average firm-level market capitalization of the S&P 500 as of 31 August 2010).

[b]To evaluate market-wide impacts, we assumed that the average firm has a mean market capitalization of $9.4 billion (based on the average firm-level market capitalization of the S&P 1500 as of 31 July 2011).

3. The SEC failed to quantify the costs that companies might incur to challenge shareowner nominees, despite available empirical data.

> Empirical question: Did potential increased proxy contest costs reduce shareowner wealth?

The DC Circuit Court opined that the SEC failed to evaluate the costs companies would incur to contest shareowner-nominated candidates to the board. Of the five event studies reviewed, only Jochem (2012) offers an analysis that expressly considers the impact of proxy contest costs on shareowner wealth. Jochem (2012) tested the hypothesis that company-sponsored proxy contest costs would have decreased firm value by comparing abnormal returns at small firms with abnormal returns at large firms. He posited that if the market expected proxy contest costs to decrease firm value, then particularly positive abnormal returns should be observed at small firms relative to large firms following the repeal of proxy access reform. Jochem's hypothesis is predicated on the fact that proxy contest costs represent a higher share of overall market capitalization for small firms than for large firms. See **Figure 14** for a theoretical illustration of this relationship; the dashed red line (H0) shows how these findings appear in the context of *reduced shareowner wealth*. **Figure 15** presents empirical results.

Figure 14. **Theoretical Illustration of Hypothesis regarding the Impact of Proxy Access on Proxy Contest Costs and Shareowner Wealth**

- Small Firms Wherein Proxy Contest Costs Represent a High Share of Firm Market Capitalization
- Large Firms Wherein Proxy Contest Costs Represent a Low Share of Firm Market Capitalization
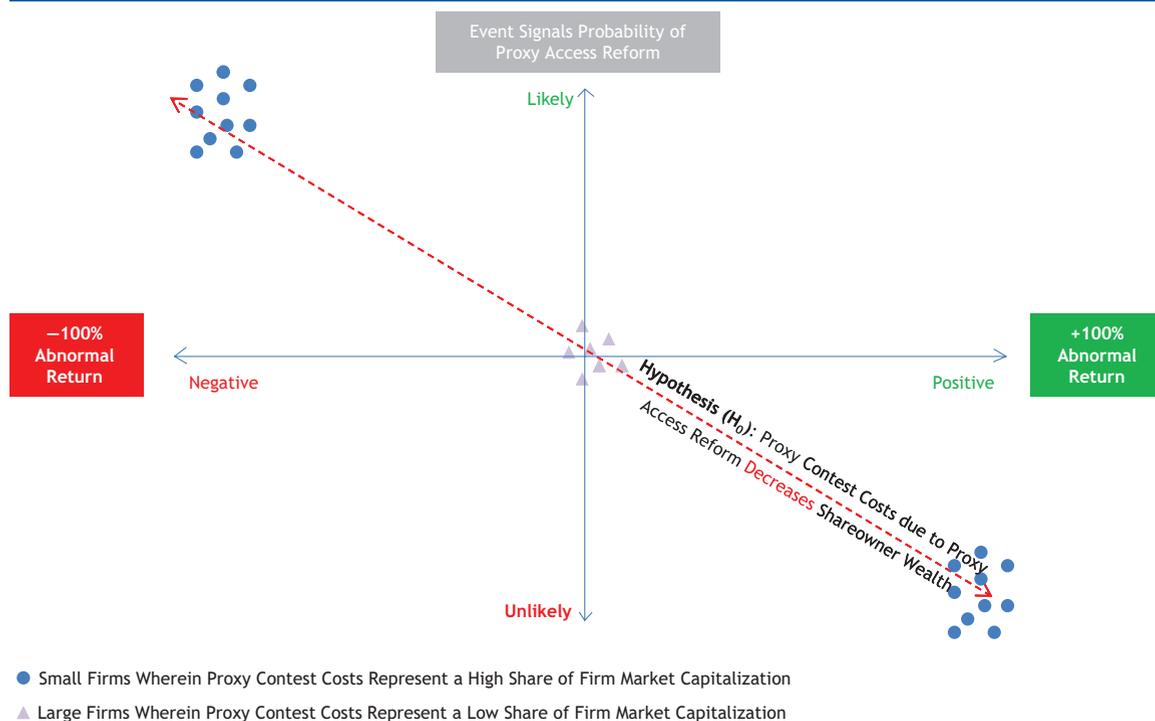
Figure 15.   Empirical Impact of Proxy Access Reform on Proxy Contest Costs and Shareowner Wealth
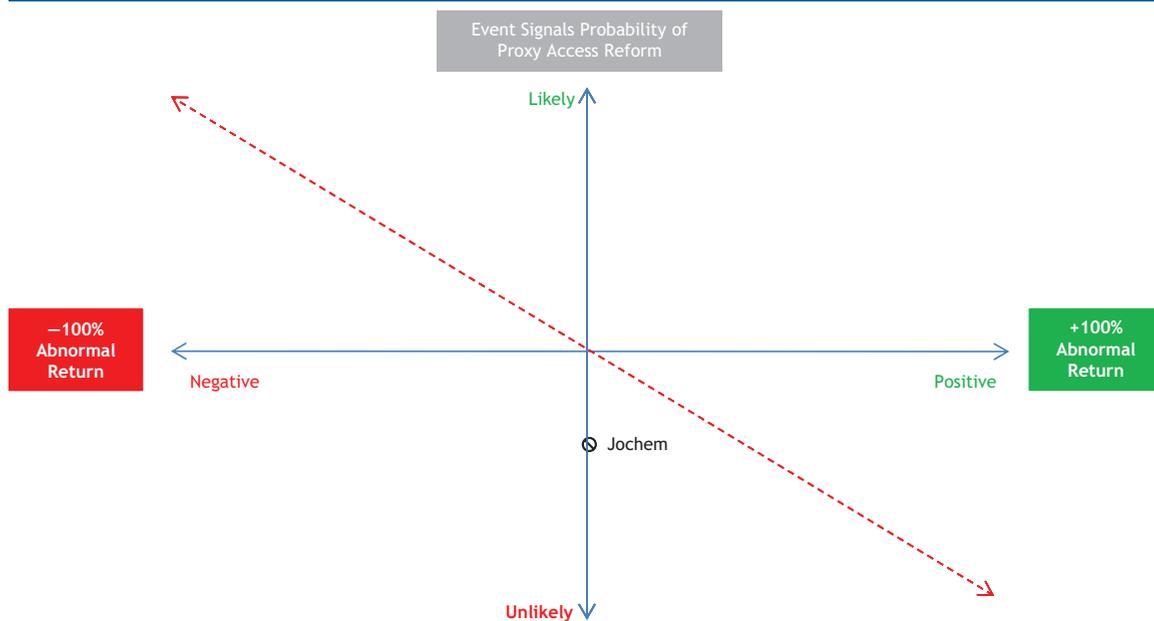
⊘ Results Do Not Evidence a Statistically Significant Relationship between Proxy Access Reform, Proxy Contest Costs, and Shareowner Wealth

According to the results in Jochem (2012), the difference in abnormal returns between small firms and large firms is not statistically significant. We thus conclude that the market did not expect proxy contest costs to decrease shareowner wealth. Additional information on the results of Jochem is provided in **Table B3** (Appendix B). We caution against relying on the results of one study as conclusive evidence. Should the SEC decide to reintroduce proxy access, we suggest that the results of this study be augmented with additional research into the relationship between proxy contest costs and firm value.

4. The SEC failed to quantify the costs imposed on companies when special-interest shareowner groups use Rule 14a-11 to further agendas that do not maximize shareowner value.

> Empirical question: Did the potential use of proxy access by special-interest groups reduce shareowner wealth?

Three of the five studies that we reviewed specifically evaluated the potential costs imposed on companies when special-interest shareowner groups use proxy access reform to promote agendas at the expense of other shareowners—the exceptions are Campbell et al. (2012) and Stratmann and Verret (2012), who did not consider these issues in their studies. On the basis of the results of the three studies, we conclude that the evidence is mixed.

■ Becker et al. (2013) found that the market anticipated that proxy access reform would increase value at firms with special-interest investors.

■ Cohn et al. (2012) found that the market anticipated that proxy access reform would destroy value at firms with special-interest investors.

■ Jochem (2012) found that the market anticipated that proxy access reform would have no impact on shareowner wealth at firms with special-interest investors.

The studies posit that if the market expected that special-interest shareowner groups would use proxy access to further agendas that destroy shareowner wealth, negative abnormal returns should be observed by firms with special-interest shareowners in response to events that increase the likelihood of proxy access reform. Conversely, positive abnormal returns should arise in response to events that decrease the likelihood of proxy access reform. The definition of special-interest shareowner varies from study to study, ranging from institutional investors to activist investors to labor-friendly unions and pensions. See **Figure 16** for a theoretical illustration of this relationship; the dashed red line (H_0) shows how these findings appear in the context of *reduced shareowner wealth*.

Evidence suggests that the wealth effects of greater control in the nomination process are unclear among firms with special-interest investors. When we extended these results to estimate potential implications for overall market capitalization, we found that the market expected the potential use of proxy access by special-interest investors to increase overall market capitalization by as much as $21.7 billion (Becker et al. 2013) *or* reduce overall market capitalization by as much as $9.5 billion (Cohn et al. 2012). **Figure 17** presents empirical results for the studies that directly addressed this concern. **Table 5** summarizes the findings across studies in greater detail. Additional details of the estimation of market-wide impacts are provided in **Table B4** (Appendix B).

Figure 16. Theoretical Illustration of Hypothesis regarding Impact of Proxy Access on Special-Interest Shareowners
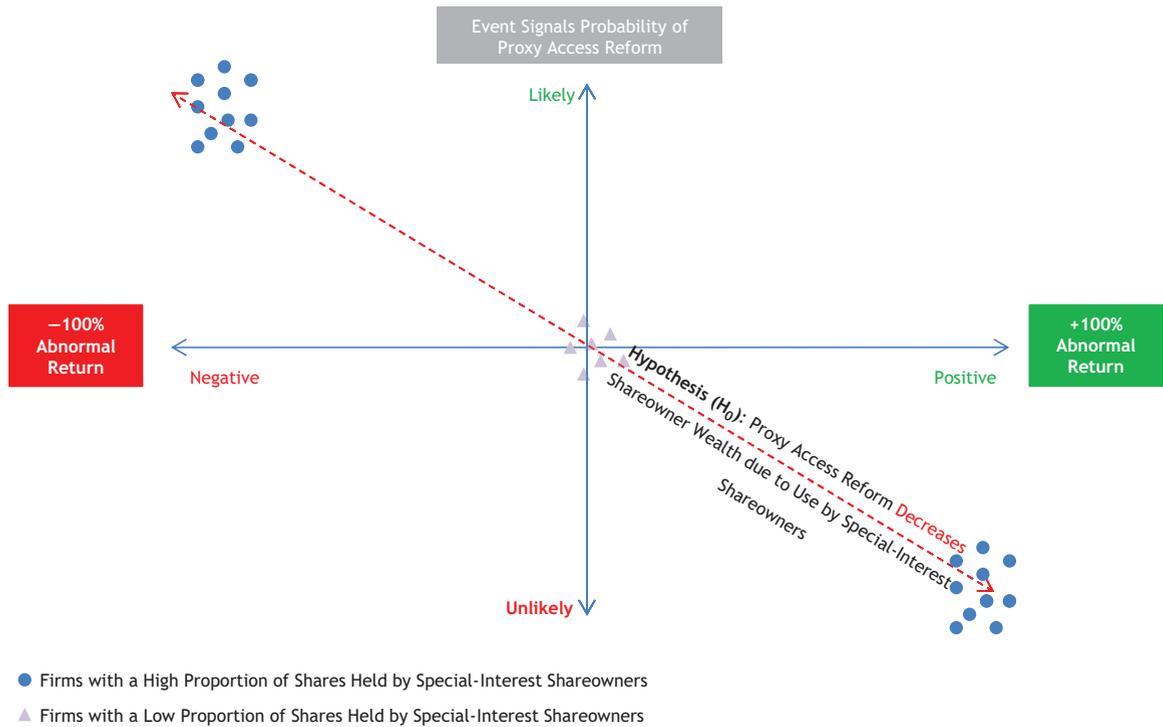
Figure 17. **Empirical Impact of Proxy Access Reform on Special-Interest Shareowners and Abnormal Returns**

- ● Special-Interest Use of Proxy Access Increases Shareowner Wealth
- ▲ Special-Interest Use of Proxy Access Reduces Shareowner Wealth
- ⊘ Results Do Not Evidence a Statistically Significant Relationship between Special-Interest Shareowners and Shareowner Wealth
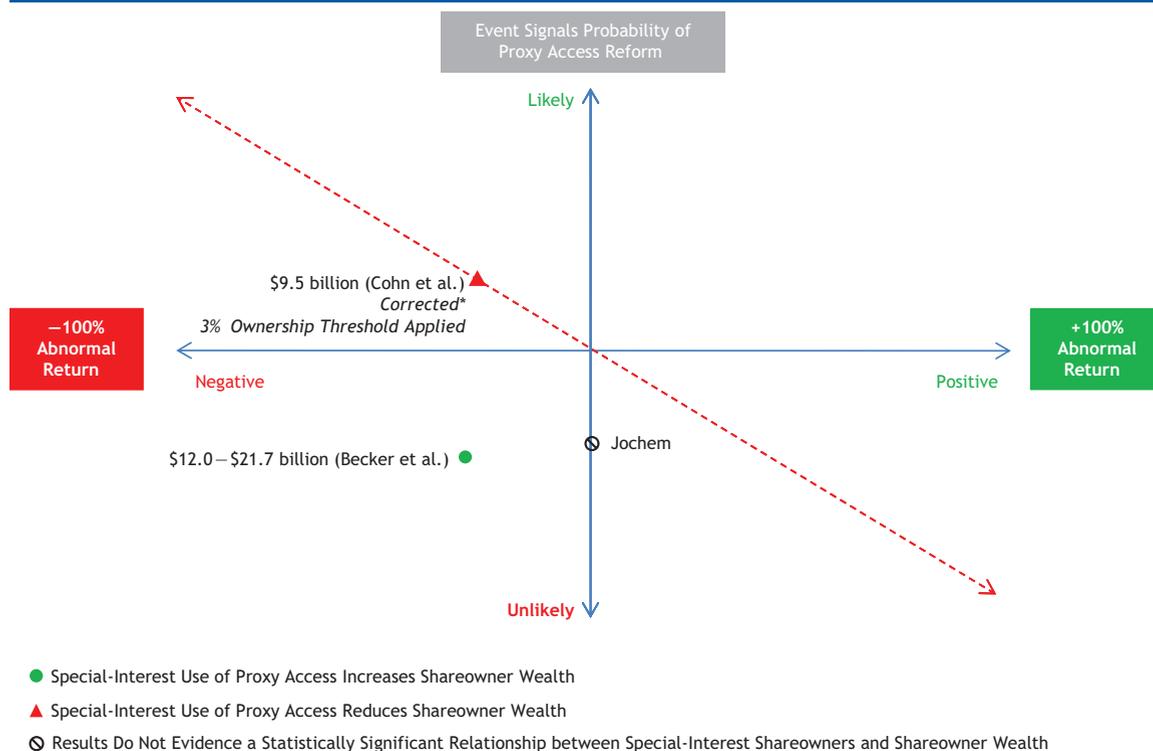
*Average firm-level market capitalization presented by Cohn et al. (2012) appears overstated when benchmarked against S&P 1500 data. We ascribed this inconsistency to a possible transcription error in the authors' underlying data tables. We amended the average firm-level market capitalization to reflect the mean value for the S&P 1500 as of June 2010. See the Analysis section for details of this correction.

Table 5. **Event Study Findings: Did the Potential Use of Proxy Access by Special-Interest Groups Reduce Shareowner Wealth?**

Finding: Evidence is inconclusive. Additional research and analysis is warranted should the SEC decide to reintroduce proxy access.

Study	Summary Comments	Does Proxy Access Reform Empower Special-Interest Groups to Promote Narrow Interests, Thereby Reducing Shareowner Wealth?	Estimated Impact ($ billions)
Becker et al. (2013)	The authors conduct a cross-sectional analysis of the relationship between firm-level abnormal returns and the presence of special-interest shareowners. They posit that if the potential use of proxy access by special-interest shareowners reduces shareowner wealth, abnormal returns should increase in the number of special-interest shareowners following the voluntary stay of proxy access by the SEC. The authors capture the number of special-interest investors by using three firm-level independent variables.	**NO:** The authors find that the market valued proxy access positively among firms with special-interest investors. Specifically, they find that a 10% increase in the share of activist institutional investors is associated with a 0.5% loss in abnormal returns; a 10% increase in the share of activist institutional investors who have held positions for 3 years is associated with a 0.5% loss in abnormal returns; and that an additional activist institutional investor with 3% ownership is associated with a 0.3% loss in abnormal returns. These results are significant at the 1% level.	Financial markets perceived that potential use of proxy access by special-interest investors would increase shareowner wealth by $12.0 billion to $21.7 billion.[a]
Cohn et al. (2012; as corrected, 3% ownership threshold not applied)	The authors conduct a cross-sectional analysis of the relationship between firm-level abnormal returns and the presence of special-interest (labor-friendly) shareowners. They posit that if the potential use of proxy access by special-interest shareowners reduces shareowner wealth, abnormal returns should decrease in the number of special-interest shareowners following events that increase the likelihood of proxy access. The authors capture the number of special-interest investors by using four firm-level independent variables. *Correction:* We apply the average firm-level market capitalization for the S&P 1500 as of June 2010 (i.e., $7.4 billion) on the abnormal returns identified by Cohn et al. In our view, the mean market capitalization for the S&P 1500 is a more reasonable and conservative value than the value presented by the authors (i.e., $19.2 billion).	**YES:** The authors identify a negative relationship between abnormal returns and the presence of special-interest (labor-friendly) shareowners. Specifically, they find that an additional investor who votes according to AFL-CIO guidelines is associated with a 0.2% decrease in abnormal returns, and an additional activist public pension fund investor is associated with a 0.16% decrease in abnormal returns. Additionally, abnormal returns are 1.3% lower at firms where the AFL-CIO general or staff fund voted at the annual meeting and 0.8% lower at firms that have been subject to a shareowner proposal initiated by a union or pension fund. These results are significant at the 1% level.	Financial markets perceived that potential use of proxy access by special-interest investors would decrease shareowner wealth by $16.5 billion to $174.6 billion. (corrected amount)

(continued)

Table 5. Event Study Findings: Did the Potential Use of Proxy Access by Special-Interest Groups Reduce Shareowner Wealth? (continued)

Study	Summary Comments	Does Proxy Access Reform Empower Special-Interest Groups to Promote Narrow Interests, Thereby Reducing Shareowner Wealth?	Estimated Impact ($ billions)
Cohn et al. (Continued)	*Sensitivity:* In a sensitivity analysis, we impose the average number of firm-level activist institutional investors owning at least 3% of shares outstanding per Becker et al. (2013) on the impact of the number of activist public pension fund investors identified by Cohn et al. (2012). *Correction:* We apply the average firm-level market capitalization for the S&P 1500 as of June 2010 (i.e., $7.4 billion) on the abnormal returns identified by Cohn et al. In our view, the mean market capitalization for the S&P 1500 is a more reasonable and conservative value than the value presented by the authors (i.e., $19.2 billion).	The authors identify a negative relationship between abnormal returns and the presence of special-interest (labor-friendly) shareowners. Specifically, they find that an additional activist public pension fund investor is associated with a 0.16% decrease in abnormal returns.	Financial markets perceived that potential use of proxy access by special-interest investors would decrease shareowner wealth by $9.5 billion. (corrected amount; 3% ownership threshold applied)
Jochem (2012)	The author conducts a cross-sectional analysis of the relationship between firm-level abnormal returns and the presence of special-interest shareowners. He posits that if the potential use of proxy access by special-interest shareowners reduces shareowner wealth, abnormal returns should increase in the number of special-interest shareowners following the repeal of proxy access reform by the SEC. The author captures the number of special-interest investors by using two firm-level independent variables.	**NO:** The author finds no evidence that the market expected firms to lose value because of a potential abuse of proxy access by special-interest investors. Specifically, he finds that firms with eligible union or pension fund investors lost value but that firms with coalitions of eligible union or pension fund investors gained value following the repeal of proxy access. Neither result is statistically significant.	Financial markets did not expect that potential use of proxy access by special-interest investors would have a statistically significant impact on shareowner wealth.

[a]The authors did not provide information on mean market capitalization for sample firms included in their analysis. To evaluate market-wide impacts, we assumed that the average firm has a mean market capitalization of $8.218 billion (based on the average firm market capitalization of the S&P 1500 as of 30 September 2010).

As summarized in Table 5, Cohn et al. (2012) suggested that special-interest investors may reduce the benefits to be had from proxy access reform. In our view, the aggregate impacts implied by their analysis are likely overstated. Specifically, Cohn et al. identified the impact of special-interest investors on shareowner wealth by regressing firm-level abnormal returns on the number of potentially activist public pension funds holding shares of a firm.

This specification implicitly assumes that *all* potentially activist public pension funds would have access to the company proxy when, in reality, only those *that meet the SEC's ownership and duration thresholds* would have access to the company proxy.

According to the broad definition of special-interest investor in Cohn et al. (2012), the average firm has 5.9 potentially activist public pension fund investors. In reality, the average firm likely has far fewer than 5.9 special-interest investors that meet the SEC's ownership and duration thresholds. For example, when Becker et al. (2013) imposed the SEC's 3% ownership threshold on their definition of potentially activist investors, they found that firms typically have 1 or 0 *eligible* potential activist investors.

To correct for the methodological oversight in Cohn et al. (2012), we imposed the average number of eligible firm-level activist institutional investors estimated by Becker et al. (2013) on the regression results of Cohn et al. (2012). In our view, this result likely reflects more accurately the potential impact of special-interest investors because it is based on a better measure of the number of activists that could actually make use of proxy access. But even this result may overstate market-wide impacts to the extent that the SEC's three-year threshold further reduces the number of *eligible* firm-level activists.

For an additional sensitivity test, we considered the extent to which the specific public pension funds analyzed by Cohn et al. (2012) meet the SEC's 3% ownership requirement. For purposes of preliminary analysis, we reviewed the portfolio holdings of the California Public Employees Retirement System (CalPERS), a large and highly active public pension fund identified by Cohn et al. (2012) as a potential activist.[51] On the basis of information contained in the CalPERS 13-F filing with the SEC, we identified the market value of its holdings in publicly traded companies.[52] Next, we compiled data on total market

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[51]The complete list of potentially activist public pension funds identified includes the California Public Employees Retirement System, California State Teachers Retirement, Colorado Public Employees Retirement Association, Florida State Board of Administration, Illinois State Universities Retirement System, Kentucky Teachers Retirement System, Maryland State Retirement and Pension System, Michigan State Treasury, Montana Board of Investment, New Mexico Educational Retirement Board, New York State Common Retirement Fund, New York State Teachers Retirement System, Ohio Public Employees Retirement System, Ohio School Employees Retirement System, Ohio State Teachers Retirement System, Texas Teachers Retirement System, Virginia Retirement System, and State of Wisconsin Investment Board.

[52]Our analysis is based on CalPERS' 13-F filing for the period ended 31 December 2013 (this information is available from the SEC at http://www.sec.gov/Archives/edgar/data/919079/000114036114006548/0001140361-14-006548.txt). The market value of CalPERS' investments in its portfolio companies is equal to the number of shares held multiplied by the price per share.

capitalization for each of the publicly traded companies in CalPERS' portfolio.[53] Using this information, we calculated the share of CalPERS' ownership in each of its publicly traded portfolio companies.

On average, we found that CalPERS' ownership amounts to 0.32% of its portfolio companies' total market capitalization. Further, on a proportional basis, CalPERS' holdings range from 0.00% to 2.56% of the underlying portfolio companies' total market capitalization; in no case did CalPERS' ownership exceed the SEC's 3% ownership threshold. This finding suggests that CalPERS likely would not have been able to make use of proxy access under the SEC's eligibility requirements, and thus adverse impacts on shareowner wealth arising from special-interest involvement may be overstated. For additional information underlying this analysis, see Appendix E.[54]

We limited our review in this section to the holdings of only one of the largest potentially activist public pensions identified by Cohn et al. (2012). In our view, should the SEC decide to reintroduce proxy access, additional analysis of the impact of proxy access reform with respect to special-interest investors and shareowner wealth is warranted.

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[53]Information on total market capitalization for publicly traded companies reflects year-end 2013; retrieved from YahooFinance using the MS Excel Stock Market Add-In and the function RCHGetElementNumber("company_ticker" 941). For additional information, see https://groups.yahoo.com/neo/groups/smf_addin/info.

[54]Note that this analysis reflects the firms in CalPERS' portfolio for which data on market capitalization were available. To the extent that this information was unavailable for a particular firm, we were unable to determine whether CalPERS met the SEC's 3% ownership threshold for that firm. Given this contraint, our analysis reflects 949 companies in CalPERS' portfolio for which data on market capitalization were available. Collectively, the firms included in our analysis reflect approximately 30% of the value of CalPERS' entire portfolio.

5. The SEC failed to address (a) whether regulatory requirements of the Investment Company Act reduce the need for, and hence the benefit to be had from, proxy access and (b) whether Rule 14a-11 would impose greater costs on investment companies by disrupting the structure of their governance.

None of the event studies reviewed expressly considered the impact of proxy access on investment companies (e.g., mutual funds that pool investors' assets to purchase financial instruments). As we understand it, the DC Circuit Court raised concerns that Rule 14a-11 would

- confer *fewer benefits* on investment companies, because such companies are subject to different regulatory requirements (not applicable to publicly traded stock companies) under the Investment Company Act of 1940; and

- impose *additional costs* on investment companies by disrupting the unitary/cluster structure of their boards. Typically, one investment manager oversees a family of mutual funds (i.e., a cluster). The boards are organized as either a unitary board, wherein one group of directors sits on the board of every fund in the complex, or a cluster board, wherein groups of directors sit on the boards of groups of funds in the complex. The introduction of shareowner-nominated directors—who sit on the board of a single fund, thereby requiring multiple and separate board meetings—could make governance less efficient.

In theory, if proxy access imposes greater costs on financial firms than on other types of companies, more negative abnormal returns should be observed for these companies in response to events that increase the likelihood of proxy access. This theoretical relationship is illustrated in **Figure 18**.

Notably, the portfolios of firms analyzed in Becker et al. (2013), Campbell et al. (2012), and Jochem (2012) included investment companies. If the costs associated with proxy access at investment companies were sufficiently negative, we would expect to see negative (positive) abnormal returns associated with events that increase (decrease) the likelihood of proxy access. On the contrary, these studies found that positive (negative) abnormal returns are associated with events that increase (decrease) the probability of proxy access reform. Although these results suggest that proxy access would not impose greater costs on investment firms than on non-investment firms, we suggest that additional research and analysis be conducted on this topic should the SEC decide to reintroduce proxy access reform.

Figure 18. Theoretical Illustration of the Impact of Proxy Access on Investment Companies
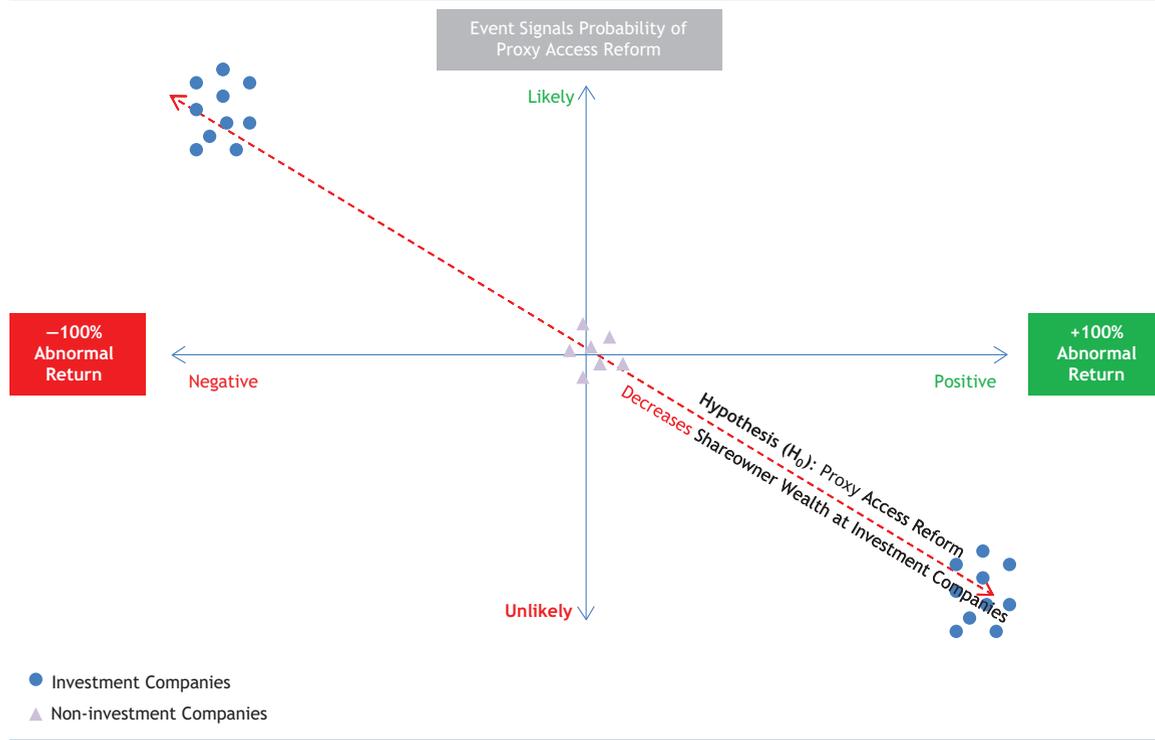
Considerations and Next Steps

This report has offered a preliminary impact assessment of the SEC's proposed proxy access rule that was vacated by the DC Circuit Court of Appeals on 22 July 2011. Specifically, we have reviewed and analyzed the results of event studies concerning the wealth effects of proxy access to determine whether, on average, the beneficial impacts of greater shareowner control outweigh the adverse impacts.

We framed our analysis according to the analytic shortcomings identified in the DC Circuit Court's opinion.

- By and large, the results of these studies show that proxy access was received more positively than negatively by financial markets. When we extended study results to estimate potential implications for overall market capitalization, we estimated that proxy access had the potential to benefit overall market capitalization by as much as $140.3 billion, or 1.134% of the current US market capitalization.

- The evidence suggests that the market expected proxy access reform to either enhance board performance or have no impact on board performance. None of the event studies revealed that the market expected proxy access reform to hinder board performance. When we extended study results to the overall financial markets, we estimated that enhanced board performance as a result of proxy access had the potential to increase overall market capitalization by as much as $22.4 billion, or 0.1% of the current US market capitalization.

- The evidence suggests that the potential for increased costs associated with company-sponsored proxy contests does not appear to decrease firm value. However, we caution that only one study (Jochem 2012) has expressly considered this concern.

- The evidence suggests that the wealth effects of greater control in the nomination process are unclear among firms with special-interest investors. If the SEC decides to reintroduce proxy access, we believe this area might warrant additional research and analysis in light of any proxy access campaigns, actions, or data that may arise subsequent to this report.

- On the basis of the existing evidence, we conclude that the proxy access rule would not impose greater costs on investment firms than on non-investment firms. Should the SEC decide to reintroduce proxy access, we believe this consideration might warrant additional research and analysis in light of any proxy access campaigns, actions, or data that may arise subsequent to this report.

- Collectively, the empirical evidence from the five event studies suggests that, on average, investors expected to benefit from proxy access. In our view, these data-driven results provide a preliminary impact assessment that the SEC can use to further its obligation to assess the economic implications of requiring proxy access by rule.

We caution that the impacts estimated as part of this preliminary assessment of proxy access are predicated on the robustness of the underlying event studies that we reviewed. Although we used our best professional judgment to verify results, to the extent that the methodologies in the various event studies are flawed, our results may be under- or overstated. Where methodological shortcomings were evident, we attempted to identify them and perform sensitivity analyses to assess the relative influence such shortcomings might have on the study's overall findings. Nevertheless, should the SEC decide to reintroduce proxy access, we recommend that the Commission leverage the lessons learned from the event studies reviewed in this report to inform the design of an independent, robust event study of proxy access.

Bibliography

Akyol, A.C., W.F. Lim, and P. Verwijmeren. 2012. "Shareholders in the Boardroom: Wealth Effects of the SEC's Proposal to Facilitate Director Nominations." *Journal of Financial and Quantitative Analysis*, vol. 47, no. 5 (October):1029–1057.

Bainbridge, S. 2006. "Director Primacy and Shareholder Disempowerment." *Harvard Law Review*, vol. 119, no. 6 (April):1735–1758.

Bebchuk, L. 2005. "The Case for Increasing Shareholder Power." *Harvard Law Review*, vol. 118, no. 3 (January):833–914.

Becker, Bo, Daniel Bergstresser, and Guhan Subramanian. 2013. "Does Shareholder Proxy Access Improve Firm Value? Evidence from the Business Roundtable's Challenge." *Journal of Law & Economics*, vol. 56, no. 1:127–160.

Binder, J. 1985. "Measuring the Effects of Regulation with Stock Price Data." *Rand Journal of Economics*, vol. 16, no. 2 (Summer):167–183.

Campbell, Joanna T., T. Colin Campbell, David G. Sirmon, L. Bierman, and Christopher S. Tuggle. 2012. "Shareholder Influence over Director Nomination via Proxy Access: Implications for Agency Conflict and Stakeholder Value." *Strategic Management Journal*, vol. 33, no. 12 (December):1431–1451.

Cohn, J., S. Gillan, and J. Hartzell. 2012. "On Enhancing Shareowner Control: A (Dodd-) Frank Assessment of Proxy Access." Working paper, University of Texas at Austin (December).

Fama, E. 1970. "Efficient Capital Markets: A Review of Theory and Empirical Work." *Journal of Finance*, vol. 25, no. 2 (May):383–417.

Greenwood, Robin, and Michael Schor. 2009. "Investor Activism and Takeovers." *Journal of Financial Economics*, vol. 92, no. 3 (June):362–375.

Jochem, T. 2012. "Does Proxy Access Increase Shareowner Wealth? Evidence from a Natural Experiment." Working paper, University of Pittsburgh (August).

Larcker, D.F., G. Ormazabal, and D.J. Taylor. 2011. "The Market Reaction to Corporate Governance Regulation." *Journal of Financial Economics*, vol. 101, no. 2 (August):431–448.

Lipton, M. 2002. "Pills, Polls, and Professors Redux." *University of Chicago Law Review*, vol. 69, no. 3 (Summer):1037–1065.

Mulherin, J.H. 2007. "Measuring the Costs and Benefits of Regulation: Conceptual Issues in Securities Markets." *Journal of Corporate Finance*, vol. 13, no. 2–3 (June):421–437.

Murphy, J. 2012a. "2012 Proxy Season Review: Overall Trends in Shareowner Proposals." Harvard Law School Forum on Corporate Governance and Financial Regulation (21 July): https://blogs.law.harvard.edu/corpgov/2012/07/21/2012-proxy-season-review-overall-trends-in-shareholder-proposals/.

Murphy, J. 2012b. "Proxy Access Proposals: Review of 2012 Results and Outlook for 2013." Harvard Law School Forum on Corporate Governance and Financial Regulation (28 June): https://blogs.law.harvard.edu/corpgov/2012/06/28/proxy-access-proposals-review-of-2012-results-and-outlook-for-2013/.

Posner, A. 1974. "Theories of Economic Regulation." *Bell Journal of Economics and Management Science*, vol. 5, no. 2 (Autumn):335–358.

Schwert, G.W. 1981. "Using Financial Data to Measure Effects of Regulation." *Journal of Law & Economics*, vol. 24, no. 1 (April):121–158.

Stratmann, T., and J.W. Verret. 2012. "Does Shareowner Proxy Access Damage Share Value in Small Publicly Traded Companies?" *Stanford Law Review*, vol. 64, no. 6 (June):1431–1468.

Appendix A. Literature Review of Event Studies Related to Proxy Access

For each study, we reviewed the specific event(s) analyzed, the dataset and underlying sample companies relied upon, the statistical and econometric analyses conducted, and the findings related to the impact of proxy access on shareowner wealth. To the extent possible, we extrapolate the results of each event study to generate dollar-denominated point estimates of the likely impact of enhanced proxy access on overall US market capitalization. The studies are organized in alphabetical order.

Event Study | Becker et al. (2013)

Becker, Bo, Daniel Bergstresser, and Guhan Subramanian. 2013. "Does Shareholder Proxy Access Improve Firm Value? Evidence from the Business Roundtable's Challenge." *Journal of Law and Economics*, vol. 56, no. 1:127–160.

Becker et al. (2013) used the Business Roundtable's challenge to the SEC's 2010 proxy access rule as a natural experiment to measure the market value of exogenous changes in the degree of shareowner control. Specifically, the authors identified the impact of Rule 14a-11 on shareowner wealth by comparing abnormal returns at companies considered most vulnerable to proxy access with those at companies considered less vulnerable to proxy access. The timing of their study is immediately following the SEC's decision to voluntarily stay Rule 14a-11 on 4 October 2010.

The authors defined "vulnerability to the rule" as the proportion of a company's shares that are held by institutional investors and activist institutional investors. Firms with higher levels of institutional ownership are considered more likely to use proxy access—and hence, more vulnerable to proxy access—than those with lower levels of institutional ownership. According to the authors' hypothesis, if shareowner access increases shareowner value, then in response to the SEC's unexpected stay on proxy access on 4 October 2010, companies that would have been most exposed to Rule 14a-11 should witness a decline in value relative to companies that would have been more insulated from Rule 14a-11. If, instead,

shareowner access decreases shareowner value, then companies that would have been most exposed to Rule 14a-11 should witness an increase in value relative to companies that would have been more insulated.

Empirically, the authors regressed daily abnormal returns on institutional ownership and activist institutional ownership to identify the marginal impact of vulnerability to proxy access on shareowner value. Each stock's return is the log of the closing stock price on Monday, 4 October 2010, minus the log of the closing stock price on Friday, 1 October 2010, based on data available from DataStream. The authors defined "abnormal return" as the residual of the predicted return for 4 October 2010, based on the betas from the Fama–French three-factor model for the period 1 January 2009 through 1 December 2009.[55] The authors defined "institutional ownership" as a company-specific continuous variable equal to the percentage of shares held by institutions, according to data available from Thomson-Reuters. Finally, the authors defined "activist institutional ownership" as a company-specific continuous variable equal to the percentage of shares owned by activist institutional investors, according to data provided by Greenwood and Schor (2009). The authors' dataset reflects 1,388 firms in the S&P 1500 with data on institutional ownership.[56]

Based on their regression results, the authors found that firms that would have been most vulnerable to proxy access (i.e., firms with a high proportion of institutional ownership) lost value on 4 October 2010. This outcome is consistent with the view that financial markets placed a positive value on shareowner access, as implemented in the SEC's 2010 Rule 14a-11. Specifically, the authors found that a 10% increase in institutional ownership was associated with an additional 11 bp loss of value on 4 October 2010.

The relationship between excess returns and institutional ownership is illustrated in **Figure A1**.

We evaluated these results for the mean firm in the sample, which averaged 49.1% institutional ownership, and found that, on average, firms lost 13 bps, or 0.13%, in equity value as a result of the SEC's decision to stay proxy access.[57] Given that the mean firm market

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[55]According to the Fama–French model, stock price returns are described by three separate risk factors, including a size premium, a growth premium (measured by book value to market price), and a market premium.

[56]These data are not publicly available.

[57]For additional details, see Becker et al. (2013, Table 4, regression specification 3).

Figure A1. Relationship between Excess Returns and Institutional Ownership

Excess Return Attributable to SEC's Decision to Stay Proxy Access (%)
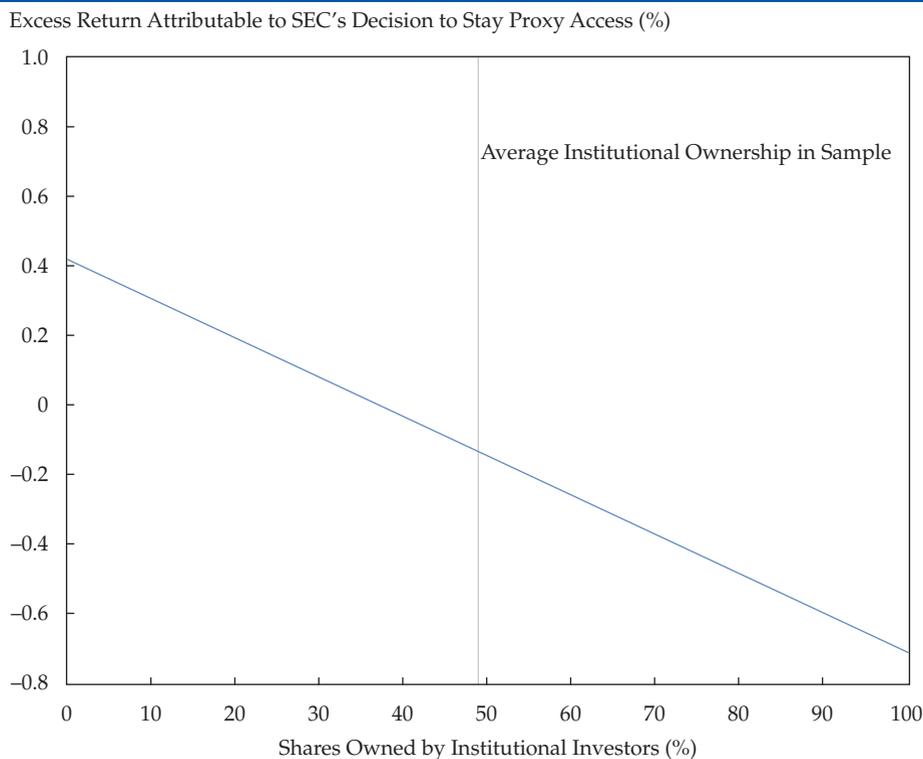
capitalization in the S&P 1500 was $8.218 billion as of 30 September 2010,[58] this translates to an approximate loss of $14.6 billion in total market capitalization. The calculations underlying these estimates are as follows:

$$\Delta Market\ cap_{total} = Abnormal\ return_{sample} * Market\ cap_{sample} * Firms_{sample} \qquad (i)$$

$$Abnormal\ return_{sample} = 42.6 - 112.9 * 0.491 = -12.83\ bps = -0.0013 \qquad (ii)$$

$$\Delta Market\ cap_{total} = -0.0013 * \$8.218\ billion * 1{,}318\ firms = -\$14.6\ billion \qquad (iii)$$

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[58]The authors did not provide information on mean market capitalization for sample firms included in their analysis. To evaluate market-wide impacts, we assumed that the average firm had a mean market capitalization of $8.218 billion based on the average firm-level market capitalization of the S&P 1500 as of 30 September 2010, the index value nearest the event date.

Event Study | Campbell et al. (2012)

Campbell, Joanna T., T. Colin Campbell, David G. Sirmon, L. Bierman, and Christopher S. Tuggle. 2012. "Shareholder Influence over Director Nomination via Proxy Access: Implications for Agency Conflict and Stakeholder Value." *Strategic Management Journal*, vol. 33, no. 12 (December):1431–1451.

Campbell et al. (2012) evaluated both the stock market's and the bond market's response to the SEC's 25 August 2010 adoption of the proxy access rule. The authors attempted to identify the wealth effects of exogenous changes in the degree of shareowner control in the nomination process. In addition, they also isolated the impacts of institutional ownership, firm-level board characteristics, and managerial control on the market's reaction to proxy access. Generally, the authors found that enhanced shareowner access to the company's proxy creates value, both for shareowners and creditors.

The authors tested several hypotheses related to the relationship between proxy access and shareowner wealth. Specifically, they predicted that proxy access would elicit a positive market reaction and that this positive reaction would be especially pronounced among firms with shareowners that met the 3% ownership and three-year holding requirement thresholds. They also predicted that proxy access would be valued most by firms with few shareowner rights and weak governance—for example, those with staggered boards, few outsiders on the board, CEOs with high degrees of ownership power and discretion, and firms with high levels of resource intangibility. In addition, unlike any of the preceding studies, the authors also estimated the impacts of enhanced shareowner control on creditors.

Empirically, the authors estimated abnormal returns for 392 firms in the S&P 500. Their sample excluded firms that experienced significant and potentially confounding events during the study period (2010), as well as those with missing data. For each firm, the authors collected daily equity and bond returns from Datastream. Institutional ownership data were obtained from Thompson Financial's Institutional Ownership database. Data reflecting the firms' governance characteristics were obtained from Risk Metrics, and other firm-level variables were collected from Compustat. Expected returns were estimated for the 120-day period prior to the 25 August event, using a linear regression of firm returns on an equally weighted index of Canadian firms, which approximated the market return. Next, firm-level abnormal returns were calculated as the difference between the expected return and the actual return on the event date. Abnormal returns in the bond market were estimated in a similar fashion, but the sample was restricted to 330 firms with available data on bond returns.

First, the authors performed a variety of tests to determine whether the abnormal return was greater than zero on 25 August 2010. They found that the abnormal return was both statistically significant and positive. The average abnormal return among the firms in their sample was 0.83%, or 83 bps. Based on the average firm-level market capitalization of the S&P 500 as of 31 August 2010, this amounts to an increase of $28.1 million in market capitalization, per firm, as shown below:[59]

$$\Delta Market\ cap_{total} = Abnormal\ return_{sample} * Market\ cap_{sample} * Firms_{sample} \qquad \text{(i)}$$

$$\Delta Market\ cap_{total} = 0.0083 * \$19.943\ billion * 392\ firms = \$64.9\ billion \qquad \text{(ii)}$$

Following this analysis, the authors then regressed abnormal returns on a host of firm-level variables that capture various characteristics of firm governance and shareowner rights. Based on this analysis, they found a statistically significant and positive relationship between abnormal returns and the presence of staggered boards, CEO ownership power, and CEO ownership discretion. The authors found a statistically significant and negative relationship between abnormal returns and the number of outsiders on the board of directors. These findings are consistent with the position that proxy access was expected to create the most value at firms with particularly entrenched boards and/or at firms with few avenues for management oversight. Lastly, the authors found statistically significant and positive abnormal returns in the bond market following the passage of proxy access. Specifically, the average increase in the bond market was 0.44%, or 44 bps. This finding suggests that, contrary to the zero-sum game prediction, wherein the benefits experienced by one group of stakeholders (in this case, shareowners) are conferred as losses on another group, bondholders perceive the shareowner proxy access rule to also create value for creditors.

Event Study | Cohn et al. (2012)

Cohn, J., S. Gillan, and J. Hartzell. 2012. "On Enhancing Shareowner Control: A (Dodd-) Frank Assessment of Proxy Access." Working paper, University of Texas at Austin (December).

Cohn et al. (2012) studied the market's response to events related to the SEC's 2010 proxy access rule in an attempt to identify the wealth effects of exogenous changes in the degree of shareowner control. Specifically, the authors focused on two events that had differential

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[59]The authors did not provide information on mean market capitalization for sample firms included in their analysis. To evaluate market-wide impacts, we assumed that the average firm had a mean market capitalization of $19.943 billion based on the average firm-level market capitalization of the S&P 500 as of 31 October 2010, the index value nearest the event date.

impacts on the market's expectations about the likelihood of proxy access at small (<$75 million market capitalization), medium ($75 million–$700 million market capitalization), and large firms (>$700 million market capitalization).[60]

The two events were as follows:

- **Event 1: 16 June 2010**, Senator Christopher Dodd announced a proposal to amend the bill that eventually became the Dodd–Frank Act mandating that the SEC require an investor or group of investors to own at least 5% of a firm's shares before gaining access to a firm's proxy (as opposed to the SEC's proposed 5%, 3%, and 1% thresholds for small, medium, and large firms, respectively). As such, this announcement reduced expectations about the accessibility of proxy access at medium and large firms but not at small firms.

- **Event 2: 24 June 2010**, Senator Dodd's proposal was dropped and the SEC's proposed ownership thresholds (i.e., 1%, 3%, and 5%) were restored. As such, this announcement enhanced expectations about the accessibility of proxy access at medium and large firms but not at small firms.

The authors posited that if financial markets placed a positive value on proxy access, then stock returns would have decreased at medium and large firms relative to those at small firms following the 16 June 2010 announcement. By the same token, following the 24 June 2010 announcement, stock returns would have increased at medium and large firms relative to those at small firms if the market placed a positive value on proxy access. As an additional test (similar to Becker et al. 2013), the authors also estimated the impact of the proxy access rule by comparing stock returns at companies with high degrees of institutional and activist institutional ownership with those at companies with low or no institutional and activist institutional ownership. Lastly, the authors compared returns at firms with high degrees of ownership by labor-friendly or activist pension funds with those at firms without such ownership. In so doing, the authors tested the hypothesis that activism by investors, such as unions and public pension funds, may be associated with decreases in shareowner value as a result of their pressure to adopt labor-friendly policies.

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[60]Note that the authors' definition of small, medium, and large firms does not conform to the definition that we have applied elsewhere in this report. The authors' definition of small, medium, and large reflects the categorization for the SEC's proposed tiered system for proxy access (as of June 2010) wherein the ownership requirement was 5% for firms with market capitalizations below $75 million, 3% for firms with market capitalizations between $75 million and $700 million, and 1% for firms with market capitalizations above $700 million. Note that this tiered system was ultimately abandoned by the SEC. See Cohn et al. (2012, p. 2).

Empirically, the authors performed a variety of means comparisons and regressions to estimate differences in combined stock returns between small and medium firms and between small and large firms, where the combined stock return was calculated as the return on 24 June 2010 minus the return on 16 June 2010.[61] Because the 24 June 2010 event implies positive news for shareowner control and the 16 June 2010 event implies negative news, a positive combined return suggests that the market placed a positive value on enhanced shareowner control. The authors argued that, because neither event had an impact on ownership thresholds at small firms, subtracting combined returns at small firms from those at medium and large firms should filter out the effects of aggregate market movements on 16 June and 24 June. Based on group means comparisons, the authors found that combined returns were 2.6% higher for medium firms than for small firms and 1.5% higher for large firms than for small firms.[62] These results are consistent with the position that the market placed a positive value on proxy access.

Following the same logic as Becker et al. (2013), the authors also considered the impact of institutional and activist institutional ownership on combined returns. Specifically, they compared combined returns across small, medium, and large firms with and without activist investors where firm-level activist ownership was identified from the "SharkWatch50"[63] list of known activists and from the SEC's 13(f) institutional investor quarterly ownership filings. They found that combined returns were 1.2% higher at medium firms with activist investors than at those without and 0.3% higher at large firms with activist investors than at those without.[64] This is consistent with the idea that proxy access was most valued among firms that already had shareowners that satisfied the ownership thresholds. In addition, the authors found no relationship between abnormal returns and a firm's leverage, suggesting that shareowner gains from more control do not come at the expense of creditors and hence are likely to represent increases in total firm value.

In addition, the authors also examined whether proxy access reform would sufficiently empower special-interest investors to promote narrow interests at the expense of other shareowners by identifying the relationship between abnormal returns and the number of

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[61]To test whether the differences in returns were significantly different from zero, the authors computed the mean and standard deviation of combined returns over comparable windows (i.e., two-day returns less one-day returns from six trading days prior) for trading days between 1 January 2010 and 31 March 2010 (the "nonevent period") for firms in each size bucket separately. Next, the authors calculated a *t*-statistic for the combined event return for a group by subtracting from it the mean combined return for that group over the nonevent period and dividing the resulting difference by the standard deviation of the combined return for that group over the nonevent period. The *t*-statistics indicate whether combined returns for a group are large relative to the time series of returns for that group on nonevent dates in a similar time period.

[62]These results are significant at the 1% and 5% levels, respectively.

[63]Available from sharkrepellent.net.

[64]These results are significant at the 1% and 10% levels, respectively.

special-interest shareowners at a firm. They posited that if proxy access reform sufficiently empowers special-interest groups, then negative abnormal returns should be observed among firms with special-interest shareowners following events that increase the likelihood of proxy access. Specifically, they regressed abnormal returns on indicator variables that capture the presence of labor-friendly union and pension investors. They identified a statistically significant and negative relationship between the presence of these types of investors and proxy access reform.

As in the example above, we extended these results to estimate the market-wide impact of proxy access. The authors' sample reflects a total of 1,260 firms with a mean market capitalization of $19.2 billion. Because the mean firm falls into the large category, we applied the differential impact of the events on large versus small firms. This translates to a $288.1 million increase in market capitalization per firm, or $363.0 billion in total market capitalization. The calculations underlying these estimates are as follows:

$$\Delta Market\ cap_{total} = Abnormal\ return_{sample} * Market\ cap_{sample} * Firms_{sample} \qquad \text{(i)}$$

$$\Delta Market\ cap_{total} = 0.015 * \$19.2\ \text{billion} * 1{,}260\ \text{firms} = \$363.0\ \text{billion} \qquad \text{(ii)}$$

We also conducted an accompanying sensitivity analysis on the overall market impacts implied by the results of Cohn et al. (2012). The impacts we derived from Cohn et al. (2012) appear to be inconsistent with those derived from the other event studies that evidence net positive impacts from proxy access reform. Specifically, the range in impacts discussed above reflects the impact of proxy access reform on overall market capitalization using data on average firm-level market capitalization, as presented by the authors in their respective studies. These data, as they relate to the Cohn et al. (2012) study, may be overstated.

For example, according to Cohn et al. (2012), the average market capitalization of the 1,260 firms included in their analysis is $19.2 billion. They did not offer the total market capitalization across all 1,260 firms included in their study, and therefore we were unable to precisely benchmark their representation of average firm-level market capitalization. If, however, one extends their average firm-level market capitalization to the full sample of 1,260 firms, it is not unreasonable to conclude that the total market capitalization represented in the study exceeds total US market capitalization. To correct for this possible skew, we amended the average firm-level market capitalization to reflect the mean value for the S&P 1500 as of June 2010. In our view, this value represents a more conservative, and likely more reasonable, estimate. We selected the S&P 1500, given the number of firms (1,260) included in the Cohn et al. (2012) analysis. In so doing, we found that the overall impact of proxy access reform remains positive but less so (i.e., $140.3 billion as opposed

to $363.0 billion). When benchmarked against estimated total US market capitalization, as represented by the S&P 1500 for June 2010, this estimate reflects 1.134% of total US market capitalization, as opposed to 2.934%.

$$\Delta Market\ cap_{total} = Abnormal\ return_{sample} * Market\ cap_{sample} * Firms_{sample} \qquad (i)$$

$$\Delta Market\ cap_{total} = 0.015 * \$7.424\ billion * 1{,}260\ firms = \$140.3\ billion \qquad (ii)$$

Event Study | Jochem (2012)

Jochem, T. 2012. "Does Proxy Access Increase Shareowner Wealth? Evidence from a Natural Experiment." Working paper, University of Pittsburgh (August).

Jochem (2012) used the DC Circuit Court's decision vacating proxy access on 22 July 2011 as a natural experiment to measure the market value of exogenous changes in the degree of shareowner control. Specifically, Jochem identified the impact of the proxy access rule on shareowner wealth by comparing the abnormal return on a portfolio of companies that should have been affected by the repeal of proxy access with the abnormal return on a portfolio of companies that should not have been affected by the repeal. The author constructed a number of indicator variables to identify whether or not a firm should have been affected by the repeal. Specifically, the author posited that entrenched firms (i.e., those with multiple anti-takeover provisions) would have been more affected by Rule 14a-11 than nonentrenched firms, as would firms with multiple institutional investors meeting the ownership thresholds prescribed in Rule 14a-11. In general, the results are consistent with the idea that whenever the impact of proxy access was strong enough to affect firm value, it was valued positively by the market.

Empirically, Jochem estimated abnormal returns for each portfolio using both the CAPM and the Fama–French four-factor pricing model, where stock price data were obtained from CRSP.[65] Firm-level data on corporate governance were identified from RiskMetrics Analytics Governance/Directors databases, the Georgeson Annual Corporate Governance Reviews, the Gompers-Ishii-Metrick Index, and the Bebchuck-Cohen-Ferrell Index. Using these data, the author characterized firms as "plausibly entrenched" and "nonentrenched"

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[65]According to the Fama–French model, stock price returns are described by four separate risk factors, including a size premium, a growth premium (measured by book value to market price), a market premium, and a momentum premium. In the capital asset pricing model (CAPM), stock price returns are described by only a market premium.

according to the number of anti-takeover provisions they had.[66] Institutional ownership data were culled from SEC 13(f) filings for 2008–2011. For each firm, the author identified whether there were zero, one, two, three, or more investors that met the prescribed ownership thresholds (i.e., 3% ownership for three years). Additional data on firm characteristics, including market capitalization, were obtained from the Compustat database.

Jochem identified the impact of proxy access by calculating the difference in differences estimators for abnormal returns based on the presence of institutional investors.[67] Specifically, he compared abnormal returns at firms with no investors that met the SEC's ownership thresholds with those at firms with one eligible investor, two eligible investors, and three eligible investors. He found that firms with three eligible investors lost 121 bps relative to those with zero eligible investors following the repeal of proxy access. These results are statistically significant at the 1% level.

Jochem did not provide summary statistics for the firms included in the portfolios of affected and nonaffected firms. Thus, we applied the average firm-level market capitalization for the S&P 1500 as of 31 July 2011, which reflects the index observation nearest to the event date. We selected the S&P 1500 as opposed to the S&P 500 because the S&P 1500 provides a more conservative estimate of firm-level market capitalization. Accordingly, the overall impact of proxy access was calculated as follows:

$$\Delta Market\ cap_{total} = Abnormal\ return_{sample} * Market\ cap_{sample} * Firms_{sample} \qquad \text{(i)}$$

$$\Delta Market\ cap_{total} = -0.0121 * \$9.364\ billion * 31\ firms = -\$3.5\ billion \qquad \text{(ii)}$$

Jochem also identified the impact of proxy access by calculating the difference in differences estimators for abnormal returns based on governance provisions. Specifically, he compared abnormal returns at firms with no major anti-takeover provisions (nonentrenched firms) with those at firms with several major anti-takeover provisions (plausibly entrenched firms).[68] He found that plausibly entrenched firms experienced significantly negative abnormal returns following the repeal of proxy access, indicating that the market valued proxy access positively at these firms. Further, abnormal returns were not statistically sig-

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[66]The "nonentrenched" portfolios consisted of 59 firms that did not have staggered boards, poison pills, golden parachutes, limits to shareowner bylaw amendments, or supermajority requirements for mergers and charter amendments between 2007 and 2008. The "plausibly entrenched" portfolios consisted of 72 firms that had all these provisions.

[67]Difference in differences is a technique used in econometrics that measures the effect of a treatment (in this case, an event) using differences in outcomes across two groups.

[68]The major anti-takeover provisions are staggered boards, poison pills, golden parachutes, limits to shareowner bylaw amendments, and supermajority requirements for mergers and acquisitions.

nificant for the nonentrenched portfolio, indicating that the repeal of proxy access did not affect the valuation of firms that were unlikely to use it. Relative to nonentrenched firms, plausibly entrenched firms lost 53–96 bps in value following the repeal of proxy access.

Event Study | Stratmann and Verret (2012)

Stratmann, T., and J.W. Verret. 2012. "Does Shareowner Proxy Access Damage Share Value in Small Publicly Traded Companies?" *Stanford Law Review*, vol. 64, no. 6 (June):1431–1468.

Stratmann and Verret (2012) evaluated the shareowner wealth effects of the SEC's 25 August 2010 announcement of the proxy access rule. Similar to Cohn et al. (2012), the authors identified the impact of Rule 14a-11 by comparing abnormal returns at firms with market capitalizations between $75 million and $125 million, which expected to be subject to the full proxy access rule, with those at firms with market capitalizations between $25 million and $75 million, which were unexpectedly given only temporary exemption from Rule 14a-11.

The authors posited that if proxy access provided a net benefit to small firms, then the news that (1) small firms (less than $75 million in market capitalization) would in fact not be permanently exempt from the Rule 14a-11 mandatory proxy access procedure, (2) investors could begin proposing proxy access bylaws right away, and (3) the ownership requirement was only 3% of outstanding shares rather than 5% should have resulted in abnormally positive returns for firms below the $75 million threshold, as compared with the control group. The authors found that the unanticipated application of the proxy access rule to small firms, particularly when combined with the presence of investors with at least a 3% ownership, resulted in negative abnormal returns.

The authors collected data on daily returns for 980 publicly traded companies with market capitalizations less than $125 million from the CRSP database. To compute abnormal returns, the authors regressed daily firm-level return data for the estimation window (1 February 2006 to 30 November 2006) on the market return (the value-weighted return variable from CRSP). Then, the authors used the coefficients from this estimation to calculate the predicted daily firm returns during the event window. Next, they computed the abnormal return as the predicted return minus the actual return.

Empirically, the authors tested for differences in the mean abnormal return for firms with market capitalizations between $25 million and $75 million and those with market capitalizations between $75 million and $125 million. They found a statistically significant and negative abnormal return for small firms. Specifically, the average abnormal return was

0.8% lower for small-cap firms than for firms with market capitalizations between $75 million and $125 million. These results suggest that proxy access lowered the returns of firms with less than $75 million in market capitalization. In aggregate, this depreciation in return amounts to a $347 million loss in market capitalization:

$$\Delta Market\ cap_{total} = Abnormal\ return_{sample} * Market\ cap_{sample} * Firms_{sample} \qquad (i)$$

$$\Delta Market\ cap_{total} = -0.00753 * \$47.0\ million * 980\ firms = -\$0.3\ billion \qquad (ii)$$

The authors also estimated the differential impact of proxy access on firms with institutional investors who met the SEC's 3% ownership threshold. They found a statistically significant and negative abnormal return for small firms. Specifically, the average abnormal return was 1.1% lower for small-cap firms with at least one institutional shareowner with a 3% ownership stake than for firms with market capitalizations between $75 million and $125 million. These results suggest that proxy access lowered the returns of small firms, particularly those with institutional owners who met the SEC's ownership requirements.

Event Study | Akyol et al. (2012)

Akyol, Ali C., Wei Fen Lim, and Patrick Verwijmeren. 2012. "Shareholders in the Boardroom: Wealth Effects of the SEC's Proposal to Facilitate Director Nominations." *Journal of Financial and Quantitative Analysis*, vol. 47, no. 5 (October):1029–1057.

The authors evaluated the shareowner wealth effects of 17 regulatory and legislative events that, in their view, significantly changed market expectations about the likelihood of a proxy access rule. The events considered by the authors occurred between September 2006 and September 2010, beginning with the US Court of Appeals decision reviving proxy access and ending with the filing of the US Chamber of Commerce and Business Roundtable complaint against the SEC.

Akyol et al. (2012) identified the impact of proxy access on shareowner wealth by assessing abnormal returns (1) across the combined group of events, (2) on each event date individually, and (3) by performing a cross-sectional analysis of abnormal returns according to firm-level characteristics. Based on these analyses, they found a statistically significant and negative relationship between combined abnormal returns and proxy access reform.

The authors' sample consisted of 4,719 firms included in the CRSP database with year-end 2008 data on industry classification, firm size, return on assets, and book-to-market value in Compustat. They augmented these data with institutional ownership data from the Thomson Reuters 13F filings database. Empirically, the authors regressed the equally weighted portfolio return consisting of all firms in the sample on a market return index and dummy variable for each of the event dates. The market indices considered by the authors included the Dow Jones Global Index (excluding US firms) and a Canadian market index (the S&P/ TSX Composite Index). The model was estimated for the 250 days prior to the first event (7 September 2005) to 31 October 2010. The impact of proxy access was captured by the coefficients on the event date dummy variables.

To identify the impact of the combined proxy access events on abnormal returns, the authors multiplied the coefficients of all dummy variables that were expected to decrease proxy access by –1 and then took the average of the coefficients across all events. Based on these results, the authors found that the combined impact across all events was negative— that is, enhanced proxy access was associated with a 0.6%–0.7% loss in returns. This result is statistically significant at the 5% level.

The authors also conducted a cross-sectional analysis of proxy access. Specifically, they regressed abnormal returns on firm-level characteristics related to (1) the number of investors that met the SEC's ownership thresholds, (2) whether a company was a financial firm, and (3) performance. They found a statistically significant and negative relationship between abnormal returns and the number of investors that met the SEC's thresholds, indicating that proxy access was viewed negatively, especially by firms where investors were eligible to use it. The relationship between proxy access and the financial firm dummy was not significant, indicating that the market's reaction to proxy access was not significantly different for financial and nonfinancial firms. Furthermore, the relationship between proxy access and performance—namely, return on assets and market-to-book ratio—was not statistically significant, indicating that the market's reaction to proxy access did not differ with performance.

We caution against relying on these conclusions because the underlying analyses suffer from several methodological shortcomings. First, the authors estimated expected returns on the basis of the historical relationship between US stocks and the returns on Canadian and global benchmark indices. As such, the abnormal returns on US stocks controlled only for variation stemming from price changes in the Canadian and global indices. In other words, the authors attributed the entire difference between event date returns for US stocks and event date returns for the Canadian and global indices to news about proxy access. To the extent that any events, aside from proxy access, moved US stock prices and, to a lesser extent, the benchmark indices, the authors' abnormal returns suffer from bias.

Further, many of the events analyzed were economically insignificant, widely anticipated, confounded, and/or directionally unclear. For example, 5 of the 17 events analyzed by Akyol et al. (2012) occurred during 2006 and 2007, when proxy access was considered obsolete by the market, rendering returns associated with the corresponding event dates economically insignificant in the context of proxy access reform.[69] Of the remaining 12 events analyzed by Akyol et al. (2012), only 3 are associated with statistically significant abnormal returns for both models estimated by the authors.

The first event is the 6 April 2009 announcement that the SEC would consider amendments to proxy access regulation. The authors maintained that this announcement increased the likelihood of a proxy access rule. In our view, the impact of the event is directionally unclear. Regarding proxy access, former SEC Chairman Mary L. Schapiro stated that "the Commission will consider a proposal to ensure that a company's owners have a meaningful opportunity to nominate directors."[70] Given that the SEC considered proxy access off and on for many years, it is unclear why this announcement, with no prediction on what conclusions the agency would reach, should convey meaningful information to the marketplace or increase the likelihood of proxy access.

The second event is the passing of the voluntary proxy access rule in the Delaware Senate on 8 April 2009. As discussed earlier, this event was widely anticipated by the market, rendering abnormal returns on that date economically insignificant in the context of proxy access reform. The third event is the publication of a *Wall Street Journal* article on 5 August 2010 stating the likely acceptance of a proxy access rule.[71] However, according to a news search performed by Akyol et al. (2012), stocks also fell on that date as traders braced for an upcoming jobs report. Arguably, the US jobs report would affect US firms more than Canadian and global firms, so the abnormal return identified on 5 August 2010 may have been partly or wholly unrelated to proxy access. Notably, the authors did not identify statistically significant abnormal returns on 25 August 2010, when the SEC passed proxy access, or on 29 September 2010, when the US Chamber of Commerce and the Business Roundtable filed suit against the SEC regarding proxy access reform.

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[69]R. Schuster, "Rule 14a-11 and the Administrative Procedure Act: It's Better to Have Had and Waived, Than Never to Have Had at All," *Minnesota Law Review*, vol. 95, no. 3 (2011):1034–1070.

[70]Mary L. Schapiro, Statement at SEC Open Meeting on Facilitating Shareowner Director Nominations, speech (20 May 2009): http://www.sec.gov/news/speech/2009/spch052009mls.htm.

[71]K. Scannell, "SEC Set to Open Up Proxy Access," *Wall Street Journal* (5 August 2010).

Event Study | Larcker et al. (2011)

Larcker, D.F., G. Ormazabal, and D.J. Taylor. 2011. "The Market Reaction to Corporate Governance Regulation." *Journal of Financial Economics*, vol. 101, no. 2 (August):431–448.

Larcker et al. (2011) evaluated the shareowner wealth effects of 10 events between April 2007 and June 2009 related to the likelihood of proxy access regulation. On average, the authors found a weak negative reaction to proxy access regulation. Examining cross-sectional variation in the market's reaction, they found strong evidence that abnormal returns are increasingly negative for firms with a greater number of shareowners that own at least 1% of shares outstanding. In addition, they found strong evidence that abnormal returns are decreasing in the ease with which small institutional investors can access the proxy statement. According to the authors, this finding is consistent with critics' claims that proxy access reform increases the power of institutional shareowners (i.e., certain activists, bidders with toeholds, and corporate raiders) at the expense of other shareowners.

Empirically, the authors collected data on board structure, institutional ownership, daily stock returns, firm size, book-to-market ratio, and historical returns for 3,451 individual firms. Data were sourced from Equilar, Thomson, and the CRSP/Compustat databases. Financial firms were excluded from the sample. Institutional ownership was measured as the number of institutions with 1% or more ownership and as the number of possible groups of investors that could collectively control 1% or more ownership. The authors constructed board structure characteristic variables indicating whether a firm had a staggered board and whether the CEO was also a member of the board.

Abnormal returns were estimated for each firm relative to the CRSP value-weighted market index. Next, the authors tested whether the abnormal return was statistically different from zero. When the abnormal returns across each of the 10 events were pooled, the authors found a statistically significant and negative relationship between proxy access and abnormal returns, suggesting that the market viewed proxy access negatively. Specifically, they found that proxy access was associated with a 0.3% loss in abnormal return.

In addition, Larcker et al. (2011) conducted a cross-sectional analysis of firm-level abnormal returns to determine whether abnormal returns differed according to various governance and ownership characteristics. According to their analysis, they found that proxy access was associated with statistically significant and negative abnormal returns among firms with institutional shareowners (and coalitions thereof) meeting the 1% ownership threshold. This finding indicates that proxy access was viewed most negatively by firms

where it was most likely to be used. Furthermore, the relationship between proxy access and performance (i.e., book-to-market ratio) was not statistically significant, suggesting that the market's reaction to proxy access did not differ with performance.

Again, we caution against relying on these conclusions because many of the events analyzed in both studies were economically insignificant, widely anticipated, confounded, and/or directionally unclear. Specifically, Larcker et al. (2011) analyzed 10 events that occurred between April 2007 and June 2009—well before the SEC announced the proxy access rule on 25 August 2010. In our view, this analysis fails to capture the market's reaction to the specific proxy access rule that was ultimately passed by the SEC and then vacated by the DC Circuit Court of Appeals. Further, as shown in the timeline in Figure 7, most of the regulatory activity for proxy access occurred between 2010 and 2011. Larcker et al. (2011) failed to capture changes in firm value associated with the most economically meaningful events in the context of proxy access—those that occurred during 2010 and 2011.

In addition, only 4 of the 10 events considered by Larcker et al. (2011) exhibit a statistically significant relationship between proxy access reform and firm value. Of these four events, three relate to voluntary proxy access in Delaware:

■ 10 March 2009: The Delaware House of Representatives introduced a bill to allow corporations to voluntarily adopt bylaws permitting proxy access to shareowners.

■ 18 March 2009: The law was passed by Delaware's House.

■ 8 April 2009: The law was passed by the Delaware Senate.

The authors posited that these events decreased the market's expectation that the SEC would promulgate a mandatory proxy access rule. However, evidence suggests that these events were widely anticipated by the market, and therefore their market implications were *already* imputed in the security prices of affected firms. For example, on 26 February 2009, the Corporate Law Section of the Delaware Bar Association passed voluntary proxy access, making its implementation in Delaware inevitable.[72] In addition, both the Delaware House and the Delaware Senate voted unanimously in favor of the law, indicating that the outcome was likely anticipated by the market.[73] Finally, Larcker et al. (2011) acknowledged that voluntary proxy access in Delaware was widely anticipated, stating that "proxy access was already voluntary prior to the Delaware law . . . the Delaware amendment merely codified existing case law."[74]

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[72]Becker et al. (2013).
[73]Jochem (2012).
[74]Larcker et al. (2011, pp. 437–438).

In our view, because the three events concerning Delaware proxy access were widely antici-pated prior to formal promulgation, abnormal returns associated with these dates were likely due to news unrelated to proxy access. For example, on 10 March 2009, the market experienced its largest stock rally in five months; and on 18 March 2009, the Federal Reserve announced that it would buy $300 billion in Treasuries, further contributing to an uptick in financial markets.[75]

The fourth statistically significant event analyzed in Larcker et al. (2011) is the SEC's 6 December 2007 announcement of a final rule on amendments to Rule 14a-8(i)(8), which formed the basis for private ordering in the area of proxy access. Larcker et al. (2011) argued that the SEC ruling decreased market expectations that the SEC would pass a mandatory proxy access rule. Evidence suggests that this event did not have an impact on the market's expectations about proxy access because, at the time, mandatory proxy access was considered obsolete by most observers.[76]

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[75]Jochem (2012).
[76]R. Schuster, "Rule 14a-11 and the Administrative Procedure Act."

Appendix B. Underlying Calculations for Estimates of Market-Wide Impacts

The tables on the following pages summarize assumptions and underlying calculations for the estimates of market-wide impacts of proxy access reform across each of the event studies and empirical questions we reviewed.

Table B1. Empirical Question: Does Proxy Access Reform Improve Shareholder Wealth?

Event Study	Event Date(s)	Event Increases or Decreases Probability of Proxy Access Reform	Identification Strategy	Description of Abnormal Return Attributable to Proxy Access	Affected Firms	Statistical Significance	Average Abnormal Return due to Proxy Access Reform (%)	Average Market Cap for Affected Firms in Sample ($ million)	Average Firm-Level Impact of Proxy Access ($ million)	Number of Affected Firms in Sample	Impact of Proxy Access on Overall Market Cap ($ billion)	Share of Event Date Market Cap (%)	Positive Impact on Overall Market Cap?	Estimated Impact of Proxy Access on Shareholder Wealth
A	B	C	D	E	F	G	H	I	J = H*I	K	L = J*K	M	N	O
Becker et al. (2013) *See Note 1*	4 October 2010 (Voluntary stay by SEC)	**Decreased** likelihood of proxy access	Authors evaluate abnormal returns following the SEC's decision to stay proxy access on 4 October 2010, which arguably decreased the market's expectations about proxy access. They identify the impact of proxy access by comparing abnormal returns among a portfolio of firms that should have been affected by proxy access (i.e. firms with institutional investors) to a portfolio of firms that should not have been impacted by proxy access (i.e. firms without institutional investors).	Abnormal return is a function of the average proportion of shares held by institutional investors	All US firms included in the authors' sample	Statistically significant at the 10% level	–0.128	$8,218.41	($10.55)	1,388	($14.64)	–0.107%	N	Authors identify a positive relationship between abnormal return and proxy access reform. We estimate the overall impact on US market capitalization is $14.6 billion.
Campbell et al. (2012) *See Note 2*	25 August 2010 (SEC passes Rule 14a-11)	**Increased** likelihood of proxy access	Authors evaluate abnormal returns following the SEC's decision to adopt proxy access on 25 August 2010. Specifically, they compare the overall abnormal return on a portfolio of US firms to the abnormal return on a Canadian benchmark index. They posit that the difference in abnormal returns for US firms relative to Canadian firms should capture the market value of proxy access reform because only US firms were affected by the SEC rule.	Abnormal return on portfolio of US firms relative to abnormal return on Canadian index	All US firms included in the authors' sample	Statistically significant at the 1% level	0.830	19,943.27	165.53	392	64.89	0.516	✓	Authors identify a positive relationship between abnormal return and proxy access reform. We estimate the overall impact on US market capitalization is $64.9 billion.

(continued)

Table B1. Empirical Question: Does Proxy Access Reform Improve Shareholder Wealth? (continued)

Event Study	Event Date(s)	Event Increases or Decreases Probability of Proxy Access Reform	Identification Strategy	Description of Abnormal Return Attributable to Proxy Access	Affected Firms	Statistical Significance	Average Abnormal Return due to Proxy Access Reform (%)	Average Market Cap for Affected Firms in Sample ($ million)	Average Firm-Level Impact of Proxy Access ($ million)	Number of Affected Firms in Sample	Impact of Proxy Access on Overall Market Cap ($ billion)	Share of Event Date Market Cap (%)	Positive Impact on Overall Market Cap?	Estimated Impact of Proxy Access on Shareholder Wealth
A	B	C	D	E	F	G	H	I	J = H * I	K	L = J * K	M	N	O
Cohn et al. (2012) *Corrected See Note 3 & Note 4 & Note 7	16 June 2010 (SEC proposal announced) 24 June 2010 (SEC proposal dropped)	Combined events **Increased** likelihood of proxy access	Authors evaluate abnormal returns on 16 June 2010, when a proposal was announced mandating that the SEC require an investor to own at least 5% of a firm's share before gaining access to a firm's proxy (as opposed to the SEC's proposed 5%, 3%, and 1% thresholds for small, medium, and large firms, respectively); and on 24 June 2010 when this proposal was dropped and the SEC's proposed ownership thresholds were restored. They identify the impact of proxy access by comparing abnormal returns among a portfolio of firms that should have been affected by the announcements (i.e. large firms) to a portfolio of firms that should not have been impacted by the announcements (i.e., small firms).	Abnormal return on large US firms (>$700m market cap) relative to abnormal return on small US firms (<$75 million)	Large US firms included in authors' sample	Statistically significant at the 5% level	1.500	7,423.78	111.36	1,260	140.31	1.134	✓	Authors identify a positive relationship between abnormal return and proxy access reform. We estimate the overall impact on US market capitalization is $140.3 billion. *Corrected

(continued)

Table B1. Empirical Question: Does Proxy Access Reform Improve Shareholder Wealth? (continued)

Event Study	Event Date(s)	Event Increases or Decreases Probability of Proxy Access Reform	Identification Strategy	Description of Abnormal Return Attributable to Proxy Access	Affected Firms	Statistical Significance	Average Abnormal Return due to Proxy Access Reform (%)	Average Market Cap for Affected Firms in Sample ($ million)	Average Firm-Level Impact of Proxy Access ($ million)	Number of Affected Firms in Sample	Impact of Proxy Access on Overall Market Cap ($ billion)	Share of Event Date Market Cap (%)	Positive Impact on Overall Market Cap?	Estimated Impact of Proxy Access on Shareholder Wealth
A	B	C	D	E	F	G	H	I	J = H * I	K	L = J * K	M	N	O
Jochem (2012) *See Note 5*	22 July 2011 (DC Circuit vacates Rule 14a-11)	**Decreased** likelihood of proxy access	Authors evaluate abnormal returns following the US District Court's decision to vacate the SEC's proposed rule on 22 July 2011, which arguably decreased the likelihood of proxy access. They identify the impact of proxy access by comparing abnormal returns among a portfolio of firms that should have been affected by proxy access (i.e. firms with institutional investors that meet the SEC's eligibility requirements) and a portfolio of firms that should not have been impacted by proxy access (i.e., firms with no investors who meet the SEC's eligibility requirements).	Abnormal return for US firms with shareholders who meet the SEC's eligibility requirements relative to abnormal return on US firms with no investors who meet the SEC's eligibility requirements.	US firms with at least 3 investors that meet the SEC's 3%/3 year ownership requirement included in authors' sample	Statistically significant at the 1% level	−1.210	9,363.57	(113.30)	31	(3.51)	−0.023	✓	Authors identify a positive relationship between abnormal return and proxy access reform. We estimate the overall impact on US market capitalization is $3.5 billion.

(continued)

Table B1. Empirical Question: Does Proxy Access Reform Improve Shareholder Wealth? (continued)

Event Study	Event Date(s)	Event Increases or Decreases Probability of Proxy Access Reform	Identification Strategy	Description of Abnormal Return Attributable to Proxy Access	Affected Firms	Statistical Significance	Average Abnormal Return due to Proxy Access Reform (%)	Average Market Cap for Affected Firms in Sample ($ million)	Average Firm-Level Impact of Proxy Access ($ million)	Number of Affected Firms in Sample	Impact of Proxy Access on Overall Market Cap ($ billion)	Share of Event Date Market Cap (%)	Positive Impact on Overall Market Cap?	Estimated Impact of Proxy Access on Shareholder Wealth?
A	B	C	D	E	F	G	H	I	J = H * I	K	L = J * K	M	N	O
Stratmann and Verret (2012) *See Note 6*	25 August 2010 (SEC passes Rule 14a-11)	**Increased** likelihood of proxy access	Authors evaluate abnormal returns following the SEC's announcement that the proxy access rule had passed on 25 August 2010. They identify the impact of proxy access by comparing abnormal returns among a portfolio of firms that should have been affected by the announcements (i.e. firms with $25 million to $75 million in market capitalization who had expected to be exempt from the rule but were unexpectedly included) to a portfolio of firms that should not have been impacted by the announcements (i.e., firms with $75 million to $125 million in market capitalization).	Abnormal return on firms with market capitalization of $25 million to $75 million relative to abnormal return on US firms with $75 million to $125 million in market capitalization.	US firms with market capitalization of $25 million to $75 million included in authors' sample	Statistically significant at the 1% level	−0.753	47.00	(0.35)	980	(0.35)	−0.003	✗	Authors identify a negative relationship between abnormal return and proxy access reform. We estimate the overall impact on US market capitalization is ($0.35 billion).

Sources and notes:

1. **Column [H]:** We calculate the average abnormal return for firms in the authors' sample using the authors' preferred regression specification, specifically regression 3, Table 4 in Becker et al. (2013). Because 49.1% of the average firm's shares are held by institutional investors (see Becker et al. 2013, Table 2), the average abnormal return for firms in the sample is equal to −0.13% = 42.6 − 112.9 * 0.491. **Column [I]:** Average firm-level market capitalization reflects the average market capitalization for the S&P 1500 at 30 September 2010, which reflects the index observation nearest to the event date. We rely on this measure because the authors report that their sample is based on a subset of firms in the S&P 1500 (see Becker et al. 2013, Table 2). **Column [K]:** See Table 2, *N* = 1,388.

2. **Column [H]:** See Campbell et al. (2012, p. 1444), wherein the authors describe the mean abnormal return for US firms as 0.83%. **Column [I]:** Average firm-level market capitalization reflects the average market capitalization for the S&P 500 at 31 August 2010, which reflects the index observation nearest to the event date. We rely on this measure because the authors report that their analysis is based on a subset of firms in the S&P 500 (Campbell et al., p. 1440). **Column [K]:** The authors report that their sample is based on 392 firms in the S&P 500 (Campbell et al., p. 1440).

3. **Column [H]:** See Cohn et al. (2012, Table 2), large versus small specification; difference in the *combined* event return is 1.5%. We rely on this measure of abnormal return because the average firm falls into the authors' "large firm" category (i.e., market cap) $700 million). **Column [K]:** See Cohn et al. (2012, Table 2); the number of large firms is 1,260.

4. **Column [I]:** In our view, the mean market cap for firms in the authors' sample is inconsistent with the remainder of the studies we reviewed and may reflect a transcription error. To adjust for this potential error, we apply the mean firm-level market cap for the S&P 1500 as of 30 June 2010, which reflects the index observation nearest to the event date. We believe this is a more reasonable and conservative estimate of market capitalization for the 1,260 large firms in the authors' sample.

Table B1. Empirical Question: Does Proxy Access Reform Improve Shareholder Wealth? (continued)

5. **Column [H]**: See Jochem (2012, Table 5, column 8); difference in abnormal returns between firms with no institutional investors who meet the SEC's eligibility requirements and three investors who meet the SEC's eligibility requirements, window [0,0] for the FF4 specification. We select the coefficient for the FF4 specification because it has the highest significance for the [0,0] window and is most conservative. **Column [I]**: The authors do not provide information on market capitalization for the sample of firms underlying their analysis. As such, we apply the average firm-level market capitalization for the S&P 1500 as of 31 July 2011, which reflects the index observation nearest to the event date. We select the S&P 1500 as opposed to the S&P 500 because the S&P 1500 provides a more conservative estimate of firm-level market capitalization. **Column [K]**: See Jochem (2012, Table 5); number of firms with 3 eligible investors = 31.

6. **Column [H]**: See Stratmann and Verret (2012, Table 2); difference in abnormal returns between firms with $25 million to $75 million in market cap and firms with $75 million to $125 million in market cap for the 2006 estimation period, the authors' preferred window. **Column [I]** and **Column [K]**: See Stratmann and Verret (2012, p. 1462); the average market capitalization for firms with market capitalization between $25 million and $75 million is $47 million and the number of firms is 980.

7. For studies that estimate abnormal returns for multiple events, we present results for the combined event returns as reported by the authors. In theory, the combined event return captures the market's cumulative reaction in response to multiple events that affect the likelihood of proxy access reform. Abnormal returns for events that increase the likelihood of proxy access are multiplied by +1 and abnormal returns for events that decrease the likelihood of proxy access are multiplied by −1. Accordingly, a positive combined return suggests that the market places positive value on more shareholder control; a negative combined return suggests that the market places negative value on more shareholder control.

Table B2. Empirical Question: Does Proxy Access Reform Improve Board Performance?

Event Study	Identification Strategy	Independent Variable	Statistical Significance	Coefficient on Independent Variable	Average Value of Independent Variable for Firms in Sample	Abnormal Return Attributable to Change in Board Performance	Average Market Cap for Affected Firms in Sample ($ million)	Average Change in Market Cap per Firm ($ million)	Number of Affected Firms in Sample	Overall Change in Market Cap ($ billion)	Estimated Impact of Proxy Access on Shareholder Wealth
A	B	C	D	E	F	G = E*F	H	I = G*H	J	K = I*J	L
Becker et al. (2013) *See Note 1*	Authors estimate the shareholder wealth effects of greater proxy access on board performance by comparing abnormal returns at high-performing firms versus abnormal returns at low-performing firms. Authors posit that if proxy access is expected to enhance board performance, abnormal returns should be most negative among poorly performing firms (indicative of poor board performance), following the SEC's decision to stay proxy access. To test this hypothesis they identify the relationship between abnormal returns and lagged stock returns relative to industry; as well as book-to-market ratio relative to industry. Low returns and/or high book-to-market values might indicate that managers are not using firm assets to optimize shareholder wealth.	Abnormal return on portfolio of US firms with low lagged stock returns compared to industry means (indicative of poor board performance) relative to abnormal return on a portfolio of US firms with high lagged stock returns compared to the firm's industry mean (indicative of high board performance.	Not statistically significant	0.02191	Information not provided by authors	Not estimable due to insufficient information	Information not provided by authors	Not estimable due to insufficient information	Information not provided by authors	Not estimable due to insufficient information	Financial markets did not expect that proxy access reform would have a statistically significant impact on board performance.
		Abnormal return on portfolio of US firms with high book-to-market-values compared to industry means (indicative of poor board performance) relative to abnormal return on a portfolio of US firms with low book-to-market values compared to industry means (indicative of high board performance)	Not statistically significant	0.02694	Information not provided by authors	Not estimable due to insufficient information	Information not provided by authors	Not estimable due to insufficient information	Information not provided by authors	Not estimable due to insufficient information	
Campbell et al. (2012) *See Note 2*	Authors identify the shareholder wealth effects of greater proxy access on board performance by estimating the impact of three firm-level governance characteristics on abnormal returns. They posit that if proxy access increases board performance, then firms with weak (strong) governance characteristics should experience more (less) positive abnormal returns than those with strong (weak) governance provisions following the SEC's announcement of Rule 14a-11 on 25 August 2010.	Indicator variable equal to 1 if firm has a classified board (indicative of poor board performance);0 otherwise	Statistically significant at the 10% level	0.0020	0.500	0.100%	$19,943.27	$19.94	392	$7.82	Financial markets perceived that improved board performance as a result of proxy access would increase overall shareholder wealth by $6.8 billion to $22.4 billion.
		Continuous variable equal to the ratio of outsider directors appointed to the total number of directors (higher ratios are associated with higher board performance). Note that this variable is inversely proportional to the beneficial impact of proxy access.	Statistically significant at the 10% level	–0.0070	0.410	–0.287%	$19,943.27	($57.24)	392	($22.44)	
		Indicator variable equal to 1 if CEO holds a large ownership stake in the firm (indicative of poor board performance); 0 otherwise.	Statistically significant at the 5% level	0.0870	0.010	0.087%	$19,943.27	$17.35	392	$6.80	

(continued)

Table B2. Empirical Question: Does Proxy Access Reform Improve Board Performance? (continued)

Event Study A	Identification Strategy B	Independent Variable C	Statistical Significance D	Coefficient on Independent Variable E	Average Value of Independent Variable for Firms in Sample F	Abnormal Return Attributable to Change in Board Performance G = E * F	Average Market Cap for Affected Firms in Sample ($ million) H	Average Change in Market Cap per Firm ($ million) I = G * H	Number of Affected Firms in Sample J	Overall Change in Market Cap ($ billion) K = I * J	Estimated Impact of Proxy Access on Shareholder Wealth L
Cohn et al. (2012) *Corrected See Note 3 & Note 4	Authors identify the shareholder wealth effects of greater proxy access on board performance by estimating the impact of firm-level performance metrics on abnormal returns for small versus large firms. They posit that if proxy access increases board performance, firms with poor recent performance (indicative of poor board performance) should experience more positive abnormal returns following events that increase the likelihood of proxy access. Because the events studied did not have an impact on ownership thresholds at small firms, subtracting abnormal returns at small firms from those at large firms should filter out the effects of aggregate market movements.	Interaction term between continuous variable measuring firm-level ROA and indicator variable equal to 1 if a firm is large and 0 if a firm is small. High firm-level ROA is indicative of a high board performance; low firm-level ROA is indicative of poor board performance.	Statistically significant at the 1% level	–0.0401	0.072	–0.289%	$7,423.78	($1.54)	1,260	($1.94)	Financial markets perceived that improved board performance as a result of proxy access has an impact of $0.0 to $1.9 billion. *Corrected
		Interaction term between continuous variable measuring firm-level lagged stock returns and indicator variable equal to 1 if a firm is large and 0 if a firm is small. High firm-level stock return is indicative of high board performance. Low firm-level lagged stock return is indicative of poor board performance.	Statistically significant at the 1% level	–0.0002	0.119	–0.002%	$7,423.78	($0.02)	1,260	($0.03)	
		Interaction term between continuous variable measuring firm-level sales growth and indicator variable equal to 1 if a firm is large and 0 if a firm is small. High firm-level sales growth is indicative of high board performance. Low firm-level sales growth is indicative of poor board performance.	Not statistically significant	–0.0018	–0.014	0.003%	$7,423.78	($0.00)	1,260	($0.00)	

(continued)

Table B2. Empirical Question: Does Proxy Access Reform Improve Board Performance? (continued)

Event Study A	Identification Strategy B	Independent Variable C	Statistical Significance D	Coefficient on Independent Variable E	Average Value of Independent Variable for Firms in Sample F	Abnormal Return Attributable to Change in Board Performance G = E*F	Average Market Cap for Affected Firms in Sample ($ million) H	Average Change in Market Cap per Firm ($ million) I = G*H	Number of Affected Firms in Sample J	Overall Change in Market Cap ($ billion) K = I*J	Estimated Impact of Proxy Access on Shareholder Wealth L
Jochem (2012) *See Note 5*	Jochem identifies the shareholder wealth effects of greater proxy access on board performance by estimating the impact of various board characteristics on abnormal returns. He posits that if proxy access increases board performance, then firms with provisions that entrench management (indicative of a poorly performing board) should experience more negative abnormal returns than firms without provisions that entrench management, following the repeal of proxy access reform. Firms are characterized as having entrenched management if the board has provisions for poison pills, staggered boards, golden parachutes, etc.	Indicator variable equal to 1 if a firm is characterized as entrenched based on the Entrenchment Index (indicative poor board performance); 0 if a firm is characterized as not entrenched (indicative of high board performance).	Statistically significant at the 5% level	–0.0072	0.550	–0.396%	$9,363.57	($37.05)	131	($4.85)	Financial markets perceived that improved board performance as a result of proxy access would increase overall shareholder wealth by $4.9 billion.
		Indicator variable equal to 1 if a firm is characterized as entrenched based on the GIM Governance Index (indicative poor board performance); 0 if a firm is characterized as not entrenched (indicative of high board performance).	Not statistically significant	–0.0045	0.538	–0.242%	$9,363.57	($22.69)	117	($2.65)	

Note: The estimates we present for impacts on overall market capitalization do not include insignificant results.

Sources and notes:

1. **Column [E]:** See Becker et al. (2013, Table 8); difference in coefficients on the variables 2007–2009 Stock Return Low and 2007–2009 Stock Return High, difference in coefficients on the variables Book-to-Market Value High and Book-to-Market Value Low, and note on statistical significance of differences on p. 152.

2. **Column [E]:** See Campbell et al. (2012, Table 3, Model 2); coefficients on the variables Classified Board and True Outsider % and CEO Ownership Power. **Column [F]:** See Campbell et al. (2012, Table 1). **Column [H]:** Based on mean market capitalization for the S&P 500 as of 31 August 2010. **Column [J]:** See Campbell et al (2012, Table 1, N = 392).

3. **Column [E]:** See Cohn et al. (2012, Table 3); large versus small specification, coefficients on variables ROA, SalesGrowth, and Lag6moReturn. **Column [F]:** See Cohn et al. (2012, Table 1, Panel A). Note that we apply the differential impacts for large versus small firms because the average firm falls into the authors' "large firm" category (i.e., market cap > $700 million). **Column [J]:** See Cohn et al. (2012, Table 2); N = 1,260 for large firms.

4. **Column [H]:** In our view, the mean market cap for firms in the authors' sample is inconsistent with the remainder of the studies we reviewed and may reflect a transcription error. To adjust for this potential error, we apply the mean firm-level market cap for the S&P 1500 as of 30 June 2010, which reflects the index observation nearest to the event date. We believe this is a more reasonable and conservative estimate of market capitalization for the 1,260 large firms in the authors' sample.

5. **Column [E] and Column [J]:** See Jochem (2012, Table 2); difference in abnormal returns between E6 firms and E0 firms (window [0,0] for the FF4 specification) and difference in abnormal returns between G-high firms and G-low firms (window [0,0] for the FF4 specification). **Column [H]:** Information on the average market capitalization for firms in the GIM and Entrenchment indices are not provided by Jochem. Thus, we apply the average firm-level market capitalization for the S&P 1500 as of 31 July 2011, which reflects the index observation nearest to the event date. We select the S&P 1500 as opposed to the S&P 500 because the S&P 1500 provides a more conservative estimate of firm-level market capitalization. **Column [K]:** See Jochem (2012, Table 2); number of firms in the E6 category = 72 and G-high = 63.

Table B3. Empirical Question: Does Potential for Increased Proxy Contest Costs Reduce Shareholder Wealth?

Event Study A	Identification Strategy B	Independent Variable C	Statistical Significance D	Coefficient on Independent Variable E	Average Value of Independent Variable for Firms in Sample F	Abnormal Return Attributable to Change in Proxy Contest Costs G = E * F	Average Market Cap for Affected Firms in Sample ($ million) H	Average Change in Market Cap per Firm ($ million) I = G * H	Number of Affected Firms in Sample J	Overall Change in Market Cap ($ billion) K = I * J	Estimated Impact of Proxy Access on Shareholder Wealth L
Jochem (2012) *See Note 1*	Jochem compares abnormal returns at large firms to abnormal returns at small firms, following the DC Circuit's decision to vacate proxy access. He posits that if the market expected proxy contest costs to decrease firm value, then particularly positive abnormal returns should be observed at small firms relative to large firms. Jochem's hypothesis is predicated on the fact that proxy contest costs represent a higher share of overall market capitalization for small firms than for large firms.	Indicator variable equal to 1 if a firm is in the lowest quintile for market capitalization; 0 if firm is in the highest quintile for market capitalization.	Not statistically significant	–0.0025	1.0	–0.2500%	$129.50	($0.32)	1,005	($0.33)	Financial markets did not expect that proxy access reform would have a statistically significant impact on shareholder wealth as a result of potentially increased proxy contest costs.

Note: The estimates we present for impacts on overall market capitalization do not include insignificant results.

Sources and notes:

1. **Column [E]** and **Column [J]**: See Jochem (2012, Table 4); difference in abnormal returns between Q1 firms and Q5 firms (window [0,0] for the CAPM specification). **Column [H]**: The average market capitalization for the lowest quintile is $130 million (see Jochem 2012, p. 17; Q1 market cap ranges from $75 million to $184 million). **Column [J]**: See Jochem (2012, Table 4, footnote); each quintile consists of 1,005 firms.

Table B4. Empirical Question: Does the Potential Use of Proxy Access by Special-Interest Shareholder Groups Reduce Shareholder Wealth?

Event Study	Identification Strategy	Independent Variable	Statistical Significance	Coefficient on Independent Variable	Average Value of Independent Variable for Firms in Sample	Abnormal Return Attributable to Special-interest Shareholders	Average Market Cap for Affected Firms in Sample ($ million)	Average Change in Market Cap per Firm ($ million)	Number of Affected Firms in Sample	Overall Change in Market Cap ($ billion)	Estimated Impact of Proxy Access on Shareholder Wealth
A	B	C	D	E	F	G = E*F	H	I = G*H	J	K = I*J	L
Becker et al. (2013) *See Note 1*	Authors conduct a cross sectional analysis of the relationship between firm-level abnormal returns and the presence of special-interest shareholders. They posit that if the potential use of proxy access by special-interest shareholders reduces shareholder wealth, abnormal returns should be increasing in the number of special-interest shareholders following the voluntary stay of proxy access by the SEC. The authors capture the number of special-interest investors using three firm-level independent variables.	Continuous variable equal to the percentage of a firm's shares outstanding that are held by activist institutional investors.	Statistically significant at the 1% level	−0.0527	0.04	−0.190%	$8,218.41	($15.60)	1,388	($21.65)	Financial markets perceived that potential use of proxy access by special-interest investors would increase shareholder wealth by $12.0 billion to $21.7 billion.
		Continuous variable equal to the percentage of a firm's shares outstanding that are held by activist institutional investors who have held a position for 3 years.	Statistically significant at the 1% level	−0.07356	Information not provided by authors	Not estimable	$8,218.41	Not estimable due to insufficient information	1,388	Not estimable due to insufficient information	
		Continuous variable equal to the number of activist institutional investors who own at least 3% of a firm's shares outstanding.	Statistically significant at the 1% level	−0.00329	0.32	−0.105%	$8,218.41	($8.65)	1,388	($12.01)	
Cohn et al. (2012) *Corrected; 3% ownership threshold applied *See Note 2 and Note 3*	Authors conduct a cross sectional analysis of the relationship between firm-level abnormal returns and the presence of special-interest shareholders. They posit that if the potential use of proxy access by special-interest shareholders reduces shareholder wealth, abnormal returns should be decreasing in the number of special-interest shareholders following events that increase the likelihood of proxy access. Due to a methodological oversight related to the authors' estimate of firm-level special-interest investors, we impose the average number of firm-level activist institutional investors owning at least 3% of shares outstanding per Becker et al. (2013) on the regression results of Cohn et al. (2012).	Continuous variable measuring the number of potentially activist public pension funds holding shares at a firm.	Statistically significant at the 1% level	−0.0016	0.32	−0.051%	$7,423.78	($3.80)	2,492	($9.47)	Financial markets perceived that potential use of proxy access by special-interest investors would decrease shareholder wealth by −$9.5 billion. *Corrected; 3% ownership threshold applied

(continued)

Table B4. Empirical Question: Does the Potential Use of Proxy Access by Special-Interest Shareholder Groups Reduce Shareholder Wealth? (continued)

Event Study	Identification Strategy	Independent Variable	Statistical Significance	Coefficient on Independent Variable	Average Value of Independent Variable for Firms in Sample	Abnormal Return Attributable to Special-interest Shareholders	Average Market Cap for Affected Firms in Sample ($ million)	Average Change in Market Cap per Firm ($ million)	Number of Affected Firms in Sample	Overall Change in Market Cap ($ billion)	Estimated Impact of Proxy Access on Shareholder Wealth
A	B	C	D	E	F	G = E * F	H	I = G * H	J	K = I * J	L
Jochem (2012) *See Note 4*	Authors conduct a cross sectional analysis of the relationship between firm-level abnormal returns and the presence of special-interest shareholders. They posit that if the potential use of proxy access by special-interest shareholders reduces shareholder wealth, abnormal returns should be increasing in the number of special-interest shareholders following the repeal of proxy access by the SEC. The authors capture the number of special-interest investors using two firm-level independent variables.	Continuous variable measuring the number of firm-level special-interest shareholders who meet the SEC's 3%/3 year eligibility requirements.	Not statistically significant	–0.0002	0.01	–0.020%	$24,645.90	($4.93)	1,182	($5.83)	Financial markets did not expect that potential use of proxy access by special-interest investors would have a statistically significant impact on shareholder wealth.
		Continuous variable measuring the number of firm-level coalitions of special-interest shareholders who meet the SEC's 3%/3 year eligibility requirements.	Not statistically significant	0.0024	0.03	0.240%	$24,645.90	$59.15	1,278	$75.59	

Note: The estimates we present for impacts on overall market capitalization do not include insignificant results.

Sources and notes:

1. **Column [E]:** See Becker et al. (2013, Table 7), coefficients on the variables *Activist institutional ownership* and *3-year-old positions*, and Becker et al. (2013, Table 5), coefficient on the variable *Activist institutional owners above 3% stake*. **Column [F]:** See Becker et al. (2013, Table 2). **Column [H]:** Based on mean market capitalization for the S&P 1500 as of 30 September 2010. **Column [J]:** See Becker et al. (2013, Table 3); *N* = 1,388.

2. **Column [E]:** See Cohn et al. (2012, Table 11); coefficient on *#CNShareholders*. **Column [F]:** See Cohn et al. (2012, pp. 24–25). **Column [H]:** In our view, the mean market cap for firms in the authors' sample is inconsistent with the remainder of the studies we reviewed and may reflect a transcription error. To adjust for this potential error, we apply the mean firm-level market cap for the S&P 1500 as of 30 June 2010, which reflects the index observation nearest to the event date. We believe this is a more reasonable and conservative estimate of market capitalization for the 1,260 large firms in the authors' sample. **Column [J]:** See Cohn et al. (2012, Table 11 [*N* = 2,492], and p. 25).

3. The analysis presented in Cohn et al. (2012) implicitly assumes that *all* potentially activist public pension funds would have access to the company proxy when, in reality, only those that meet the SEC's ownership and duration thresholds would have access to the company proxy. Based on their definition of special-interest investors, the average firm has 5.9 potentially activist public pension fund investors. This estimate overstates the number of eligible special-interest investors. To correct for this methodological oversight, we impose the average number of firm-level activist institutional investors owning at least 3% of shares outstanding according to Becker et al. (2013)—that is, 0.32—on the regression results of Cohn et al. (2012).

4. **Column [E]** and **Column [J]:** See Jochem (2012, Table 7); abnormal returns for *Special-Interest Investors with >3% ownership* (window [0,0] for the CAPM specification) and abnormal returns for *Coalition of Special-Interest Investors with >3% ownership* (window [0,0] for the CAPM specification). **Column [H]:** Information on the average market capitalization of firms with union and/or pension shareholders is not provided by Jochem (2012). To estimate market-wide impacts, we apply the average market capitalization for firms in the S&P 500 as of 31 July 2011.

Appendix C. Summary Information on Companies with Proposals for Proxy Access

The table on the following pages summarizes information related to the companies that submitted shareowner-sponsored proposals for proxy access pursuant to Rule 14a-8(i)(8).

Table C1. Summary Information Related to Proxy Access Proposals That Were Submitted and Voted on Pursuant to Rule 14a-(8)(i)(8)

Company	Proponent	Year	Nature	Outcome	Company Sector	Company Market Cap	Ownership Threshold	Duration Rqmnt	Nomination Threshold
SEC Rule 14a-11	SEC	2010	NA	Vacated by DC Circuit Court	NA	NA	3% of shares outstanding	3 years	Up to 25% of board seats
Bank of America	US Proxy Exchange (USPX)	2013	Precatory	Fail 8.8% support	Financial	$168.9b	1–5% of stock; OR 50+ with >$2k of stock & 0.5–5%	2 years for 1–5%; 1 year for $2k	Up to 24% of board seats
Century Link	H. Floyd & M. Neumann	2013	Precatory	Pass 71.5% support	Technology	19.5b	3% of shares outstanding	3 years	Up to 20% of board seats
Charles Schwab	Norges Bank	2013	Precatory	Fail 31.7% support	Financial	32.4b	1% of shares outstanding	1 year	Up to 25% of board seats
Charles Schwab	Norges Bank	2012	Binding	Fail 31% support	Financial	32.4b	1% of shares outstanding	1 year	Up to 25% of board seats
Chesapeake Energy	NYC Funds	2012	Precatory	Pass 60% support	Oil & Gas	17.3b	3% of shares outstanding	3 years	Up to 25% of board seats
CME Group	Norges Bank	2013	Precatory	Fail 32.9% support	Financial	22.6b	1% of shares outstanding	1 year	Up to 25% of board seats
CME Group	Norges Bank	2012	Binding	Fail 38% support	Financial	22.6b	1% of shares outstanding	1 year	Up to 25% of board seats
Darden Restaurants	Nathan Cummings Foundation	2013	Not specified	Pass 62% support	Services	6.5b	3% of shares outstanding	3 years	Not specified
FedEx Corp	Myra Young	2013	Precatory	Fail 6.3% support	Services	38.9b	1–5% of stock; OR 50+ with >$2k of stock & 0.5–5%	2 years for 1–5%; 1 year for $2k	Up to 24% of board seats
Ferro Corp	USPX	2012	Precatory	Fail 13.5% support	Chemicals	1.1b	1% of stock; OR 100+ investors with >$2k of stock	2 years for 1; 1 year for $2k	Each qualifying group could elect up to 8.3% of the board
Goldman Sachs	USPX	2013	Precatory	Fail 5.3% support	Financial	72.1b	1–5% of stock; OR 50+ with >$2k of stock & 0.5–5%	2 years for 1–5%; 1 year for $2k	Up to 24% of board seats
Hewlett-Packard	HP Board of Directors	2013	Precatory	Pass 68% support	Technology	62.0b	3% of shares outstanding	3 years	Up to 20% of board seats

(continued)

Table C1. Summary Information Related to Proxy Access Proposals That Were Submitted and Voted on Pursuant to Rule 14a-(8)(i)(8) (continued)

Company	Proponent	Year	Nature	Outcome	Company Sector	Company Market Cap	Ownership Threshold	Duration Rqmnt	Nomination Threshold
SEC Rule 14a-11	SEC	2010	NA	Vacated by DC Circuit Court	NA	NA	3% of shares outstanding	3 years	Up to 25% of board seats
iRobot	USPX	2013	Precatory	Fail 18.2% support	Robotics	1.1b	1–5% of stock; OR 50+ with >$2k of stock & 0.5–5%	2 years for 1–5%; 1 year for $2k	Up to 24% of board seats
KSW, Inc.	Furlong Fund	2012	Binding	Fail 21% support	HVAC services	na	2% of shares outstanding	1 year	Not specified
Microwave Filter Corp.	Furlong Fund	2013	Binding	Fail 15.1% support	Electronics	1.4m	3% of shares outstanding	3 years	Up to 25% of board seats
Nabors Industries *	Various pension funds	2013	Precatory	Fail 51% support	Drilling services	7.1b	3% of shares outstanding	3 years	Up to 25% of board seats
Nabors Industries *	Various pension funds	2012	Precatory	Fail 56% support	Drilling services	7.1b	3% of shares outstanding	3 years	Up to 25% of board seats
Netflix	USPX	2013	Precatory	Fail 4.4% support	Entertainment	19.7b	1–5% of stock; OR 50+ with >$2k of stock & 0.5–5%	2 years for 1–5%; 1 year for $2k	Up to 24% of board seats
Princeton National Bancorp	USPX	2012	Precatory	Fail 32% support	Financial	na	1% of stock; OR 100+ investors with >$2k of stock	2 years for 1%; 1 year for $2k	Each qualifying group could elect up to 8.3% of the board
Staples	Norges Bank	2013	Precatory	Fail 36.9% support	Retail	7.9b	1% of shares outstanding	1 year	Up to 25% of board seats
Verizon Wireless	C.W. Jones	2013	Precatory	**Pass 53.3% support**	Telecommunications	194.8b	3% of shares outstanding	3 years	Up to 20% of board seats
Walt Disney	Hermes Equity Ownership	2013	Precatory	Fail 40.1% support	Media	135.7b	3% of shares outstanding	3 years	Up to 25% of board seats
Wells Fargo	Norges Bank	2012	Binding	Fail 32.4% support	Financial	252.4b	1% of shares outstanding	1 year	Up to 25% of board seats
Western Union	Norges Bank	2012	Precatory	Fail 33% support	Financial	8.7b	1% of shares outstanding	1 year	Up to 25% of board seats

Table C1. Summary Information Related to Proxy Access Proposals That Were Submitted and Voted on Pursuant to Rule 14a-(8)(i)(8) (continued)

1. Proponent: Identifies whether the proposal is sponsored by an institution or (small group of) individuals.

2. Year during which proposal was voted.

3. Nature: Identifies whether a proposal is precatory in nature (i.e., a recommendation to the board) or binding (i.e., requires amendment to bylaws).

4. Outcome: Describes the results of the shareholder vote on the proxy access proposal (i.e., pass/fail) and the proportion of shareholders who voted "Yes."

5. Company Sector: Describes the sector in which the firm operates.

6. Company Market Capitalization: Current company-level market capitalization (i.e., stock price * shares outstanding) as of 14 April 2014.

7. Ownership Threshold: Defines the percentage of outstanding shares that an investor (or group of investors) is required to hold before gaining access to a company's proxy.

8. Duration Requirement: Defines the length of time that a shareholder (or group of shareholders) is required to meet the ownership threshold before gaining access to a company's proxy statement.

9. Nomination Threshold: Defines the limit (if any) on the number of shareholder-sponsored nominations that may be included on the company's proxy statements.

10. For information underlying the 2012 proxy access proposals submitted at Charles Schwab, Wells Fargo, Western Union, CME Group, Ferro Corp., Nabors, KSW Inc., and Chesapeake Energy, see Proxy Access Proposals Filed for the 2012 US Proxy Season by the Institutional Shareholder Services, Inc. (http://www.issgovernance.com/files/private/AccessProposals051112.pdf); 2013 Proxy Season Review for the United States by the Institutional Shareholder Services, Inc. (http://www.issgovernance.com/files/private/2013ISSUnitedStatesPostseasonReport.pdf); and Proxy Access Proposals: Review of 2012 Results and Outlook for 2013, The Harvard Law School Forum on Corporate Governance and Financial Regulation (https://blogs.law.harvard.edu/corpgov/2012/06/28/proxy-access-proposals-review-of-2012-results-and-outlook-for-2013/).

11. For information underlying the 2013 proxy access proposals submitted at Bank of America, Century Link, Charles Schwab, Goldman Sachs, iRobot, Microwave Filter Company, Nabors, Staples, Verizon Wireless, Netflix, CME Group, and the Walt Disney Company, see 2013 Proxy Season Review for the United States by the Institutional Shareholder Services, Inc. (http://www.issgovernance.com/files/private/2013ISSUnitedStatesPostseasonReport.pdf); and Proxy Access Proposals: Review of 2012 Results and Outlook for 2013, The Harvard Law School Forum on Corporate Governance and Financial Regulation (https://blogs.law.harvard.edu/corpgov/2012/06/28/proxy-access-proposals-review-of-2012-results-and-outlook-for-2013/). See also company-specific 14-A filings for Century Link, Walt Disney, and Verizon Wireless (www.sec.gov; search by company name or ticker for the proper documents).

12. For information underlying the 2013 proxy access proposal submitted at FedEx, see the company's 14-A filing with the SEC (www.sec.gov/Archives/edgar/data/1048911/000104691300836I/a221612з3zdef14a.htm#ev70901_proposal_6_#151;_stockholder_—_pro02525); its 8-K filing with the SEC (http://biz.yahoo.com/e/130924/fdx8-k.html); and information provided by Alliance Advisors (http://allianceadvisorsllc.com/the-advisor/blog/2013-proxy-season-issues-second-half/).

13. For information underlying the 2013 proxy access proposal submitted at Hewlett-Packard, see the HP press release (http://www8.hp.com/us/en/hp-news/press-release.html?id=1386523#.UzrMhqhdUg0); and the company's 14-A filing with the SEC (http://www.sec.gov/Archives/edgar/data/47217/000104746913000179/a2212404zpre14a.htm).

14. For information underlying the 2013 proxy access proposal submitted at Darden Restaurants, see information provided by Alliance Advisors (http://allianceadvisorsllc.com/the-advisor/blog/2013-proxy-season-issues-second-half/); and information provided by Davis Polk (http://www.davispolk.com/blog/proxy-access/).

15. Note that while the Nabors proposals received majority support, they were deemed "failures" by the board. For additional information on the outcomes of the Nabors proposals, see "Nabors Owners Back Proxy Access Resolution," *Wall Street Journal* (5 June 2012); "Nabors Gets Rebuke from Shareowners," *Wall Street Journal* (6 June 2013).

16. Information on current market capitalization was retrieved from Yahoo Finance on 14 April 2014.

Appendix D. Proxy Access in Non-US Jurisdictions

International Experience of Proxy Access

In general, corporate governance laws in the United States tend to be less progressive than those in other developed economies. For example, as shown in the table below, minority shareowners in Europe, Canada, and Brazil are afforded greater protections with respect to proxy access than are those in the United States. Subject to various ownership requirements, shareowners in these non-US jurisdictions are able to submit proposals to elect and/or remove directors at companies' general meetings.[77] More often than not, these proposals are legally binding. Notwithstanding shareowners' right to proxy access, these economies still rank among the largest and fastest-growing in the world.

Overview of International Shareowner Requirements for Proxy Access

Country	Shareowner Requirements for Submitting Shareowner Proposals	Nature of Proposal	Proxy Access?
Austria	Own at least 5% of shares	Binding	Yes
Brazil	Own at least 15% of common shares, or 1-% of preferred shares	Binding	Yes
France	Own between 0.5 and 5% of shares, proportion is decreasing in firm size	Binding	Yes
Germany	Own at least 5% of shares or at least EUR500,000 in nominal value. Or any shareowner may submit a proposal if related to already existing agenda items	Binding	Yes
Norway	Any shareowner	Binding	Yes
Portugal	Own at least 5% of shares	Binding	Yes
Russia	Own at least 2% of shares, or firm-specific requirement applied	Binding	Yes
Switzerland	Own at least CHF1,000,000 in market value, or firm-specific requirement applied	Binding	Yes

(continued)

[77]Peter Cziraki, Luc Renneboog, and Peter G. Szilagyi, "Shareholder Activism through Proxy Proposals: The European Perspective," *European Financial Management*, vol. 16, no. 5 (November 2010):738–777.

Overview of International Shareowner Requirements for Proxy Access (continued)			
Country	Shareowner Requirements for Submitting Shareowner Proposals	Nature of Proposal	Proxy Access?
UK	Own at least 5% of shares, or at least 100 share-owners with at least GBP100 each	Binding	Yes
Netherlands	Own at least 1% of shares or at least EUR50,000,000 in market value	Non-Binding	Yes
Canada	Any shareowner, including beneficial shareowners.	Non-Binding	Yes
US	Own at least 1% of shares, or at least 2,000 USD in market value	Non-Binding	No

Notes: See Cziraki et al., "Shareholder Activism through Proxy Proposals"; Glass Lewis Proxy Paper Guidelines for Brazil for 2014 (http://www.glasslewis.com/assets/uploads/2013/12/2014_GUIDELINES_Brazil.pdf); ISS Corporate Governance: Recent Trends and New Developments (http://www.issgovernance.com/files/ISSAmericasRegionalOverview.pdf); Canada Business Corporations Act (http://laws-lois.justice.gc.ca/eng/acts/C-44/INDEX.HTML); SEC, Division of Corporate Finance, Staff Legal Bulletin No. 14 (13 July 2001).

In addition, anecdotal evidence suggests that whereas many countries have adopted proxy access, it tends to be used sparingly.[78] As suggested by Becker et al. (2013), the *potential* use of proxy access may provide for more meaningful engagement between shareowners and management, thereby increasing bipartisan representation on a company's board of directors. This finding is corroborated by a 2009 study[79] that found that in Canada, shareowner nominations are often withdrawn before they reach a vote because firms are more willing and more likely to reach agreements with investors to avoid a vote.

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[78]Cziraki et al., "Shareholder Activism through Proxy Proposals."
[79]Jun Yang, Zengxiang Wang, and Yunbi An, "An Empirical Analysis of Canadian Shareholder Proposals" (20 July 2009): http://dx.doi.org/10.2139/ssrn.1510248.

Appendix E. Summary Information on CalPERS' Share of Firm Market Cap in Each of Its Portfolio Companies

The table on the following pages summarizes the information underlying CalPERS' market share in each of its portfolio companies.

Table E1. Analysis of CalPERS' Portfolio Holdings

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
CEA	China Eastern Airlines	$31,994	0	1,700	18.82	16.9597	$4,320,000	$4,320,000,000	0.0007%	No
ATAI	ATA	999	0	300	3.33	3.99	93,790	93,790,000	0.0011	No
AMIC	American Independence	1,000	0	60	16.67	10.8	84,760	84,760,000	0.0012	No
HNP	Huaneng Power International	435,055	0	12,183	35.71	40.38	14,280,000	14,280,000,000	0.0030	No
CIG	Companhia Energetica Minas Gerais	292,108	0	37,354	7.82	6.83	8,980,000	8,980,000,000	0.0033	No
BCH	Banco de Chile	422,981	0	4,931	85.78	77.43	11,980,000	11,980,000,000	0.0035	No
CPL	CPFL Energia S.A.	329,987	0	20,650	15.98	16.3	8,120,000	8,120,000,000	0.0041	No
CHA	China Telecom Corporation	1,559,861	0	31,266	49.89	45.6	37,360,000	37,360,000,000	0.0042	No
ARL	American Realty Investors	4,998	0	912	5.48	9.41	107,540	107,540,000	0.0046	No
ASX	Advanced Semiconductor Engineering	660,132	0	140,753	4.69	5.58	8,580,000	8,580,000,000	0.0077	No
BAK	Braskem SA	461,895	0	26,500	17.43	14.78	5,990,000	5,990,000,000	0.0077	No
GSH	Guangshen Railway	246,006	0	10,645	23.11	21.64	3,080,000	3,080,000,000	0.0080	No
ELP	Companhia Paranaense de Energia	294,900	0	22,615	13.04	13.275	3,690,000	3,690,000,000	0.0080	No
ACH	Aluminum Corp. of China	423,225	0	49,500	8.55	9.248	5,060,000	5,060,000,000	0.0084	No
CRWN	Crown Media Holdings	123,879	0	34,700	3.57	3.75	1,400,000	1,400,000,000	0.0088	No
FBR	Fibria Celulose S.A.	542,945	0	44,983	12.07	10.77	6,130,000	6,130,000,000	0.0089	No
ASTC	Astrotech	5,005	0	1,625	3.08	2.7045	55,440	55,440,000	0.0090	No
GAGA	Le Gaga Holdings	15,007	0	4,300	3.49	3.78	166,230	166,230,000	0.0090	No
CQP	Cheniere Energy Partners	1,017,000	0	33,900	30	33.17	11,110,000	11,110,000,000	0.0092	No
ENSG	Ensign	91,000	0	2,000	45.5	43.185	953,230	953,230,000	0.0095	No
CHU	China Uni	3,134,623	0	206,633	15.17	13.635	32,720,000	32,720,000,000	0.0096	No
BBD	Banco Bradesco SA	6,494,607	0.01	534,096	12.16	14.41	61,560,000	61,560,000,000	0.0106	No
GFN	General Finance Corporation	22,015	0	3,500	6.29	8.23	200,690	200,690,000	0.0110	No
DARA	DARA BioSciences	1,993	0	4,333	0.46	2.77	17,710	17,710,000	0.0113	No
IEP	Icahn Enterprises	1,449,984	0	12,800	113.28	98.2601	11,790,000	11,790,000,000	0.0123	No
FIZZ	National Beverage	121,020	0	6,000	20.17	20.75	976,680	976,680,000	0.0124	No
FBMS	First Bancshares	10,003	0	700	14.29	14.78	74,490	74,490,000	0.0134	No
AUO	AU Optronics	602,833	0	195,725	3.08	3.925	3,830,000	3,830,000,000	0.0157	No
EBMT	Eagle Bancorp Montana	7,002	0	600	11.67	10.88	42,980	42,980,000	0.0163	No
AEG	AEGON N.V.	3,187,649	0	340,925	9.35	9.04	19,150,000	19,150,000,000	0.0166	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
DL	China Distance Education Holdings	101,018	0	5,300	19.06	16.27	597,240	597,240,000	0.0169	No
CX	Cemex SAB de CV	2,789,514	0	238,420	11.7	13.13	15,180,000	15,180,000,000	0.0184	No
BRFS	BRF Brasil Foods SA	3,666,347	0.01	179,459	20.43	21.11	18,850,000	18,850,000,000	0.0195	No
AEHR	Aehr Test Systems	6,003	0	2,300	2.61	2.6	30,750	30,750,000	0.0195	No
CORE	Core-Mark Holding Company	173,006	0	2,300	75.22	76.03	881,850	881,850,000	0.0196	No
FSI	Flexible Solutions International	2,006	0	1,700	1.18	0.75	9,860	9,860,000	0.0203	No
CAAS	China Automotive Systems	52,997	0	6,700	7.91	8.49	237,520	237,520,000	0.0223	No
FCAP	First Capital	13,002	0	600	21.67	21.14	57,770	57,770,000	0.0225	No
ENI	Enersis S.A.	3,780,383	0.01	257,344	14.69	15.65	15,600,000	15,600,000,000	0.0242	No
AZN	AstraZeneca	19,779,625	0.03	334,624	59.11	63.77	80,920,000	80,920,000,000	0.0244	No
CHL	China Mobile	46,817,085	0.07	891,754	52.5	47.05	190,440,000	190,440,000,000	0.0246	No
CFNB	California First National Bancorp	39,000	0	2,500	15.6	15.11	157,930	157,930,000	0.0247	No
CTP	CTPartners Executive Search	22,017	0	4,100	5.37	10.81	76,500	76,500,000	0.0288	No
ATV	Acorn International	13,995	0	9,029	1.55	1.68	47,000	47,000,000	0.0298	No
CAK	CAMAC Energy	264,420	0	169,500	1.56	0.8	876,930	876,930,000	0.0302	No
CIZN	Citizens Holding Company	28,992	0	1,600	18.12	18.82	91,650	91,650,000	0.0316	No
LPTH	LightPath Technologies	8,021	0	6,123	1.31	1.6	22,870	22,870,000	0.0351	No
ADK	AdCare Health Systems	24,006	0	5,622	4.27	4.12	64,360	64,360,000	0.0373	No
FLY	Fly Leasing	229,944	0	14,300	16.08	14.7	615,870	615,870,000	0.0373	No
ADGE	American DG Energy	43,940	0	26,000	1.69	2.02	109,520	109,520,000	0.0401	No
CHRM	Charm Communications	69,984	0	16,200	4.32	4.22	173,100	173,100,000	0.0404	No
DDE	Dover Downs Gaming & Entertainment	19,938	0	13,750	1.45	1.471	48,800	48,800,000	0.0409	No
DJCO	Daily Journal Corporation	100,002	0	600	166.67	176.1	244,070	244,070,000	0.0410	No
BLIN	Bridgeline Digital	8,025	0	7,500	1.07	1.01	18,690	18,690,000	0.0429	No
EBSB	Meridian Interstate Bancorp	237,048	0	10,200	23.24	25.12	544,890	544,890,000	0.0435	No
CBD	Companhia Brasileira de Distrib.	5,607,742	0.01	126,700	44.26	47.18	12,750,000	12,750,000,000	0.0440	No
CASM	CAS Medical Systems	17,992	0	10,400	1.73	2.08	39,450	39,450,000	0.0456	No
ALN	American Lorain Corporation	17,040	0	21,300	0.8	1.0521	36,690	36,690,000	0.0464	No
GLBZ	Glen Burnie Bancorp	16,003	0	1,300	12.31	12.1	33,550	33,550,000	0.0477	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
ERIC	Telefonaktiebolaget LM Ericsson	22,423,681	0.03	1,862,432	12.04	13.48	43,910,000	43,910,000,000	0.0511	No
CFX	Colfax Corporation	3,722,858	0.01	58,600	63.53	68.24	7,060,000	7,060,000,000	0.0527	No
CNA	CNA Financial Corporation	6,111,908	0.01	143,069	42.72	42.33	11,530,000	11,530,000,000	0.0530	No
BRKR	Bruker Corporation	1,996,566	0	101,400	19.69	22	3,760,000	3,760,000,000	0.0531	No
FAC	First Acceptance Corporation	53,872	0	25,900	2.08	2.41	100,360	100,360,000	0.0537	No
BNCL	Beneficial Mutual Bancorp	582,099	0	52,300	11.13	13.25	1,010,000	1,010,000,000	0.0576	No
CMCSK	Comcast Corporation	73,532,052	0.11	1,482,800	49.59	48.64	126,160,000	126,160,000,000	0.0583	No
CNET	Chinanet Online Holdings	21,945	0	28,500	0.77	1.68	37,140	37,140,000	0.0591	No
CBAN	Colony Bank	30,997	0	5,149	6.02	6.098	52,320	52,320,000	0.0592	No
GPOR	Gulfport Energy Corporation	3,708,007	0.01	61,646	60.15	72.84	6,210,000	6,210,000,000	0.0597	No
JKS	JinkoSolar Holding	497,024	0	17,600	28.24	28.87	807,550	807,550,000	0.0615	No
FORR	Forrester Research	434,958	0	11,062	39.32	35.99	705,270	705,270,000	0.0617	No
FBSS	Fauquier Bankshares	36,010	0	2,600	13.85	15.37	57,550	57,550,000	0.0626	No
ATI	Allegheny Technologies Incorporated	2,776,968	0	79,274	35.03	38.5801	4,310,000	4,310,000,000	0.0644	No
BOCH	Bank of Commerce Holdings	60,033	0	10,262	5.85	6.47	92,320	92,320,000	0.0650	No
GENC	Gencor Industries	64,020	0	6,600	9.7	10.2	96,690	96,690,000	0.0662	No
DRRX	DURECT Corporation	106,240	0	64,000	1.66	1.3801	151,240	151,240,000	0.0702	No
BKJ	Bancorp of New Jersey	51,012	0	3,900	13.08	13.31	71,580	71,580,000	0.0713	No
CPRX	Catalyst Pharmaceutical Partners	90,930	0	41,332	2.2	2.28	123,990	123,990,000	0.0733	No
DSWL	Deswell Industries	27,037	0	11,408	2.37	2.16	34,850	34,850,000	0.0776	No
BKSC	Bank of SC Corporation	53,006	0	3,400	15.59	15.19	67,720	67,720,000	0.0783	No
BKD	Brookdale Senior Living	3,178,105	0	117,230	27.11	32.8	4,060,000	4,060,000,000	0.0783	No
ESCA	Escalade	163,944	0	13,800	11.88	14.94	207,540	207,540,000	0.0790	No
ELON	Echelon Corporation	96,140	0	46,000	2.09	2.78	120,100	120,100,000	0.0800	No
AVX	AVX Corporation	1,812,216	0	128,800	14.07	13.33	2,260,000	2,260,000,000	0.0802	No
CACC	Credit Acceptance	2,580,013	0	19,997	129.02	138.12	3,210,000	3,210,000,000	0.0804	No
CDTI	Clean Diesel Technologies	24,965	0	16,533	1.51	3	31,060	31,060,000	0.0804	No
GDOT	Green Dot Corporation	619,091	0	25,300	24.47	19.8	760,850	760,850,000	0.0814	No
CVCY	Central Valley Community Bancorp	107,016	0	9,800	10.92	12	131,490	131,490,000	0.0814	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
CCO	Clear Channel Outdoor Holdings	2,525,523	0	248,820	10.15	8.69	3,100,000	3,100,000,000	0.0815	No
FCEL	FuelCell Energy	507,688	0	373,300	1.36	2.41	622,110	622,110,000	0.0816	No
CMLS	Cumulus Media	1,265,649	0	165,878	7.63	7.09	1,540,000	1,540,000,000	0.0822	No
CMT	Core Molding Technologies	75,977	0	5,945	12.78	12.2	91,090	91,090,000	0.0834	No
COWN	Cowen	388,846	0	97,700	3.98	3.925	466,190	466,190,000	0.0834	No
BPZ	BPZ Resources	282,752	0	150,400	1.88	2.83	334,180	334,180,000	0.0846	No
CLR	Continental Resources	20,351,603	0.03	181,403	112.19	128.28	23,970,000	23,970,000,000	0.0849	No
AHGP	Alliance Holdings GP	3,232,848	0	56,400	57.32	63.09	3,770,000	3,770,000,000	0.0858	No
CJJD	China Jo Jo Drugstores	26,956	0	29,300	0.92	2.2	31,190	31,190,000	0.0864	No
BVX	Bovie Medical Corporation	58,045	0	28,177	2.06	3.72	66,490	66,490,000	0.0873	No
BSBR	Banco Santander	19,157,055	0.03	3,208,887	5.97	5.6001	21,710,000	21,710,000,000	0.0882	No
CNQR	Concur Technologies	4,819,997	0.01	48,345	99.7	93.02	5,420,000	5,420,000,000	0.0889	No
ATHX	Athersys	210,938	0	85,400	2.47	3.07	232,960	232,960,000	0.0905	No
EMCI	EMC Insurance	418,968	0	13,200	31.74	34.88	462,690	462,690,000	0.0906	No
GAME	Shanda Games	1,610,648	0	364,400	4.42	6.52	1,770,000	1,770,000,000	0.0910	No
ALU	Alcatel-Lucent	9,859,560	0.01	2,271,788	4.34	3.89	10,720,000	10,720,000,000	0.0920	No
KAR	KAR Auction Services	3,854,576	0.01	133,100	28.96	29.805	4,190,000	4,190,000,000	0.0920	No
CHLN	China Housing & Land Development	76,043	0	34,100	2.23	2.42	82,540	82,540,000	0.0921	No
FCLF	First Clover Leaf Financial	61,008	0	6,200	9.84	9.38	66,080	66,080,000	0.0923	No
BRT	BRT Realty Trust	94,978	0	13,549	7.01	7.12	102,120	102,120,000	0.0930	No
ENZ	Enzo Biochem	165,129	0	56,941	2.9	4.06	176,280	176,280,000	0.0937	No
CENT	Central Garden & Pet	388,220	0	59,000	6.58	8.46	414,300	414,300,000	0.0937	No
CPGI	China Shengda Packaging	38,193	0	43,900	0.87	1.01	39,950	39,950,000	0.0956	No
CSGS	CSG Systems International	823,887	0	27,900	29.53	26.6	859,510	859,510,000	0.0959	No
IDIX	Idenix Pharmaceuticals	882,882	0	127,400	6.93	5.92	916,880	916,880,000	0.0963	No
CVI	CVR Energy	3,615,360	0.01	84,000	43.04	41.7518	3,740,000	3,740,000,000	0.0967	No
INO	Inovio Pharmaceuticals	727,056	0	244,800	2.97	2.9299	747,600	747,600,000	0.0973	No
ACAS	American Capital	3,971,149	0.01	256,700	15.47	14.98	4,070,000	4,070,000,000	0.0976	No
GLF	GulfMark Offshore	1,176,878	0	25,088	46.91	43.979	1,180,000	1,180,000,000	0.0997	No
ELSE	Electro-Sensors	13,987	0	3,550	3.94	3.941	13,580	13,580,000	0.1030	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
CBU	Community Bank System	1,638,989	0	40,700	40.27	38.7	1,570,000	1,570,000,000	0.1044	No
ALJ	Alon USA Energy	1,068,837	0	66,100	16.17	14.37	1,020,000	1,020,000,000	0.1048	No
CUR	Neuralstem	417,276	0	155,700	2.68	4.32	394,880	394,880,000	0.1057	No
DMLP	Dorchester Minerals	871,015	0	34,346	25.36	26.4	814,920	814,920,000	0.1069	No
ESBK	Elmira Savings Bank	68,993	0	2,670	25.84	23.181	64,310	64,310,000	0.1073	No
BOKF	BOK Financial Corporation	4,994,259	0.01	75,866	65.83	67.44	4,650,000	4,650,000,000	0.1074	No
ARX	Aeroflex Holding	743,862	0	119,400	6.23	8.07	691,040	691,040,000	0.1076	No
CSFL	CenterState Banks	412,086	0	39,700	10.38	10.84	382,730	382,730,000	0.1077	No
CBPO	China Biologic Products	938,925	0	32,500	28.89	36.9	862,480	862,480,000	0.1089	No
CORT	Corcept Therapeutics Incorporated	469,710	0	153,500	3.06	4.21	429,470	429,470,000	0.1094	No
HLS	HEALTHSOUTH	3,405,375	0	100,900	33.75	35.04	3,100,000	3,100,000,000	0.1099	No
HEOP	Heritage Oaks Bancorp	223,882	0	29,497	7.59	8.21	203,630	203,630,000	0.1099	No
GRIF	Griffin Land & Nurseries	164,003	0	4,900	33.47	28.41	149,080	149,080,000	0.1100	No
CNS	Cohen & Steers	1,982,880	0	48,000	41.31	39.66	1,800,000	1,800,000,000	0.1102	No
DX	Dynex Capital	534,240	0	63,600	8.4	8.7	477,530	477,530,000	0.1119	No
CLDT	Chatham Lodging Trust	610,944	0	29,600	20.64	20.71	543,390	543,390,000	0.1124	No
AMAP	AutoNavi Holdings	1,253,616	0	86,100	14.56	20.22	1,100,000	1,100,000,000	0.1140	No
ACUR	Acura Pharmaceuticals	77,983	0	45,339	1.72	1.36	67,280	67,280,000	0.1159	No
CLNY	Colony Financial	1,930,775	0	93,500	20.65	21.485	1,660,000	1,660,000,000	0.1163	No
DPW	Digital Power Corporation	11,032	0	19,700	0.56	1.37	9,460	9,460,000	0.1166	No
ENTG	Entegris	1,964,817	0	171,900	11.43	11.9	1,660,000	1,660,000,000	0.1184	No
CIB	Bancolombia S.A.	14,089,645	0.02	291,530	48.33	56.52	11,860,000	11,860,000,000	0.1188	No
CSII	Cardiovascular Systems	1,024,961	0	31,050	33.01	28.01	861,030	861,030,000	0.1190	No
AMRS	Amyris	362,153	0	80,300	4.51	4.01	304,140	304,140,000	0.1191	No
ENMD	EntreMed	61,098	0	39,418	1.55	1.95	50,560	50,560,000	0.1208	No
CRVL	CorVel Corporation	1,331,940	0	28,100	47.4	51.86	1,100,000	1,100,000,000	0.1211	No
BLT	Blount International	707,948	0	49,300	14.36	11.62	582,910	582,910,000	0.1215	No
JVA	Coffee Holding	64,050	0	12,200	5.25	8.1	51,550	51,550,000	0.1242	No
EQY	Equity One	3,344,803	0	149,455	22.38	22.3496	2,670,000	2,670,000,000	0.1253	No
CXO	Concho Resources	16,845,380	0.02	158,500	106.28	124.29	13,170,000	13,170,000,000	0.1279	No
ATNI	Atlantic Tele-Network	1,285,940	0	22,600	56.9	63.98	997,890	997,890,000	0.1289	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
CHTP	Chelsea Therapeutics International	560,070	0	127,000	4.41	5.3683	431,380	431,380,000	0.1298	No
AP	Ampco-Pittsburgh	274,989	0	14,300	19.23	20.28	210,990	210,990,000	0.1303	No
DMRC	Digimarc Corporation	299,052	0	15,600	19.17	31	223,890	223,890,000	0.1336	No
AN	AutoNation	8,588,753	0.01	169,370	50.71	52.25	6,430,000	6,430,000,000	0.1336	No
GBX	Greenbrier Companies	1,716,100	0	52,400	32.75	44.49	1,280,000	1,280,000,000	0.1341	No
CYTX	Cytori Therapeutics	261,888	0	99,200	2.64	2.52	194,660	194,660,000	0.1345	No
FCCY	1st Constitution Bancorp	82,000	0	7,714	10.63	10.15	60,780	60,780,000	0.1349	No
ENV	Envestnet	1,768,213	0	45,050	39.25	37.71	1,300,000	1,300,000,000	0.1360	No
DIOD	Diodes Incorporated	1,744,960	0	76,000	22.96	27.21	1,280,000	1,280,000,000	0.1363	No
CUZ	Cousins Properties	3,000,752	0	292,471	10.26	11.58	2,200,000	2,200,000,000	0.1364	No
IL	IntraLinks Holdings	752,085	0	61,900	12.15	9.84	546,910	546,910,000	0.1375	No
AWRE	Aware	179,982	0	29,700	6.06	5.8	130,310	130,310,000	0.1381	No
ALNY	Alnylam Pharmaceuticals	5,846,596	0.01	87,380	66.91	64.17	4,220,000	4,220,000,000	0.1385	No
CHH	Choice Hotels International	3,642,280	0.01	74,000	49.22	44.925	2,620,000	2,620,000,000	0.1390	No
BBNK	Bridge Capital Holdings	476,064	0	23,200	20.52	23.34	341,480	341,480,000	0.1394	No
DISH	DISH Network	38,727,113	0.06	672,229	57.61	60.47	27,740,000	27,740,000,000	0.1396	No
ACC	American Campus Communities	5,542,871	0.01	170,918	32.43	37.67	3,970,000	3,970,000,000	0.1396	No
AEY	ADDvantage Technologies	45,012	0	18,600	2.42	3.28	31,890	31,890,000	0.1411	No
HPP	Hudson Pacific Properties	1,824,901	0	82,018	22.25	22.75	1,290,000	1,290,000,000	0.1415	No
ACTG	Acacia Research Corporation	1,238,952	0	85,800	14.44	17.19	872,530	872,530,000	0.1420	No
FFKY	First Financial Service	25,005	0	4,781	5.23	3.47	17,530	17,530,000	0.1426	No
CPST	Capstone Turbine Corporation	973,438	0	797,900	1.22	2.18	680,730	680,730,000	0.1430	No
IPAR	Inter Parfums	1,558,986	0	42,900	36.34	35.1	1,090,000	1,090,000,000	0.1430	No
BJRI	BJ's Restaurants	1,363,950	0	43,300	31.5	32.67	936,820	936,820,000	0.1456	No
BLDR	Builders FirstSource	1,266,823	0	173,300	7.31	8.61	850,350	850,350,000	0.1490	No
KNX	Knight Transportation	2,823,333	0	153,609	18.38	23.01	1,890,000	1,890,000,000	0.1494	No
CSCD	Cascade Microtech	243,968	0	25,600	9.53	9.865	161,440	161,440,000	0.1511	No
COLM	Columbia Sportswear Company	4,290,243	0.01	54,300	79.01	82.02	2,830,000	2,830,000,000	0.1516	No
ARLP	Alliance Resource Partners	4,787,872	0.01	62,800	76.24	85.7165	3,140,000	3,140,000,000	0.1525	No
CVBF	CVB Financial	2,440,511	0	141,070	17.3	15.17	1,600,000	1,600,000,000	0.1525	No

(continued)

Table E1.   Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
ACOR	Acorda Therapeutics	2,365,990	0	78,500	30.14	37.03	1,550,000	1,550,000,000	0.1526	No
GROW	U.S. Global Investors	82,000	0	32,800	2.5	3.52	53,510	53,510,000	0.1532	No
BDMS	Birner Dental Mgmt. Services	51,011	0	2,900	17.59	17.58	33,020	33,020,000	0.1545	No
ASRV	AmeriServ Financial	110,007	0	35,833	3.07	3.84	71,000	71,000,000	0.1549	No
AVAV	AeroVironment	1,286,973	0	45,300	28.41	36.56	830,560	830,560,000	0.1550	No
FLML	Flamel Technologies S.A.	576,950	0	70,274	8.21	13.45	372,220	372,220,000	0.1550	No
EDUC	Educational Development Corporation	23,023	0	7,700	2.99	3.61	14,660	14,660,000	0.1570	No
BAH	Booz Allen Hamilton Holding Corporation	5,051,820	0.01	267,717	18.87	22.05	3,210,000	3,210,000,000	0.1574	No
ATEC	Alphatec Holdings	225,540	0	107,400	2.1	1.47	142,280	142,280,000	0.1585	No
EXLP	Exterran Partners	2,352,705	0	77,724	30.27	29.9997	1,480,000	1,480,000,000	0.1590	No
EXEL	Exelixis	1,170,890	0	194,500	6.02	3.7601	735,640	735,640,000	0.1592	No
COKE	Coca-Cola Bottling Co. Consolidated	1,213,034	0	16,815	72.14	81.8	759,520	759,520,000	0.1597	No
CIR	CIRCOR International	2,110,976	0	25,600	82.46	74.3	1,320,000	1,320,000,000	0.1599	No
ARAY	Accuray Incorporated	1,072,767	0	125,177	8.57	8.57	665,390	665,390,000	0.1612	No
BELFB	Bel Fuse	432,000	0	20,000	21.6	23.17	267,610	267,610,000	0.1614	No
ACTS	Actions Semiconductor	267,604	0	89,800	2.98	2.38	164,860	164,860,000	0.1623	No
ALGT	Allegiant Travel Company	3,518,041	0.01	32,647	107.76	114.5	2,150,000	2,150,000,000	0.1636	No
FRS	Frisch's Restaurants	195,989	0	7,629	25.69	22.5801	119,770	119,770,000	0.1636	No
ALCO	Ali	451,024	0	11,200	40.27	37.67	275,620	275,620,000	0.1636	No
APU	AmeriGas Partners	6,683,361	0.01	150,900	44.29	44.097	4,070,000	4,070,000,000	0.1642	No
BDSI	BioDelivery Sciences International	620,680	0	105,200	5.9	7.93	377,700	377,700,000	0.1643	No
BSDM	BSD Medical Corporation	72,168	0	59,643	1.21	1.34	43,840	43,840,000	0.1646	No
BKEP	Blueknight Energy Partners	347,140	0	39,764	8.73	9.22	209,530	209,530,000	0.1657	No
BDGE	Bridge Bancorp	472,030	0	18,204	25.93	25.59	283,750	283,750,000	0.1664	No
CRDC	Cardica	84,300	0	84,300	1	0.9879	50,560	50,560,000	0.1667	No
EFII	Electronics For Imaging	3,288,802	0	84,960	38.71	41.5	1,970,000	1,970,000,000	0.1669	No
COBK	Colonial Financial Services	72,004	0	5,543	12.99	11.45	43,070	43,070,000	0.1672	No
BXC	BlueLinx Holdings	196,512	0	110,400	1.78	1.33	116,540	116,540,000	0.1686	No

(continued)

Table E1. **Analysis of CalPERS' Portfolio Holdings (continued)**

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
ANH	Anworth Mortgage Asset Corporation	1,206,165	0	286,500	4.21	5.17	709,340	709,340,000	0.1700	No
ETP	Energy Transfer Partners	31,153,500	0.05	575,000	54.18	54.67	18,310,000	18,310,000,000	0.1701	No
EXLS	ExlService Holdings	1,670,836	0	61,700	27.08	30.12	978,790	978,790,000	0.1707	No
AMRN	Amarin Corporation	509,949	0	272,700	1.87	1.74	298,720	298,720,000	0.1707	No
EPB	El Paso Pipeline Partners	11,823,188	0.02	335,600	35.23	31.58	6,910,000	6,910,000,000	0.1711	No
EBS	Emergent BioSolutions	1,543,284	0	65,200	23.67	24.73	897,950	897,950,000	0.1719	No
ESC	Emeritus Corporation	2,514,097	0	119,605	21.02	30.55	1,440,000	1,440,000,000	0.1746	No
CASH	Meta Financial	462,014	0	11,310	40.85	43.15	263,460	263,460,000	0.1754	No
BGS	B&G Foods	3,036,995	0	88,905	34.16	32.42	1,730,000	1,730,000,000	0.1755	No
DMND	Diamond Foods	1,810,000	0	72,400	25	33.12	1,030,000	1,030,000,000	0.1757	No
CBST	Cubist Pharmaceuticals	9,170,780	0.01	137,000	66.94	68.73	5,200,000	5,200,000,000	0.1764	No
HOMB	Home BancShares	3,936,535	0.01	101,588	38.75	34.11	2,230,000	2,230,000,000	0.1765	No
CDZI	Cadiz	192,943	0	28,208	6.84	6.76	109,160	109,160,000	0.1768	No
ELS	Equity Lifestyle Properties	6,013,696	0.01	167,326	35.94	40.8855	3,400,000	3,400,000,000	0.1769	No
AI	Arlington Asset Investment	763,902	0	27,900	27.38	25.7	429,800	429,800,000	0.1777	No
CHDX	Chindex International	617,945	0	36,500	16.93	19.5	346,550	346,550,000	0.1783	No
EJ	E-House	2,846,831	0	198,940	14.31	11.27	1,580,000	1,580,000,000	0.1802	No
HTS	Hatteras Financial	3,384,440	0	200,500	16.88	19.24	1,870,000	1,870,000,000	0.1810	No
CHTR	Charter Communications	23,799,108	0.03	180,078	132.16	122.2	13,070,000	13,070,000,000	0.1821	No
LBY	Libbey	1,040,920	0	49,100	21.2	26.05	571,320	571,320,000	0.1822	No
AB	AllianceBernstein Holding	4,446,360	0.01	207,000	21.48	25.2	2,440,000	2,440,000,000	0.1822	No
CCL	Carnival Corporation	54,303,524	0.08	1,373,382	39.54	37.86	29,680,000	29,680,000,000	0.1830	No
FIG	Fortress Investment	2,466,700	0	290,200	8.5	7.165	1,340,000	1,340,000,000	0.1841	No
BKE	Buckle	4,051,700	0.01	77,500	52.28	45.42	2,200,000	2,200,000,000	0.1842	No
AWR	American States Water Company	2,265,900	0	78,000	29.05	31.8757	1,230,000	1,230,000,000	0.1842	No
BRS	Bristow	4,881,850	0.01	64,832	75.3	73.32	2,650,000	2,650,000,000	0.1842	No
ARCI	Appliance Recycling Centers of America	27,999	0	9,790	2.86	2.72	15,180	15,180,000	0.1844	No
CHKE	Cherokee	212,040	0	15,500	13.68	13.72	114,950	114,950,000	0.1845	No
BWINB	Baldwin & Lyons	724,028	0	26,176	27.66	25.86	390,940	390,940,000	0.1852	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
ATRC	AtriCure	842,850	0	45,000	18.73	16.4	454,270	454,270,000	0.1855	No
AMTD	TD Ameritrade Holding	31,697,214	0.05	1,048,882	30.22	30.46	17,040,000	17,040,000,000	0.1860	No
ASCMA	Ascent Media Corporation	1,907,064	0	21,600	88.29	74.13	1,020,000	1,020,000,000	0.1870	No
BWP	Boardwalk Pipeline Partners	6,561,042	0.01	257,700	25.46	14.16	3,500,000	3,500,000,000	0.1875	No
ARR	ARMOUR Residential REIT	2,873,625	0	727,500	3.95	4.24	1,530,000	1,530,000,000	0.1878	No
CRM	salesforce.com	65,431,497	0.09	1,192,917	54.85	55.92	34,790,000	34,790,000,000	0.1881	No
ANV	Allied Nevada Gold	821,100	0	241,500	3.4	4.04	435,940	435,940,000	0.1884	No
KERX	Keryx Biopharmaceuticals	2,656,086	0	202,600	13.11	15.48	1,410,000	1,410,000,000	0.1884	No
BLKB	Blackbaud	2,695,680	0	72,000	37.44	31.84	1,430,000	1,430,000,000	0.1885	No
CLF	Cliffs Natural Resources	6,053,470	0.01	242,042	25.01	20.36	3,190,000	3,190,000,000	0.1898	No
BCRX	BioCryst Pharmaceuticals	1,092,420	0	144,500	7.56	9.66	575,430	575,430,000	0.1898	No
BX	Blackstone	34,395,074	0.05	1,101,700	31.22	31.02	18,110,000	18,110,000,000	0.1899	No
ACY	AeroCentury	51,990	0	3,000	17.33	17.69	27,300	27,300,000	0.1904	No
ENZN	Enzon Pharmaceuticals	75,699	0	64,700	1.17	0.91	39,690	39,690,000	0.1907	No
CCF	Chase Corporation	558,025	0	16,250	34.34	31.1	292,470	292,470,000	0.1908	No
CVU	CPI Aerostructures	211,002	0	13,900	15.18	13.14	110,420	110,420,000	0.1911	No
ARIA	Ariad Pharmaceuticals	2,700,600	0	385,800	7	7.43	1,410,000	1,410,000,000	0.1915	No
BMR	BioMed Realty Trust	7,416,789	0.01	401,994	18.45	20.28	3,870,000	3,870,000,000	0.1916	No
BBEP	BreitBurn Energy Partners	4,571,713	0.01	228,700	19.99	20.0299	2,380,000	2,380,000,000	0.1921	No
AVNR	AVANIR Pharmaceuticals	1,114,323	0	338,700	3.29	3.7	579,490	579,490,000	0.1923	No
ARTC	ArthroCare Corporation	2,674,004	0	66,800	40.03	48.1985	1,380,000	1,380,000,000	0.1938	No
ARTNA	Artesian Resources Corporation	381,956	0	16,400	23.29	22.1772	197,090	197,090,000	0.1938	No
EEP	Enbridge Energy Partners	18,120,789	0.03	605,439	29.93	28.92	9,350,000	9,350,000,000	0.1938	No
DBD	Diebold Incorporated	4,926,336	0.01	152,802	32.24	39.35	2,540,000	2,540,000,000	0.1940	No
IPI	Intrepid Potash	2,173,392	0	140,400	15.48	14.59	1,120,000	1,120,000,000	0.1941	No
CPB	Campbell Soup Company	27,460,252	0.04	641,295	42.82	44.86	14,120,000	14,120,000,000	0.1945	No
BORN	China New Borun	143,220	0	66,000	2.17	2.88	73,590	73,590,000	0.1946	No
DCT	DCT Industrial Trust	4,935,050	0.01	693,125	7.12	7.7299	2,530,000	2,530,000,000	0.1951	No
ABFS	Arkansas Best Corporation	1,873,869	0	54,002	34.7	35.964	960,220	960,220,000	0.1952	No
AMRB	American River Bankshares	154,072	0	16,747	9.2	9.15	78,890	78,890,000	0.1953	No
CCNE	CNB Financial Corporation	502,128	0	26,400	19.02	18.34	256,850	256,850,000	0.1955	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
BDN	Brandywine Realty Trust	4,322,421	0.01	309,851	13.95	14.1	2,210,000	2,210,000,000	0.1956	No
APL	Atlas Pipeline Partners	5,210,568	0.01	149,600	34.83	32.7499	2,660,000	2,660,000,000	0.1959	No
BAS	Basic Energy Services	2,175,753	0	140,100	15.53	26.7	1,110,000	1,110,000,000	0.1960	No
HFWA	Heritage Financial Corporation	524,970	0	30,700	17.1	16.62	267,800	267,800,000	0.1960	No
GAIA	Gaiam	332,013	0	50,305	6.6	7	169,210	169,210,000	0.1962	No
DIN	DineEquity	2,866,923	0	33,900	84.57	75.998	1,460,000	1,460,000,000	0.1964	No
DLB	Dolby Laboratories	8,734,960	0.01	227,000	38.48	43.39	4,440,000	4,440,000,000	0.1967	No
FRX	Forest Laboratories	48,190,925	0.07	814,724	59.15	89.36	24,480,000	24,480,000,000	0.1969	No
FUR	Winthrop Realty Trust	800,121	0	72,083	11.1	11.34	406,060	406,060,000	0.1970	No
CALX	Calix	853,294	0	88,700	9.62	8.39	430,920	430,920,000	0.1980	No
BNCN	BNC Bancorp	939,925	0	54,520	17.24	17.4199	474,620	474,620,000	0.1980	No
LSCC	Lattice Semiconductor	1,880,571	0	348,900	5.39	7.98	948,560	948,560,000	0.1983	No
EDAP	EDAP TMS S.A.	130,968	0	42,800	3.06	2.9555	65,540	65,540,000	0.1998	No
AWX	Avalon Holdings Corporation	38,036	0	7,400	5.14	5.0014	19,020	19,020,000	0.2000	No
AHC	A. H. Belo Corporation	508,280	0	66,879	7.6	11.4	253,800	253,800,000	0.2003	No
BRID	Bridgford Foods Corporation	182,052	0	18,672	9.75	9.94	90,640	90,640,000	0.2009	No
CNTY	Century Casinos	330,190	0	62,300	5.3	6.85	164,330	164,330,000	0.2009	No
EDR	Education Realty Trust	2,297,648	0	260,800	8.81	9.91	1,140,000	1,140,000,000	0.2015	No
CCC	Calgon Carbon Corporation	2,298,132	0	110,700	20.76	21.27	1,140,000	1,140,000,000	0.2016	No
CNBC	Center Bancorp	621,888	0	31,600	19.68	18.87	307,180	307,180,000	0.2025	No
EGAN	eGain Communications Corporation	363,012	0	35,800	10.14	6.99	179,220	179,220,000	0.2026	No
EQR	Equity Residential	44,200,556	0.06	853,952	51.76	59.87	21,760,000	21,760,000,000	0.2031	No
CBIN	Community Bank Shares of Indiana	149,975	0	7,586	19.77	21.87	73,680	73,680,000	0.2035	No
CIM	Chimera Investment Corporation	6,564,436	0.01	2,070,800	3.17	3.11	3,220,000	3,220,000,000	0.2039	No
APOG	Apogee Enterprises	1,887,187	0	52,700	35.81	31.29	924,930	924,930,000	0.2040	No
FR	First Industrial Realty Trust	4,307,320	0.01	247,832	17.38	19.17	2,110,000	2,110,000,000	0.2041	No
ETRM	EnteroMedics	224,475	0	109,500	2.05	1.695	109,840	109,840,000	0.2044	No
BZC	Breeze-Eastern Corporation	198,941	0	21,934	9.07	9.99	97,280	97,280,000	0.2045	No
JOEZ	Joe's Jeans	171,396	0	158,700	1.08	1.2011	83,210	83,210,000	0.2060	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
DSCI	Derma Sciences	561,865	0	51,500	10.91	10.9325	272,670	272,670,000	0.2061	No
ATMI	ATMI	2,247,850	0	73,700	30.5	33.98	1,090,000	1,090,000,000	0.2062	No
DIT	AMCON Distributing	106,002	0	1,350	78.52	84	51,320	51,320,000	0.2066	No
ARQL	ArQule	264,235	0	122,900	2.15	2.0001	127,610	127,610,000	0.2071	No
CMP	Compass Minerals International	5,911,636	0.01	73,400	80.54	83.58	2,850,000	2,850,000,000	0.2074	No
ACO	AMCOL International Corporation	3,092,124	0	91,700	33.72	45.71	1,490,000	1,490,000,000	0.2075	No
ABM	ABM Industries	3,328,373	0	116,826	28.49	28.47	1,600,000	1,600,000,000	0.2080	No
HBNK	Hampden Bancorp	175,054	0	10,900	16.06	15.94	83,880	83,880,000	0.2087	No
CMN	Cantel Medical	2,942,634	0	84,900	34.66	33.95	1,410,000	1,410,000,000	0.2087	No
ESS	Essex Property Trust	13,730,922	0.02	94,507	145.29	169.71	6,540,000	6,540,000,000	0.2100	No
DNDN	Dendreon Corporation	939,392	0	286,400	3.28	2.88	444,730	444,730,000	0.2112	No
CDNS	Cadence Design Systems	9,177,843	0.01	666,510	13.77	14.87	4,340,000	4,340,000,000	0.2115	No
BFS	Saul Centers	2,045,933	0	42,219	48.46	47.25	965,000	965,000,000	0.2120	No
AKR	Acadia Realty Trust	3,187,864	0	125,903	25.32	26.66	1,500,000	1,500,000,000	0.2125	No
HURC	Hurco Companies	385,050	0	15,100	25.5	27.9	180,980	180,980,000	0.2128	No
DHI	D.R. Horton	15,212,747	0.02	711,874	21.37	21.55	7,150,000	7,150,000,000	0.2128	No
ESYS	Elecsys Corporation	100,008	0	7,200	13.89	11.9175	46,950	46,950,000	0.2130	No
FAST	Fastenal Company	32,290,177	0.05	685,130	47.13	51.25	15,110,000	15,110,000,000	0.2137	No
DKS	Dick's Sporting Goods	14,319,461	0.02	248,300	57.67	53.76	6,670,000	6,670,000,000	0.2147	No
BUSE	First Busey Corporation	1,086,624	0	184,800	5.88	5.77	506,110	506,110,000	0.2147	No
CLMT	Calumet Specialty Products Partners, L.P	3,929,400	0.01	148,000	26.55	26.06	1,830,000	1,830,000,000	0.2147	No
DGICA	Donegal	852,996	0	53,047	16.08	15.08	395,410	395,410,000	0.2157	No
CZNC	Citizens & Northern Corporation	519,068	0	25,100	20.68	19.35	239,750	239,750,000	0.2165	No
AEC	Associated Estates Realty Corporation	2,134,663	0	134,340	15.89	16.9	984,380	984,380,000	0.2169	No
LLTC	Linear Technology Corporation	25,001,548	0.04	551,667	45.32	48.61	11,520,000	11,520,000,000	0.2170	No
GEF	Greif	5,454,102	0.01	104,265	52.31	52.74	2,510,000	2,510,000,000	0.2173	No
CALM	Cal-Maine Foods	3,243,170	0	53,500	60.62	61.29	1,490,000	1,490,000,000	0.2177	No
BLK	BlackRock	113,365,359	0.16	359,445	315.39	304.29	51,910,000	51,910,000,000	0.2184	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
CIX	CompX International	269,985	0	20,500	13.17	9.71	123,410	123,410,000	0.2188	No
BIO	Bio-Rad Laboratories	7,931,871	0.01	64,039	123.86	124.49	3,620,000	3,620,000,000	0.2191	No
BPI	Bridgepoint Education	1,499,978	0	85,081	17.63	14.84	683,680	683,680,000	0.2194	No
BEE	Strategic Hotels & Resorts	4,608,714	0.01	488,729	9.43	10.11	2,100,000	2,100,000,000	0.2195	No
ACCL	Accelrys	1,527,940	0	158,500	9.64	12.48	696,140	696,140,000	0.2195	No
DORM	Dorman Products	4,665,054	0.01	84,146	55.44	57.52	2,120,000	2,120,000,000	0.2200	No
FEIC	FEI Company	9,128,113	0.01	101,525	89.91	96.49	4,140,000	4,140,000,000	0.2205	No
EROC	Eagle Rock Energy Partners, L.P.	1,731,348	0	278,800	6.21	5.0509	784,790	784,790,000	0.2206	No
ATVI	Activision Blizzard	31,387,766	0.05	1,736,049	18.08	19.82	14,170,000	14,170,000,000	0.2215	No
ESE	ESCO Technologies	2,058,985	0	59,750	34.46	34.76	928,580	928,580,000	0.2217	No
FLO	Flowers Foods	9,605,672	0.01	451,819	21.26	20.63	4,330,000	4,330,000,000	0.2218	No
EXP	Eagle Materials	9,887,100	0.01	131,828	75	86.64	4,450,000	4,450,000,000	0.2222	No
ABCB	Ameris Bancorp	1,273,783	0	59,467	21.42	23.234	571,770	571,770,000	0.2228	No
EBF	Ennis	960,823	0	53,888	17.83	16.43	430,890	430,890,000	0.2230	No
CIEN	Ciena Corporation	4,884,166	0.01	208,280	23.45	20.7	2,190,000	2,190,000,000	0.2230	No
DVA	DaVita	32,953,925	0.05	519,860	63.39	68.41	14,760,000	14,760,000,000	0.2233	No
CRR	CARBO Ceramics	6,980,844	0.01	61,300	113.88	134.0946	3,120,000	3,120,000,000	0.2237	No
CVLY	Codorus Valley Bancorp	225,000	0	11,335	19.85	20.86	100,480	100,480,000	0.2239	No
DHX	DICE HOLDINGS	873,180	0	118,800	7.35	7.23	389,550	389,550,000	0.2242	No
ARE	Alexandria Real Estate Equities	11,766,050	0.02	183,902	63.98	72.59	5,240,000	5,240,000,000	0.2245	No
CLNE	Clean Energy Fuels	1,787,219	0	139,300	12.83	8.81	795,230	795,230,000	0.2247	No
EPIQ	EPIQ Systems	1,121,686	0	69,800	16.07	13.87	497,700	497,700,000	0.2254	No
B	Barnes	4,698,908	0.01	122,495	38.36	37.88	2,070,000	2,070,000,000	0.2270	No
CVTI	Covenant Transportation	334,017	0	41,700	8.01	9.7	146,870	146,870,000	0.2274	No
GPIC	Gaming Partners International	156,047	0	19,100	8.17	8.56	68,550	68,550,000	0.2276	No
DGAS	Delta Natural Gas Company	302,016	0	13,200	22.88	19.06	132,560	132,560,000	0.2278	No
CNTF	China Techfaith Wireless Comm. Tech	219,360	0	137,100	1.6	1.76	96,260	96,260,000	0.2279	No
HAIN	Hain Celestial	10,301,911	0.01	114,593	89.9	89.72	4,500,000	4,500,000,000	0.2289	No
COBR	Cobra Electronics Corporation	51,015	0	17,900	2.85	3.33	22,180	22,180,000	0.2300	No
BSFT	BroadSoft	1,785,680	0	68,000	26.26	27.36	774,200	774,200,000	0.2306	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
ASFI	Asta Funding	252,042	0	30,330	8.31	8.43	109,240	109,240,000	0.2307	No
BMRN	BioMarin Pharmaceutical	21,699,976	0.03	311,200	69.73	64.26	9,390,000	9,390,000,000	0.2311	No
HILL	Dot Hill Systems	543,996	0	167,900	3.24	3.81	235,340	235,340,000	0.2312	No
CBL	CBL & Associates Properties	7,198,195	0.01	401,685	17.92	18.21	3,110,000	3,110,000,000	0.2315	No
CNC	Centene Corporation	8,033,520	0.01	139,762	57.48	59.655	3,470,000	3,470,000,000	0.2315	No
EXAC	Exactech	735,966	0	29,700	24.78	22.99	317,300	317,300,000	0.2319	No
ATRI	Atrion Corporation	1,319,017	0	4,459	295.81	275.35	568,420	568,420,000	0.2320	No
AVB	AvalonBay Communities	40,260,631	0.06	339,094	118.73	133.36	17,340,000	17,340,000,000	0.2322	No
CNL	Cleco Corporation	7,045,225	0.01	150,700	46.75	50.17	3,030,000	3,030,000,000	0.2325	No
CCG	Campus Crest Communities	1,301,636	0	142,100	9.16	8.6	558,750	558,750,000	0.2330	No
BBRG	Bravo Brio Restaurant	715,029	0	43,100	16.59	15.7804	306,730	306,730,000	0.2331	No
COOL	Majesco Entertainment	41,992	0	72,400	0.58	0.392	18,010	18,010,000	0.2332	No
DAR	Darling International	8,209,572	0.01	390,932	21	20.96	3,500,000	3,500,000,000	0.2346	No
CHD	Church & Dwight	22,168,901	0.03	334,423	66.29	69.02	9,450,000	9,450,000,000	0.2346	No
CDR	Cedar Shopping Centers	981,783	0	155,100	6.33	6.03	416,920	416,920,000	0.2355	No
BRKS	Brooks Automation	1,683,200	0	160,000	10.52	11.0565	712,320	712,320,000	0.2363	No
CCUR	Concurrent Computer Corporation	173,987	0	21,968	7.92	8.21	73,330	73,330,000	0.2373	No
BEN	Franklin Resources	80,244,182	0.12	1,403,361	57.18	52.82	33,740,000	33,740,000,000	0.2378	No
CYN	City National Corporation	9,963,328	0.01	126,358	78.85	77.02	4,170,000	4,170,000,000	0.2389	No
ATRO	Astronics Corporation	2,417,928	0	46,047	52.51	55.58	1,010,000	1,010,000,000	0.2394	No
AHT	Ashford Hospitality Trust	2,039,437	0	244,244	8.35	10.57	849,160	849,160,000	0.2402	No
ARUN	Aruba Networks	5,065,568	0.01	291,292	17.39	19.74	2,100,000	2,100,000,000	0.2412	No
ALR	Alere	7,073,950	0.01	199,154	35.52	35.2	2,930,000	2,930,000,000	0.2414	No
CBI	Chicago Bridge & Iron Company N.V.	22,385,987	0.03	272,900	82.03	85.18	9,270,000	9,270,000,000	0.2415	No
GWR	Genesee & Wyoming	12,353,174	0.02	128,318	96.27	95.02	5,110,000	5,110,000,000	0.2417	No
CLB	Core Laboratories N.V.	21,799,207	0.03	113,650	191.81	197.6075	9,010,000	9,010,000,000	0.2419	No
HWKN	Hawkins	962,962	0	25,900	37.18	36.82	395,380	395,380,000	0.2436	No
EMN	Eastman Chemical Company	32,137,315	0.05	406,956	78.97	84.78	13,160,000	13,160,000,000	0.2442	No
BXP	Boston Properties	43,736,784	0.06	420,546	104	116.515	17,870,000	17,870,000,000	0.2447	No
ATLO	Ames National Corporation	512,960	0	22,400	22.9	22.47	209,100	209,100,000	0.2453	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
BWA	BorgWarner	34,784,209	0.05	623,932	55.75	61.78	14,130,000	14,130,000,000	0.2462	No
GMCR	Green Mountain Coffee Roasters	38,119,087	0.06	502,824	75.81	102.74	15,420,000	15,420,000,000	0.2472	No
ADI	Analog Devices	41,840,711	0.06	824,610	50.74	53.99	16,910,000	16,910,000,000	0.2474	No
FFIV	F5 Networks	20,414,408	0.03	228,656	89.28	107.8899	8,250,000	8,250,000,000	0.2474	No
CVR	Chicago Rivet & Machine	95,990	0	2,900	33.1	40.16	38,790	38,790,000	0.2475	No
ACU	Acme United Corporation	134,013	0	9,300	14.41	17.07	54,030	54,030,000	0.2480	No
GSIT	GSI Technology	465,813	0	70,900	6.57	6.68	186,820	186,820,000	0.2493	No
GOOG	Google	946,072,925	1.37	846,628	1117.46	560.365	377,810,000	377,810,000,000	0.2504	No
CTRP	Ctrip.com International	18,942,942	0.03	376,300	50.34	53.61	7,560,000	7,560,000,000	0.2506	No
AUXL	Auxilium Pharmaceuticals	3,338,657	0	163,100	20.47	26.798	1,330,000	1,330,000,000	0.2510	No
BKH	Black Hills Corporation	6,455,992	0.01	123,253	52.38	57.65	2,570,000	2,570,000,000	0.2512	No
FTI	FMC Technologies	31,733,117	0.05	607,100	52.27	53.04	12,630,000	12,630,000,000	0.2513	No
AREX	Approach Resources	2,006,400	0	105,600	19	20.54	798,020	798,020,000	0.2514	No
CPRT	Copart	11,773,590	0.02	326,500	36.06	36.88	4,680,000	4,680,000,000	0.2516	No
EFX	Equifax	20,856,415	0.03	301,524	69.17	67.47	8,260,000	8,260,000,000	0.2525	No
AMCN	AirMedia	324,714	0	179,400	1.81	2.15	128,470	128,470,000	0.2528	No
ACAD	ACADIA Pharmaceuticals	5,018,040	0.01	197,250	25.44	21	1,980,000	1,980,000,000	0.2534	No
FSLR	First Solar	18,554,692	0.03	333,238	55.68	72.55	7,320,000	7,320,000,000	0.2535	No
CRVP	Crystal Rock Holdings	48,772	0	54,800	0.89	0.8898	19,180	19,180,000	0.2543	No
APC	Anadarko Petroleum Corporation	127,643,776	0.18	1,631,856	78.22	98.4	50,120,000	50,120,000,000	0.2547	No
EVOL	Evolving Systems	269,919	0	27,237	9.91	8.99	105,610	105,610,000	0.2556	No
CERN	Cerner Corporation	48,798,151	0.07	876,561	55.67	54.02	19,040,000	19,040,000,000	0.2563	No
ASEI	American Science & Engineering	1,352,990	0	19,000	71.21	67.61	526,900	526,900,000	0.2568	No
ALB	Albemarle Corporation	13,564,475	0.02	214,052	63.37	65.54	5,280,000	5,280,000,000	0.2569	No
GRC	Gorman-Rupp Company	2,065,192	0	62,468	33.06	30.51	803,870	803,870,000	0.2569	No
AIMC	Altra Holdings	2,445,066	0	72,900	33.54	34.94	949,020	949,020,000	0.2576	No
ASH	Ashland	19,685,708	0.03	203,828	96.58	97.35	7,640,000	7,640,000,000	0.2577	No
CVLT	CommVault Systems	8,666,533	0.01	116,470	74.41	68.27	3,340,000	3,340,000,000	0.2595	No
CTIB	CTI Industries	46,000	0	8,000	5.75	5.4499	17,700	17,700,000	0.2599	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
ACFN	Acorn Energy	185,928	0	48,800	3.81	3.19	71,450	71,450,000	0.2602	No
CLH	Clean Harbors	8,551,156	0.01	145,107	58.93	53.46	3,280,000	3,280,000,000	0.2607	No
ESSA	ESSA Bancorp	307,110	0	26,682	11.51	10.8	117,620	117,620,000	0.2611	No
FIX	Comfort Systems USA	1,515,080	0	77,300	19.6	15.38	579,310	579,310,000	0.2615	No
ITW	Illinois Tool Works	92,631,979	0.13	1,106,582	83.71	82.78	35,390,000	35,390,000,000	0.2617	No
CAT	Caterpillar	172,073,699	0.25	1,887,808	91.15	102.5837	65,730,000	65,730,000,000	0.2618	No
EOG	EOG Resources	141,589,950	0.21	842,697	168.02	99	53,960,000	53,960,000,000	0.2624	No
HCBK	Hudson City Bancorp	12,901,758	0.02	1,378,393	9.36	9.85	4,910,000	4,910,000,000	0.2628	No
ATW	Atwood Oceanics	8,003,628	0.01	152,741	52.4	47.45	3,040,000	3,040,000,000	0.2633	No
CREG	China Recycling Energy	574,483	0	150,783	3.81	3.7014	217,450	217,450,000	0.2642	No
API	Advanced Photonix	48,714	0	70,600	0.69	0.5876	18,420	18,420,000	0.2645	No
CFNL	Cardinal Financial Corporation	1,528,384	0	83,200	18.37	18.13	576,520	576,520,000	0.2651	No
DXR	Daxor Corporation	93,023	0	13,700	6.79	8.16	35,040	35,040,000	0.2655	No
ESMC	Escalon Medical	33,003	0	17,100	1.93	1.54	12,420	12,420,000	0.2657	No
CGI	Celadon	1,390,080	0	72,400	19.2	22.35	523,090	523,090,000	0.2657	No
CAP	CAI International	1,397,151	0	60,300	23.17	23.05	524,200	524,200,000	0.2665	No
FCVA	First Capital Bancorp	143,902	0	33,005	4.36	4.2601	53,920	53,920,000	0.2669	No
FDML	Federal-Mogul Corporation	7,357,623	0.01	372,161	19.77	18.24	2,750,000	2,750,000,000	0.2675	No
ARNA	Arena Pharmaceuticals	3,858,296	0.01	645,200	5.98	6.5327	1,440,000	1,440,000,000	0.2679	No
JAH	Jarden Corporation	20,395,957	0.03	335,019	60.88	56.6	7,610,000	7,610,000,000	0.2680	No
HRB	H&R Block	21,559,461	0.03	744,971	28.94	28.91	8,030,000	8,030,000,000	0.2685	No
DHR	Danaher Corporation	141,976,167	0.21	1,845,764	76.92	74.81	52,860,000	52,860,000,000	0.2686	No
CCI	Crown Castle International	66,708,181	0.1	919,352	72.56	74.45	24,700,000	24,700,000,000	0.2701	No
IDT	IDT Corporation	1,042,840	0	58,000	17.98	16.17	385,930	385,930,000	0.2702	No
CBRL	Cracker Barrel Old Country Store	6,245,031	0.01	55,824	111.87	96.46	2,310,000	2,310,000,000	0.2703	No
AGN	Allergan	97,140,610	0.14	883,900	109.9	118.88	35,850,000	35,850,000,000	0.2710	No
EVR	Evercore Partners	5,024,085	0.01	83,029	60.51	52.99	1,850,000	1,850,000,000	0.2716	No
HTLD	Heartland Express	5,275,700	0.01	272,646	19.35	21.69	1,940,000	1,940,000,000	0.2719	No
CMCSA	Comcast Corporation	351,556,420	0.51	6,825,013	51.51	49.605	129,260,000	129,260,000,000	0.2720	No
COLB	Columbia Banking System	3,891,319	0.01	138,039	28.19	28.02	1,430,000	1,430,000,000	0.2721	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
CNSL	Consolidated Communications Holdings	2,201,232	0	111,965	19.66	20.0904	808,110	808,110,000	0.2724	No
BGFV	Big 5 Sporting Goods Corporation	939,242	0	50,200	18.71	16.12	344,710	344,710,000	0.2725	No
BHB	Bar Harbor Bankshares	401,000	0	10,000	40.1	37.58	146,920	146,920,000	0.2729	No
CWBC	Community West Bancshares	154,088	0	24,654	6.25	6.73	56,440	56,440,000	0.2730	No
DD	E.I. du Pont de Nemours & Company	171,471,428	0.25	2,668,816	64.25	67.06	62,770,000	62,770,000,000	0.2732	No
ANDE	Andersons	4,513,959	0.01	48,900	92.31	57.738	1,650,000	1,650,000,000	0.2736	No
CBM	Cambrex Corporation	1,682,406	0	95,700	17.58	19.59	613,970	613,970,000	0.2740	No
CCOI	Cogent Communications	4,358,144	0.01	106,400	40.96	34.33	1,590,000	1,590,000,000	0.2741	No
BR	Broadridge Financial Solutions	12,232,069	0.02	307,725	39.75	36.88	4,450,000	4,450,000,000	0.2749	No
EGHT	8x8	2,638,012	0	252,200	10.46	10.91	959,580	959,580,000	0.2749	No
EW	Edwards Lifesciences	22,142,100	0.03	338,616	65.39	74.285	8,050,000	8,050,000,000	0.2751	No
CFR	Cullen/Frost Bankers	13,094,243	0.02	177,021	73.97	78.36	4,760,000	4,760,000,000	0.2751	No
FCH	FelCor Lodging Trust Incorporated	3,169,125	0	405,259	7.82	9.13	1,150,000	1,150,000,000	0.2756	No
DIS	Walt Disney Company	388,001,166	0.56	5,199,694	74.62	79.87	140,740,000	140,740,000,000	0.2757	No
CERS	Cerus Corporation	943,803	0	149,100	6.33	4.68	341,990	341,990,000	0.2760	No
EBAY	eBay	198,908,959	0.29	3,679,411	54.06	55.51	72,070,000	72,070,000,000	0.2760	No
CKX	CKX Lands	80,008	0	5,395	14.83	14.9	28,940	28,940,000	0.2765	No
BLL	Ball Corporation	21,470,350	0.03	416,900	51.5	54.81	7,760,000	7,760,000,000	0.2767	No
DE	Deere & Company	95,791,267	0.14	1,051,265	91.12	92.54	34,600,000	34,600,000,000	0.2769	No
CTB	Cooper Tire & Rubber Company	4,429,718	0.01	197,227	22.46	23.95	1,600,000	1,600,000,000	0.2769	No
BRCM	Broadcom Corporation	50,106,116	0.07	1,717,139	29.18	30.875	18,090,000	18,090,000,000	0.2770	No
CASS	Cass Information Systems	1,641,988	0	24,351	67.43	50.82	592,710	592,710,000	0.2770	No
ARRY	Array BioPharma	1,533,105	0	325,500	4.71	4.3201	553,260	553,260,000	0.2771	No
INAP	InterNAP Network Services	1,018,726	0	138,226	7.37	6.98	367,460	367,460,000	0.2772	No
COHR	Coherent	4,547,284	0.01	61,400	74.06	65.26	1,640,000	1,640,000,000	0.2773	No
DVN	Devon Energy Corporation	77,229,460	0.11	1,263,571	61.12	67.91	27,840,000	27,840,000,000	0.2774	No
BCR	C.R. Bard	30,769,963	0.04	230,073	133.74	140.64	11,090,000	11,090,000,000	0.2775	No
AAP	Advance Auto Parts	24,444,850	0.04	221,883	110.17	120.04	8,810,000	8,810,000,000	0.2775	No

(continued)

Table E1.   Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
CF	CF Industries Holdings	39,642,397	0.06	170,395	232.65	254.46	14,280,000	14,280,000,000	0.2776	No
FFIN	First Financial Bankshares	5,317,345	0.01	79,900	66.55	60.4	1,910,000	1,910,000,000	0.2784	No
AGX	Argan	1,109,898	0	41,476	26.76	27.29	398,080	398,080,000	0.2788	No
AAME	Atlantic American Corporation	213,161	0	53,025	4.02	3.59	76,260	76,260,000	0.2795	No
CVA	Covanta Holding Corporation	6,493,374	0.01	371,900	17.46	17.81	2,320,000	2,320,000,000	0.2799	No
GVA	Granite Construction	4,144,409	0.01	119,746	34.61	37.75	1,480,000	1,480,000,000	0.2800	No
AMZN	Amazon	424,235,035	0.61	1,049,074	404.39	322.8133	151,440,000	151,440,000,000	0.2801	No
EMAN	eMagin Corporation	169,803	0	62,890	2.7	2.51	60,600	60,600,000	0.2802	No
CPHD	Cepheid	9,809,021	0.01	210,856	46.52	48.9	3,500,000	3,500,000,000	0.2803	No
CENX	Century Aluminum Company	3,419,577	0	342,300	9.99	13.12	1,220,000	1,220,000,000	0.2803	No
ATHN	athenahealth	16,011,020	0.02	119,637	133.83	148.44	5,710,000	5,710,000,000	0.2804	No
ARKR	Ark Restaurants	200,962	0	8,900	22.58	22.09	71,650	71,650,000	0.2805	No
ANF	Abercrombie & Fitch	7,717,974	0.01	229,770	33.59	36.43	2,750,000	2,750,000,000	0.2807	No
COL	Rockwell Collins	29,988,791	0.04	405,035	74.04	78.29	10,670,000	10,670,000,000	0.2811	No
CPN	Calpine Corporation	24,814,321	0.04	1,296,464	19.14	20.908	8,820,000	8,820,000,000	0.2813	No
CBT	Cabot Corporation	10,646,815	0.02	209,048	50.93	58.28	3,780,000	3,780,000,000	0.2817	No
ALTR	Altera Corporation	31,452,861	0.05	977,404	32.18	35.13	11,160,000	11,160,000,000	0.2818	No
DXCM	Dex	7,844,892	0.01	226,600	34.62	37.515	2,780,000	2,780,000,000	0.2822	No
DRH	DiamondRock Hospitality Company	6,640,832	0.01	568,078	11.69	12.1	2,350,000	2,350,000,000	0.2826	No
BMI	Badger Meter	2,239,902	0	40,600	55.17	54.51	792,190	792,190,000	0.2827	No
DNR	Denbury Resources	17,088,610	0.02	1,043,898	16.37	16.79	6,040,000	6,040,000,000	0.2829	No
COBZ	CoBiz Financial	1,235,410	0	102,100	12.1	11.01	436,150	436,150,000	0.2833	No
EMC	EMC Corporation	157,332,866	0.23	6,288,284	25.02	27.5044	55,420,000	55,420,000,000	0.2839	No
ATML	Atmel Corporation	10,122,240	0.01	1,311,171	7.72	8.35	3,560,000	3,560,000,000	0.2843	No
FELE	Franklin Electric	5,687,993	0.01	124,682	45.62	41.39	2,000,000	2,000,000,000	0.2844	No
AAWW	Atlas Air Worldwide Holdings	2,501,968	0	62,300	40.16	34.89	878,710	878,710,000	0.2847	No
EGP	EastGroup Properties	5,527,842	0.01	96,759	57.13	63.2	1,940,000	1,940,000,000	0.2849	No
CSL	Carlisle Companies	14,190,750	0.02	178,500	79.5	76.96	4,980,000	4,980,000,000	0.2850	No
DTSI	DTS	941,919	0	39,100	24.09	19.224	328,580	328,580,000	0.2867	No
GMT	GATX Corporation	8,811,233	0.01	169,937	51.85	66.08	3,070,000	3,070,000,000	0.2870	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
CRS	Carpenter Technology Corporation	10,191,836	0.01	168,739	60.4	65.54	3,540,000	3,540,000,000	0.2879	No
ADBE	Adobe Systems Incorporated	90,452,569	0.13	1,518,170	59.58	62.05	31,370,000	31,370,000,000	0.2883	No
CAB	Cabela's Incorporated	13,563,717	0.02	205,231	66.09	66.71	4,700,000	4,700,000,000	0.2886	No
FARO	FARO Technologies	2,539,893	0	42,100	60.33	50.73	878,310	878,310,000	0.2892	No
BAX	Baxter International	115,247,481	0.17	1,662,543	69.32	72.35	39,850,000	39,850,000,000	0.2892	No
AMS	American Shared Hospital Services	34,970	0	13,000	2.69	3.01	12,090	12,090,000	0.2892	No
HNI	HNI Corporation	4,605,120	0.01	117,000	39.36	34.61	1,590,000	1,590,000,000	0.2896	No
BPFH	Boston Private Financial Holdings	3,042,900	0	245,000	12.42	13.2	1,050,000	1,050,000,000	0.2898	No
BSRR	Sierra Bancorp	662,904	0	39,838	16.64	16.04	227,840	227,840,000	0.2910	No
CVD	Covance	16,649,217	0.02	190,669	87.32	98.61	5,720,000	5,720,000,000	0.2911	No
HP	Helmerich & Payne	33,711,607	0.05	405,480	83.14	106.38	11,570,000	11,570,000,000	0.2914	No
AMGN	Amgen	263,405,731	0.38	2,303,303	114.36	118.205	90,370,000	90,370,000,000	0.2915	No
IHC	Independence Holding Company	698,161	0	51,260	13.62	13.75	238,410	238,410,000	0.2928	No
ATU	Actuant Corporation	7,305,597	0.01	198,900	36.73	34.27	2,490,000	2,490,000,000	0.2934	No
GFF	Griffon Corporation	1,801,300	0	134,727	13.37	11.45	611,950	611,950,000	0.2944	No
BID	Sotheby's	8,642,568	0.01	167,200	51.69	41.9	2,930,000	2,930,000,000	0.2950	No
AEE	Ameren Corporation	28,565,870	0.04	794,600	35.95	40.25	9,680,000	9,680,000,000	0.2951	No
DOW	Dow Chemical Company	174,537,699	0.25	3,890,720	44.86	48.22	58,980,000	58,980,000,000	0.2959	No
BBT	BB&T Corporation	83,750,502	0.12	2,253,781	37.16	39.62	28,300,000	28,300,000,000	0.2959	No
CBSH	Commerce Bancshares	12,970,740	0.02	287,791	45.07	45.95	4,380,000	4,380,000,000	0.2961	No
ENDP	Endo Pharmaceuticals	21,313,948	0.03	317,834	67.06	59.92	7,180,000	7,180,000,000	0.2969	No
BDC	Belden	9,424,715	0.01	132,444	71.16	71.67	3,170,000	3,170,000,000	0.2973	No
DOV	Dover Corporation	42,233,302	0.06	439,381	96.12	82.93	14,200,000	14,200,000,000	0.2974	No
GABC	German American Bancorp	1,119,000	0	37,500	29.84	28.295	375,830	375,830,000	0.2977	No
DRI	Darden Restaurants	19,704,308	0.03	362,745	54.32	49.79	6,610,000	6,610,000,000	0.2981	No
CME	CME	69,697,696	0.1	872,530	79.88	69.1349	23,370,000	23,370,000,000	0.2982	No
BKYF	Bank of Kentucky Financial	828,080	0	22,000	37.64	36.82	277,360	277,360,000	0.2986	No
ANGO	AngioDynamics	1,640,768	0	99,200	16.54	15.407	548,840	548,840,000	0.2990	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
IBM	International Business Machines	611,226,100	0.89	3,297,686	185.35	194.4501	204,270,000	204,270,000,000	0.2992	No
ABG	Asbury Automotive	5,208,337	0.01	96,308	54.08	55.59	1,740,000	1,740,000,000	0.2993	No
GSBC	Great Southern Bancorp	1,185,016	0	39,200	30.23	28.78	395,170	395,170,000	0.2999	No
EQIX	Equinix	26,251,662	0.04	149,225	175.92	176.83	8,740,000	8,740,000,000	0.3004	No
BBW	Build-A-Bear Workshop	547,920	0	72,000	7.61	11.02	181,830	181,830,000	0.3013	No
ED	Consolidated Edison	48,708,272	0.07	885,766	54.99	55.2449	16,130,000	16,130,000,000	0.3020	No
FNF	Fidelity National Financial	23,915,240	0.03	726,907	32.9	31.63	7,910,000	7,910,000,000	0.3023	No
ICUI	ICU Medical, Incorporated	2,753,928	0	42,558	64.71	59.51	909,780	909,780,000	0.3027	No
CROX	Crocs	3,935,470	0.01	295,900	13.3	14.55	1,300,000	1,300,000,000	0.3027	No
ALXN	Alexion Pharmaceuticals	93,386,420	0.14	702,629	132.91	148.4	30,730,000	30,730,000,000	0.3039	No
DDS	Dillard's	12,642,286	0.02	132,200	95.63	94.34	4,160,000	4,160,000,000	0.3039	No
AYI	Acuity Brands	16,595,397	0.02	150,785	110.06	126.99	5,450,000	5,450,000,000	0.3045	No
AIV	Apartment Investment and Management	13,461,696	0.02	519,556	25.91	30.06	4,410,000	4,410,000,000	0.3053	No
ANSS	ANSYS	21,490,287	0.03	247,100	86.97	74.56	7,040,000	7,040,000,000	0.3053	No
AMSWA	American Software	839,873	0	84,240	9.97	9.62	275,000	275,000,000	0.3054	No
AXE	Anixter International	9,835,916	0.01	110,083	89.35	97.65	3,220,000	3,220,000,000	0.3055	No
BMS	Bemis Company	12,655,700	0.02	311,640	40.61	40.182	4,140,000	4,140,000,000	0.3057	No
CGNX	Cognex Corporation	9,326,880	0.01	244,800	38.1	34.6	3,050,000	3,050,000,000	0.3058	No
EPAY	Bottomline Technologies	3,791,938	0.01	108,745	34.87	33.24	1,240,000	1,240,000,000	0.3058	No
AKAM	Akamai Technologies	30,037,865	0.04	635,050	47.3	54.75	9,820,000	9,820,000,000	0.3059	No
EXAS	EXACT Sciences Corporation	2,840,087	0	232,413	12.22	12.7699	927,750	927,750,000	0.3061	No
ADP	Automatic Data Processing	111,647,373	0.16	1,382,630	80.75	75.34	36,470,000	36,470,000,000	0.3061	No
AEP	American Electric Power Company	76,791,910	0.11	1,654,285	46.42	51.27	25,060,000	25,060,000,000	0.3064	No
FOE	Ferro Corporation	3,529,200	0.01	276,800	12.75	12.86	1,150,000	1,150,000,000	0.3069	No
AGNC	American Capital Agency	24,398,366	0.04	1,224,203	19.93	22.05	7,950,000	7,950,000,000	0.3069	No
GTN	Gray Television	2,042,768	0	140,300	14.56	11.38	664,360	664,360,000	0.3075	No
DRQ	Dril-Quip	13,934,289	0.02	125,636	110.91	110.87	4,530,000	4,530,000,000	0.3076	No
BSX	Boston Scientific Corporation	55,249,609	0.08	4,539,820	12.17	12.95	17,960,000	17,960,000,000	0.3076	No
CAG	ConAgra Foods	40,227,654	0.06	1,203,700	33.42	31.07	13,070,000	13,070,000,000	0.3078	No
APH	Amphenol Corporation	45,257,501	0.07	511,789	88.43	91.86	14,700,000	14,700,000,000	0.3079	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
DGX	Quest Diagnostics Incorporated	26,715,049	0.04	495,917	53.87	59.21	8,670,000	8,670,000,000	0.3081	No
LTRX	Lantronix	90,881	0	58,633	1.55	1.91	29,470	29,470,000	0.3084	No
BIDU	Baidu	169,129,950	0.25	1,011,059	167.28	151.48	54,830,000	54,830,000,000	0.3085	No
DLX	Deluxe Corporation	8,121,812	0.01	155,859	52.11	51.4	2,630,000	2,630,000,000	0.3088	No
IT	Gartner	19,627,306	0.03	275,587	71.22	67.93	6,320,000	6,320,000,000	0.3106	No
ACIW	ACI Worldwide	6,931,292	0.01	108,200	64.06	57.77	2,230,000	2,230,000,000	0.3108	No
CCK	Crown Holdings	19,247,227	0.03	438,134	43.93	44.97	6,190,000	6,190,000,000	0.3109	No
HBAN	Huntington Bancshares Incorporated	25,599,346	0.04	2,652,782	9.65	9.865	8,220,000	8,220,000,000	0.3114	No
ABR	Arbor Realty Trust	1,082,250	0	162,500	6.66	7.075	347,390	347,390,000	0.3115	No
DEPO	DepoMed	2,475,396	0	239,400	10.34	14.24	793,450	793,450,000	0.3120	No
ENTR	Entropic Communications	1,167,330	0	250,500	4.66	4.08	373,820	373,820,000	0.3123	No
ELX	Emulex Corporation	1,883,067	0	274,100	6.87	7.48	601,610	601,610,000	0.3130	No
CKEC	Carmike Cinemas	2,103,192	0	75,600	27.82	29.21	671,710	671,710,000	0.3131	No
CREE	Cree	21,672,922	0.03	351,206	61.71	56.78	6,920,000	6,920,000,000	0.3132	No
HUN	Huntsman Corporation	19,400,080	0.03	808,000	24.01	25.08	6,190,000	6,190,000,000	0.3134	No
BECN	Beacon Roofing Supply	5,708,924	0.01	141,380	40.38	36.5	1,820,000	1,820,000,000	0.3137	No
FISV	Fiserv	45,460,306	0.07	772,084	58.88	56.72	14,490,000	14,490,000,000	0.3137	No
BBG	Bill Barrett Corporation	3,672,860	0.01	132,738	27.67	24.57	1,170,000	1,170,000,000	0.3139	No
CRZO	Carrizo Oil & Gas	7,493,183	0.01	171,862	43.6	51.79	2,380,000	2,380,000,000	0.3148	No
COST	Costco Wholesale Corporation	155,847,553	0.23	1,313,728	118.63	112.54	49,460,000	49,460,000,000	0.3151	No
ENG	ENGlobal Corporation	135,000	0	90,000	1.5	1.64	42,790	42,790,000	0.3155	No
AME	AMETEK	39,298,704	0.06	747,550	52.57	50.8	12,450,000	12,450,000,000	0.3157	No
GPN	Global Payments	15,249,989	0.02	239,103	63.78	66.98	4,830,000	4,830,000,000	0.3157	No
EXPD	Expeditors International of Washington	25,512,643	0.04	584,750	43.63	39.56	8,060,000	8,060,000,000	0.3165	No
BIIB	Biogen Idec	224,082,246	0.32	796,482	281.34	289.5	70,620,000	70,620,000,000	0.3173	No
CRMT	America's Car-Mart	1,048,929	0	25,100	41.79	37.57	330,120	330,120,000	0.3177	No
DFZ	R.G. Barry	658,904	0	33,842	19.47	18.292	207,350	207,350,000	0.3178	No
DAL	Delta Air Lines	93,328,272	0.14	3,347,499	27.88	33.6	29,340,000	29,340,000,000	0.3181	No
CRUS	Cirrus Logic	4,041,298	0.01	198,200	20.39	20.3	1,270,000	1,270,000,000	0.3182	No

(continued)

Table E1.   Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
AMWD	American Woodmark Corporation	1,619,090	0	41,000	39.49	33.17	507,850	507,850,000	0.3188	No
EE	El Paso Electric Company	4,624,300	0.01	133,150	34.73	35.82	1,450,000	1,450,000,000	0.3189	No
CLX	Clorox Company	37,096,021	0.05	400,216	92.69	90.32	11,630,000	11,630,000,000	0.3190	No
ADTN	ADTRAN	4,596,160	0.01	169,600	27.1	25.4201	1,440,000	1,440,000,000	0.3192	No
LAMR	Lamar Advertising Company	15,445,857	0.02	297,150	51.98	50.8	4,830,000	4,830,000,000	0.3198	No
CMC	Commercial Metals Company	7,232,225	0.01	357,500	20.23	19.06	2,260,000	2,260,000,000	0.3200	No
CUTR	Cutera	505,087	0	49,133	10.28	11.22	157,670	157,670,000	0.3203	No
AVA	Avista Corporation	5,901,854	0.01	210,180	28.08	30.76	1,840,000	1,840,000,000	0.3208	No
BDR	Blonder Tongue Labs	17,952	0	20,400	0.88	0.9199	5,590	5,590,000	0.3211	No
BBGI	Beasley Broadcast	617,201	0	69,583	8.87	8.34	192,070	192,070,000	0.3213	No
CTBI	Community Trust Bancorp	2,028,039	0	44,700	45.37	40.41	630,490	630,490,000	0.3217	No
AJG	Arthur J. Gallagher & Co.	19,049,326	0.03	412,591	46.17	43.05	5,920,000	5,920,000,000	0.3218	No
EBIX	Ebix	2,135,526	0	145,969	14.63	16.84	662,250	662,250,000	0.3225	No
COG	Cabot Oil & Gas Corporation	45,847,917	0.07	1,189,002	38.56	33.86	14,210,000	14,210,000,000	0.3226	No
CWT	California Water Service	3,627,586	0.01	157,379	23.05	23.42	1,120,000	1,120,000,000	0.3239	No
CSCO	Cisco Systems	385,950,383	0.56	1,7704,146	21.8	23.13	119,050,000	119,050,000,000	0.3242	No
DV	DeVry	8,234,929	0.01	234,213	35.16	39.65	2,540,000	2,540,000,000	0.3242	No
AZPN	Aspen Technology	12,328,178	0.02	292,970	42.08	39.81	3,790,000	3,790,000,000	0.3253	No
DFT	DuPont Fabros Technology	5,243,388	0.01	213,667	24.54	24.49	1,610,000	1,610,000,000	0.3257	No
COF	Capital One Financial	142,141,299	0.21	1,873,238	75.88	75.39	43,570,000	43,570,000,000	0.3262	No
CYBE	CyberOptics Corporation	172,140	0	28,500	6.04	8.05	52,620	52,620,000	0.3271	No
BIOS	BioScrip	1,658,351	0	233,900	7.09	7.38	505,950	505,950,000	0.3278	No
CTL	CenturyLink	64,581,130	0.09	2,027,665	31.85	33.655	19,640,000	19,640,000,000	0.3288	No
AMD	Advanced Micro Devices	9,569,251	0.01	2,518,224	3.8	4	2,900,000	2,900,000,000	0.3300	No
FCF	First Commonwealth Financial	2,777,184	0	308,576	9	8.91	841,260	841,260,000	0.3301	No
ARW	Arrow Electronics	20,027,938	0.03	376,465	53.2	59.72	6,040,000	6,040,000,000	0.3316	No
DAN	Dana Holding Corporation	11,346,081	0.02	579,473	19.58	22.74	3,420,000	3,420,000,000	0.3318	No
FSP	Franklin Street Properties	4,119,980	0.01	339,093	12.15	12.35	1,240,000	1,240,000,000	0.3323	No
AAPL	Apple	1,565,304,635	2.27	2,775,855	563.9	523.86	470,960,000	470,960,000,000	0.3324	No
AZO	AutoZone	58,124,200	0.08	121,892	476.85	528.51	17,470,000	17,470,000,000	0.3327	No
DPS	Dr Pepper Snapple	34,413,527	0.05	708,243	48.59	51.985	10,330,000	10,330,000,000	0.3331	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
CIA	Citizens	1,158,471	0	132,700	8.73	6.87	347,560	347,560,000	0.3333	No
CYAN	CYANOTECH	94,956	0	19,300	4.92	5.13	28,470	28,470,000	0.3335	No
CE	Celanese Corporation	29,256,773	0.04	530,014	55.2	55.28	8,770,000	8,770,000,000	0.3336	No
EXPR	Express	4,508,000	0.01	245,000	18.4	15.81	1,350,000	1,350,000,000	0.3339	No
COP	ConocoPhillips	292,080,945	0.42	4,161,290	70.19	70.42	87,370,000	87,370,000,000	0.3343	No
ABC	AmerisourceBergen	50,348,298	0.07	716,192	70.3	64.89	15,020,000	15,020,000,000	0.3352	No
ADSK	Autodesk	36,984,763	0.05	748,831	49.39	47.49	11,020,000	11,020,000,000	0.3356	No
EV	Eaton Vance	14,797,005	0.02	342,444	43.21	36.77	4,400,000	4,400,000,000	0.3363	No
CHFC	Chemical Financial Corporation	3,183,591	0	98,900	32.19	32.03	946,610	946,610,000	0.3363	No
AFL	AFLAC Incorporated	96,521,159	0.14	1,438,253	67.11	62.2	28,690,000	28,690,000,000	0.3364	No
HEES	H&E Equipment Services	4,623,907	0.01	152,705	30.28	38.98	1,370,000	1,370,000,000	0.3375	No
DXYN	Dixie	674,097	0	56,457	11.94	15.57	199,700	199,700,000	0.3376	No
FLWS	1-800-FLOWERS	1,212,121	0	221,190	5.48	5.49	358,850	358,850,000	0.3378	No
CA	CA	47,432,747	0.07	1,417,172	33.47	31.32	14,020,000	14,020,000,000	0.3383	No
DVD	Dover Motorsports	287,715	0	115,086	2.5	2.34	85,040	85,040,000	0.3383	No
ACLS	Axcelis Technologies	776,240	0	313,000	2.48	2.07	229,170	229,170,000	0.3387	No
ASNA	Ascena Retail	9,233,020	0.01	438,415	21.06	16.93	2,720,000	2,720,000,000	0.3394	No
COH	Coach	47,017,533	0.07	831,139	56.57	49.5	13,840,000	13,840,000,000	0.3397	No
CTS	CTS Corporation	2,320,633	0	121,818	19.05	20.05	683,070	683,070,000	0.3397	No
DRC	Dresser-Rand	15,064,682	0.02	254,600	59.17	57.66	4,430,000	4,430,000,000	0.3401	No
GE	General Electric Company	884,005,061	1.28	31,764,465	27.83	25.7	259,810,000	259,810,000,000	0.3403	No
ACM	AECOM Technology Corporation	11,125,795	0.02	378,686	29.38	32.72	3,260,000	3,260,000,000	0.3413	No
EVC	Entravision Communication	1,865,449	0	301,365	6.19	6.125	543,990	543,990,000	0.3429	No
AWK	American Water Works	27,850,277	0.04	662,944	42.01	45.34	8,120,000	8,120,000,000	0.3430	No
CNK	Cinemark Holdings	11,223,035	0.02	338,451	33.16	28.64	3,270,000	3,270,000,000	0.3432	No
CAM	Cameron International Corporation	47,292,447	0.07	795,232	59.47	62.6	13,750,000	13,750,000,000	0.3439	No
CMI	Cummins	94,959,828	0.14	679,012	139.85	147.3	27,520,000	27,520,000,000	0.3451	No
DTE	DTE Energy Company	45,929,331	0.07	694,216	66.16	75.09	13,300,000	13,300,000,000	0.3453	No
CATO	Cato Corporation	2,809,375	0	89,900	31.25	28.43	810,360	810,360,000	0.3467	No
AETI	American Electric Technologies	198,015	0	21,500	9.21	6.9	56,900	56,900,000	0.3480	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
FITB	Fifth Third Bancorp	67,105,839	0.1	3,189,441	21.04	22.53	19,270,000	19,270,000,000	0.3482	No
ABT	Abbott Laboratories	202,500,617	0.29	5,280,329	38.35	37.74	58,090,000	58,090,000,000	0.3486	No
FIBK	First Interstate Bancsystem	4,326,450	0.01	149,394	28.96	28.2	1,240,000	1,240,000,000	0.3489	No
CSH	Cash America International	3,768,658	0.01	100,337	37.56	38.38	1,080,000	1,080,000,000	0.3489	No
CINF	Cincinnati Financial Corporation	27,346,131	0.04	522,072	52.38	47.5	7,830,000	7,830,000,000	0.3492	No
ALGN	Align Technology	15,276,121	0.02	264,430	57.77	52.34	4,370,000	4,370,000,000	0.3496	No
CRWS	Crown Crafts	292,025	0	38,475	7.59	8.36	83,380	83,380,000	0.3502	No
BAC	Bank of America Corporation	616,249,894	0.89	39,376,990	15.65	16.41	175,540,000	175,540,000,000	0.3511	No
EIX	Edison International	64,492,075	0.09	1,397,142	46.16	56.11	18,370,000	18,370,000,000	0.3511	No
ADM	Archer Daniels Midland Company	102,868,122	0.15	2,356,658	43.65	43.64	29,190,000	29,190,000,000	0.3524	No
FNGN	Financial Engines	8,901,229	0.01	126,402	70.42	47.92	2,520,000	2,520,000,000	0.3532	No
AXR	AMREP Corporation	158,066	0	22,809	6.93	6.08	44,720	44,720,000	0.3535	No
EPM	Evolution Petroleum Corporation	1,416,017	0	114,011	12.42	12.46	400,010	400,010,000	0.3540	No
CHK	Chesapeake Energy Corporation	60,512,039	0.09	2,182,974	27.72	26.07	17,090,000	17,090,000,000	0.3541	No
CBS	CBS Corporation	131,121,837	0.19	2,081,299	63	61.835	37,010,000	37,010,000,000	0.3543	No
CRAI	CRA International	777,168	0	37,800	20.56	21.35	219,340	219,340,000	0.3543	No
CVS	CVS Caremark Corporation	310,386,265	0.45	4,354,465	71.28	73.35	87,600,000	87,600,000,000	0.3543	No
CCMP	Cabot Microelectronics Corporation	3,722,687	0.01	82,708	45.01	43.56	1,050,000	1,050,000,000	0.3545	No
AGYS	Agilysys	1,001,649	0	71,700	13.97	12.63	281,830	281,830,000	0.3554	No
FE	FirstEnergy	50,323,699	0.07	1,569,183	32.07	34.04	14,130,000	14,130,000,000	0.3561	No
AIN	Albany International	4,033,546	0.01	112,230	35.94	35.29	1,130,000	1,130,000,000	0.3570	No
CNP	CenterPoint Energy	36,442,226	0.05	1,579,637	23.07	23.71	10,200,000	10,200,000,000	0.3573	No
CTAS	Cintas Corporation	24,885,958	0.04	418,885	59.41	57.79	6,960,000	6,960,000,000	0.3576	No
AEPI	AEP Industries	725,000	0	14,500	50	36.15	202,340	202,340,000	0.3583	No
DHIL	Diamond Hill Investment	1,465,952	0	12,200	120.16	122.1	408,820	408,820,000	0.3586	No
CBLI	Cleveland BioLabs	129,167	0	114,307	1.13	0.7002	36,020	36,020,000	0.3586	No
AWI	Armstrong World Industries	10,579,452	0.02	185,800	56.94	52.44	2,950,000	2,950,000,000	0.3586	No
ALK	Alaska Air	23,535,133	0.03	323,196	72.82	91.77	6,560,000	6,560,000,000	0.3588	No

(continued)

Table E1.   Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
APA	Apache Corporation	118,388,838	0.17	1,371,670	86.31	83.5899	32,930,000	32,930,000,000	0.3595	No
GS	Goldman Sachs	266,948,558	0.39	1,512,885	176.45	157.19	74,240,000	74,240,000,000	0.3596	No
GFED	Guaranty Federal Bancshares	198,022	0	17,728	11.17	12.97	55,060	55,060,000	0.3596	No
ACXM	Acxiom Corporation	8,755,636	0.01	238,119	36.77	31.5	2,430,000	2,430,000,000	0.3603	No
DLTR	Dollar Tree	38,564,362	0.06	681,590	56.58	51.25	10,690,000	10,690,000,000	0.3608	No
FUL	H.B. Fuller Company	8,520,989	0.01	168,100	50.69	47.07	2,360,000	2,360,000,000	0.3611	No
IRM	Iron Mountain Incorporated	19,212,784	0.03	628,074	30.59	27.48	5,320,000	5,320,000,000	0.3611	No
IBKC	IBERIABANK Corporation	7,431,045	0.01	117,357	63.32	68.4	2,050,000	2,050,000,000	0.3625	No
AET	Aetna	97,548,046	0.14	1,428,020	68.31	73.509	26,910,000	26,910,000,000	0.3625	No
CSX	CSX Corporation	104,027,616	0.15	3,659,079	28.43	28.39	28,680,000	28,680,000,000	0.3627	No
EMR	Emerson Electric	170,789,817	0.25	2,436,374	70.1	66.745	47,080,000	47,080,000,000	0.3628	No
AIT	Applied Industrial Technologies	7,519,176	0.01	151,200	49.73	48.68	2,070,000	2,070,000,000	0.3632	No
BOH	Bank of Hawaii Corporation	9,678,630	0.01	163,518	59.19	59.89	2,660,000	2,660,000,000	0.3639	No
CONN	CONN'S	5,301,156	0.01	66,900	79.24	39.24	1,450,000	1,450,000,000	0.3656	No
EXAR	Exar Corporation	1,914,966	0	167,100	11.46	11.04	522,790	522,790,000	0.3663	No
FDX	FedEx Corporation	145,679,640	0.21	1,016,606	143.3	133.685	39,680,000	39,680,000,000	0.3671	No
GLDC	Golden Enterprises	181,098	0	45,502	3.98	4.24	49,280	49,280,000	0.3675	No
BWS	Brown Shoe Company	4,214,957	0.01	152,550	27.63	26.07	1,140,000	1,140,000,000	0.3697	No
BCPC	Balchem Corporation	6,916,582	0.01	116,382	59.43	61.165	1,870,000	1,870,000,000	0.3699	No
AMG	Affiliated Managers	37,937,880	0.05	176,636	214.78	191.91	10,250,000	10,250,000,000	0.3701	No
AMCC	Applied Micro Circuits Corporation	2,688,947	0	209,910	12.81	9.8	724,710	724,710,000	0.3710	No
ESL	Esterline Technologies Corporation	12,286,007	0.02	121,116	101.44	103.3601	3,310,000	3,310,000,000	0.3712	No
AF	Astoria Financial Corporation	4,919,236	0.01	351,374	14	13.38	1,320,000	1,320,000,000	0.3727	No
BABY	Natus Medical	2,940,384	0	130,800	22.48	24.74	785,740	785,740,000	0.3742	No
CBNK	Chicopee Bancorp	331,967	0	19,013	17.46	17.58	88,700	88,700,000	0.3743	No
AIG	American International	280,522,950	0.41	5,500,450	51	49.98	74,690,000	74,690,000,000	0.3756	No
GM	General Motors Company	202,588,245	0.29	4,879,293	41.52	33.795	53,900,000	53,900,000,000	0.3759	No
CLCT	Collectors Universe	694,073	0	40,900	16.97	20.8999	184,070	184,070,000	0.3771	No
FCX	Freeport-McMoRan Copper & Gold	133,567,822	0.19	3,613,848	36.96	33.69	35,390,000	35,390,000,000	0.3774	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
CELG	Celgene Corporation	225,953,449	0.33	1,335,896	169.14	142.14	59,620,000	59,620,000,000	0.3790	No
AMSF	Amerisafe	3,049,691	0	71,589	42.6	43.03	803,130	803,130,000	0.3797	No
CASY	Casey's General Stores	10,107,584	0.01	142,823	70.77	68.42	2,660,000	2,660,000,000	0.3800	No
BDX	Becton, Dickinson and Company	84,338,252	0.12	766,015	110.1	114.02	22,190,000	22,190,000,000	0.3801	No
CYT	Cytec Industries	13,074,637	0.02	142,023	92.06	95.41	3,440,000	3,440,000,000	0.3801	No
AA	Alcoa	53,270,870	0.08	5,107,466	10.43	12.99	13,990,000	13,990,000,000	0.3808	No
CSU	Capital Senior Living Corporation	2,712,222	0	115,512	23.48	25.33	711,380	711,380,000	0.3813	No
CVC	Cablevision Systems Corporation	17,699,728	0.03	998,856	17.72	17.43	4,640,000	4,640,000,000	0.3815	No
AMAT	Applied Materials	92,655,720	0.13	5,312,828	17.44	19.81	24,190,000	24,190,000,000	0.3830	No
AE	Adams Resources & Energy	1,020,054	0	14,900	68.46	59.8	265,420	265,420,000	0.3843	No
BWC	Babcock & Wilcox	14,516,080	0.02	421,000	34.48	34.11	3,760,000	3,760,000,000	0.3861	No
FMER	FirstMerit Corporation	13,180,256	0.02	592,904	22.23	20.75	3,410,000	3,410,000,000	0.3865	No
FTK	Flotek Industries	5,888,322	0.01	297,390	19.8	28.63	1,520,000	1,520,000,000	0.3874	No
FNLC	First Bancorp	678,922	0	38,663	17.56	16.35	174,980	174,980,000	0.3880	No
AFOP	Alliance Fiber Optic Products	1,201,906	0	76,360	15.74	16.33	308,470	308,470,000	0.3896	No
CAH	Cardinal Health	92,979,342	0.13	1,377,880	67.48	68.51	23,710,000	23,710,000,000	0.3922	No
CECE	CECO Environmental	1,680,185	0	100,011	16.8	16.7	428,220	428,220,000	0.3924	No
CTSH	Cognizant Technology Solutions	118,891,458	0.17	1,195,610	99.44	48.7	30,270,000	30,270,000,000	0.3928	No
CMA	Comerica Incorporated	36,228,941	0.05	762,554	47.51	50.59	9,220,000	9,220,000,000	0.3929	No
CDE	Coeur d'Alene Mines Corporation	3,828,690	0.01	361,880	10.58	8.99	973,260	973,260,000	0.3934	No
GNW	Genworth Financial	33,600,060	0.05	2,158,000	15.57	17.095	8,530,000	8,530,000,000	0.3939	No
GCI	Gannett	24,992,637	0.04	852,700	29.31	27.46	6,330,000	6,330,000,000	0.3948	No
CSIQ	Canadian Solar	5,897,287	0.01	199,300	29.59	28.72	1,490,000	1,490,000,000	0.3958	No
BIG	Big Lots	8,723,648	0.01	273,726	31.87	37.49	2,200,000	2,200,000,000	0.3965	No
DTLK	Datalink Corporation	1,187,616	0	106,800	11.12	12.89	298,510	298,510,000	0.3978	No
CENTA	Central Garden & Pet	1,664,268	0	251,400	6.62	8.54	417,660	417,660,000	0.3985	No
EFSC	Enterprise Financial Services	1,527,062	0	74,600	20.47	19.935	382,570	382,570,000	0.3992	No
CRV	Coast Distribution System	66,068	0	19,900	3.32	3.504	16,540	16,540,000	0.3994	No
ETR	Entergy Corporation	50,141,488	0.07	803,936	62.37	70.56	12,550,000	12,550,000,000	0.3995	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
LNC	Lincoln National Corporation	51,679,808	0.07	994,799	51.95	48.15	12,910,000	12,910,000,000	0.4003	No
AMKR	Amkor Technology	6,365,145	0.01	1,088,059	5.85	7.23	1,590,000	1,590,000,000	0.4003	No
BSQR	BSQUARE Corporation	143,906	0	42,450	3.39	3.18	35,890	35,890,000	0.4010	No
AMRI	Albany Molecular Research	2,118,086	0	205,440	10.31	16.362	528,200	528,200,000	0.4010	No
ADS	Alliance Data Systems Corporation	56,319,691	0.08	220,602	255.3	258.1	14,010,000	14,010,000,000	0.4020	No
CFN	CareFusion Corporation	33,560,820	0.05	846,000	39.67	39.24	8,340,000	8,340,000,000	0.4024	No
FARM	Farmer Brothers	1,224,256	0	51,700	23.68	19.17	303,950	303,950,000	0.4028	No
CAS	A.M. Castle & Co.	1,383,436	0	93,098	14.86	14.57	342,930	342,930,000	0.4034	No
BGCP	BGC Partners	5,978,796	0.01	986,600	6.06	6.785	1,480,000	1,480,000,000	0.4040	No
EXPO	Exponent	3,850,808	0.01	48,800	78.91	72.27	950,990	950,990,000	0.4049	No
CSGP	CoStar	20,373,252	0.03	110,496	184.38	167.74	5,030,000	5,030,000,000	0.4050	No
BVN	Compania de Minas Buenaventura SA	14,115,161	0.02	1,282,031	11.01	13.18	3,470,000	3,470,000,000	0.4068	No
FAF	First American Financial	11,274,765	0.02	402,958	27.98	26.24	2,770,000	2,770,000,000	0.4070	No
CB	Chubb Corporation	89,430,243	0.13	933,315	95.82	88.59	21,890,000	21,890,000,000	0.4085	No
DFS	Discover Financial Services	110,175,647	0.16	2,017,869	54.6	56.43	26,940,000	26,940,000,000	0.4090	No
BBBY	Bed Bath & Beyond	58,264,473	0.08	732,610	79.53	67.29	14,170,000	14,170,000,000	0.4112	No
CRAY	Cray	5,431,307	0.01	195,020	27.85	33.77	1,320,000	1,320,000,000	0.4115	No
CLFD	Clearfield	1,168,200	0	59,000	19.8	21.85	283,770	283,770,000	0.4117	No
LHCG	LHC	1,585,755	0	65,500	24.21	21.75	384,870	384,870,000	0.4120	No
FTR	Frontier Communications	22,769,479	0.03	4,844,570	4.7	5.575	5,520,000	5,520,000,000	0.4125	No
BH	Biglari Holdings	3,300,999	0	6,357	519.27	457.03	799,800	799,800,000	0.4127	No
DAIO	Data I/O Corporation	73,968	0	27,600	2.68	2.29	17,910	17,910,000	0.4130	No
DAKT	Daktronics	2,508,504	0	164,600	15.24	13.66	606,280	606,280,000	0.4138	No
CYNO	Cynosure	2,514,681	0	95,073	26.45	26.38	601,770	601,770,000	0.4179	No
CI	CIGNA Corporation	93,810,445	0.14	1,080,641	86.81	82	22,410,000	22,410,000,000	0.4186	No
GPK	Graphic Packaging Holding Company	13,863,941	0.02	1,460,900	9.49	9.98	3,310,000	3,310,000,000	0.4189	No
ABAX	Abaxis	3,885,656	0.01	99,837	38.92	40.6154	926,550	926,550,000	0.4194	No
EDE	Empire District Electric Company	4,334,567	0.01	190,866	22.71	24.16	1,030,000	1,030,000,000	0.4208	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
AEO	American Eagle Outfitters	9,567,332	0.01	656,646	14.57	11.61	2,270,000	2,270,000,000	0.4215	No
EDMC	Education Management	2,098,005	0	188,500	11.13	3.84	496,120	496,120,000	0.4229	No
AXAS	Abraxas Petroleum	1,740,180	0	504,400	3.45	4.35	410,030	410,030,000	0.4244	No
AROW	Arrow Financial Corporation	1,370,793	0	50,695	27.04	26.02	322,130	322,130,000	0.4255	No
BRLI	Bio-Reference Laboratories	3,336,959	0	129,641	25.74	27.99	780,620	780,620,000	0.4275	No
ECPG	Encore Capital	4,938,764	0.01	99,773	49.5	45.21	1,150,000	1,150,000,000	0.4295	No
CDI	CDI	1,401,693	0	74,007	18.94	17.1	325,840	325,840,000	0.4302	No
AFG	American Financial	22,019,598	0.03	384,958	57.2	56.4	5,100,000	5,100,000,000	0.4318	No
BGC	General Cable Corporation	5,539,514	0.01	190,100	29.14	25.66	1,280,000	1,280,000,000	0.4328	No
EHTH	eHealth	3,951,412	0.01	85,270	46.34	48.584	912,510	912,510,000	0.4330	No
FFNW	FIRST FINANCIAL NORTHWEST	671,026	0	61,225	10.96	9.99	154,960	154,960,000	0.4330	No
HCSG	Healthcare Services	9,065,479	0.01	319,207	28.4	29.77	2,090,000	2,090,000,000	0.4338	No
CYH	Community Health Systems	15,577,172	0.02	401,577	38.79	37.59	3,580,000	3,580,000,000	0.4351	No
JCP	J.C. Penney Company	11,739,335	0.02	1,308,733	8.97	8.75	2,690,000	2,690,000,000	0.4364	No
BGG	Briggs & Stratton Corporation	4,645,836	0.01	210,600	22.06	22.52	1,060,000	1,060,000,000	0.4383	No
AZZ	AZZ Incorporated	5,060,425	0.01	102,500	49.37	44.44	1,150,000	1,150,000,000	0.4400	No
GTI	GrafTech International	6,603,981	0.01	574,759	11.49	10.98	1,500,000	1,500,000,000	0.4403	No
FORM	FormFactor	1,560,569	0	253,751	6.15	6.35	354,450	354,450,000	0.4403	No
HRS	Harris Corporation	33,927,061	0.05	486,968	69.67	71.75	7,700,000	7,700,000,000	0.4406	No
ATK	Alliant Techsystems	19,885,174	0.03	162,620	122.28	138.21	4,470,000	4,470,000,000	0.4449	No
DXPE	DXP Enterprises	6,640,920	0.01	58,500	113.52	102.02	1,490,000	1,490,000,000	0.4457	No
HWCC	Houston Wire & Cable Company	1,019,844	0	75,600	13.49	12.59	228,370	228,370,000	0.4466	No
AXTI	AXT	328,608	0	130,400	2.52	2.3	73,460	73,460,000	0.4473	No
CTCT	Constant Contact	3,975,377	0.01	133,716	29.73	27.95	888,660	888,660,000	0.4473	No
FHN	First Horizon National Corporation	12,734,141	0.02	1,094,939	11.63	12.04	2,830,000	2,830,000,000	0.4500	No
BRC	Brady Corporation	6,121,648	0.01	197,600	30.98	26.14	1,360,000	1,360,000,000	0.4501	No
CNBKA	Century BanCorp	851,993	0	23,852	35.72	33.62	188,900	188,900,000	0.4510	No
AES	AES Corporation	46,818,111	0.07	3,237,767	14.46	14.355	10,370,000	10,370,000,000	0.4515	No
FINL	Finish Line	6,072,552	0.01	214,502	28.31	27.24	1,330,000	1,330,000,000	0.4566	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
CR	Crane	18,678,820	0.03	278,000	67.19	70.26	4,090,000	4,090,000,000	0.4567	No
CFFI	C&F Financial Corporation	514,046	0	11,050	46.52	33	112,300	112,300,000	0.4577	No
BMRC	Bank of Marin Bancorp	1,211,875	0	27,700	43.75	45.51	264,650	264,650,000	0.4579	No
DWSN	Dawson Geophysical Company	1,014,140	0	30,120	33.67	28.2435	221,420	221,420,000	0.4580	No
HLX	Helix Energy Solutions	11,046,054	0.02	476,123	23.2	22.33	2,400,000	2,400,000,000	0.4603	No
AMAG	AMAG Pharmaceuticals	1,889,680	0	79,000	23.92	18.09	409,620	409,620,000	0.4613	No
FRME	First Merchants Corporation	3,612,177	0.01	156,439	23.09	21.71	777,380	777,380,000	0.4647	No
CWEI	Clayton Williams Energy	6,706,726	0.01	80,600	83.21	116.13	1,440,000	1,440,000,000	0.4657	No
CRK	Comstock Resources	5,182,818	0.01	290,029	17.87	22.62	1,110,000	1,110,000,000	0.4669	No
GIGA	Giga-tronics, Incorporated	29,103	0	26,700	1.09	1.26	6,220	6,220,000	0.4679	No
ALL	Allstate Corporation	117,632,952	0.17	2,187,706	53.77	55.76	25,130,000	25,130,000,000	0.4681	No
HAST	Hastings Entertainment	112,200	0	56,100	2	2.95	23,940	23,940,000	0.4687	No
ASUR	Asure Software	181,868	0	33,555	5.42	6.43	38,740	38,740,000	0.4695	No
BRCD	Brocade Communications Systems	20,758,564	0.03	2,394,298	8.67	10.22	4,420,000	4,420,000,000	0.4697	No
LIOX	Lionbridge Technologies	1,774,200	0	295,700	6	6.29	377,710	377,710,000	0.4697	No
EGY	VAALCO Energy	2,309,984	0	329,527	7.01	8.34	491,180	491,180,000	0.4703	No
ISLE	Isle of Capri Casinos	1,427,184	0	158,400	9.01	7.53	303,100	303,100,000	0.4709	No
HIG	Hartford Financial Services	73,488,037	0.11	2,009,517	36.57	34.66	15,580,000	15,580,000,000	0.4717	No
HOLL	Hollywood Media Corporation	144,275	0	102,323	1.41	1.3301	30,560	30,560,000	0.4721	No
AMP	Ameriprise Financial	98,774,106	0.14	867,886	113.81	107.646	20,820,000	20,820,000,000	0.4744	No
EDGW	Edgewater Technology	376,794	0	51,545	7.31	7.0899	79,190	79,190,000	0.4758	No
CVG	Convergys Corporation	10,588,443	0.02	503,253	21.04	21.65	2,220,000	2,220,000,000	0.4770	No
BWLD	Buffalo Wild Wings	12,890,786	0.02	88,487	145.68	142.02	2,700,000	2,700,000,000	0.4774	No
KSS	Kohl's Corporation	56,195,777	0.08	1,009,082	55.69	56.13	11,760,000	11,760,000,000	0.4779	No
HGT	Hugoton Royalty Trust	1,466,519	0	187,056	7.84	7.73	306,800	306,800,000	0.4780	No
FFIC	Flushing Financial Corporation	2,878,028	0	137,245	20.97	20.66	601,410	601,410,000	0.4785	No
FMBI	First Midwest Bancorp	6,006,971	0.01	337,660	17.79	16.8	1,250,000	1,250,000,000	0.4806	No
FALC	FalconStor Software	357,720	0	271,000	1.32	1.54	74,340	74,340,000	0.4812	No
ELRC	Electro Rent Corporation	1,913,621	0	99,100	19.31	16.42	396,820	396,820,000	0.4822	No
CKH	Seacor Holdings	8,348,317	0.01	92,318	90.43	84.12	1,730,000	1,730,000,000	0.4826	No
CPSI	Computer Programs & Systems	3,396,976	0	54,430	62.41	62.24	703,120	703,120,000	0.4831	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
GHL	Greenhill & Co	6,725,293	0.01	115,100	58.43	49	1,390,000	1,390,000,000	0.4838	No
DECK	Deckers Outdoor Corporation	13,452,543	0.02	158,545	84.85	79.39	2,780,000	2,780,000,000	0.4839	No
ASBC	Associated Banc-Corp	13,714,546	0.02	784,585	17.48	17.59	2,830,000	2,830,000,000	0.4846	No
FUNC	First United Corporation	246,097	0	31,632	7.78	8.15	50,610	50,610,000	0.4863	No
AOS	A. O. Smith Corporation	20,236,126	0.03	373,636	54.16	44.86	4,150,000	4,150,000,000	0.4876	No
AKRX	Akorn	10,368,220	0.02	413,901	25.05	21.17	2,110,000	2,110,000,000	0.4914	No
ESP	Espey Manufacturing & Electronics	295,044	0	9,200	32.07	26.9	59,910	59,910,000	0.4925	No
CNW	Con-way	11,588,007	0.02	296,900	39.03	40.66	2,350,000	2,350,000,000	0.4931	No
LEA	Lear Corporation	33,663,210	0.05	413,858	81.34	82.5	6,780,000	6,780,000,000	0.4965	No
HCC	HCC Insurance Holdings	22,189,952	0.03	484,074	45.84	44.8	4,460,000	4,460,000,000	0.4975	No
DCO	Ducommun Incorporated	1,342,951	0	45,960	29.22	24.32	268,220	268,220,000	0.5007	No
BOFI	BofI Holding	5,421,090	0.01	68,500	79.14	77.2	1,080,000	1,080,000,000	0.5020	No
DEST	Destination Maternity Corporation	1,868,267	0	59,938	31.17	26.87	370,910	370,910,000	0.5037	No
AAON	AAON	4,919,974	0.01	150,550	32.68	26.13	974,410	974,410,000	0.5049	No
HTBK	Heritage Commerce	1,104,511	0	133,395	8.28	8.29	217,390	217,390,000	0.5081	No
CZFC	Citizens First Corporation	104,980	0	11,600	9.05	10.5	20,660	20,660,000	0.5081	No
GY	GenCorp	5,346,547	0.01	298,190	17.93	17.27	1,050,000	1,050,000,000	0.5092	No
ANR	Alpha Natural Resources	5,114,498	0.01	755,465	6.77	4.68	1,000,000	1,000,000,000	0.5114	No
CAR	Avis Budget	27,389,814	0.04	693,413	39.5	49.61	5,350,000	5,350,000,000	0.5120	No
APOL	Apollo	16,313,432	0.02	601,306	27.13	29.01	3,180,000	3,180,000,000	0.5130	No
DCOM	Dime Community Bancshares	3,121,386	0	183,719	16.99	16.92	601,760	601,760,000	0.5187	No
BHLB	Berkshire Hills Bancorp	3,300,024	0	120,880	27.3	25.36	631,880	631,880,000	0.5223	No
EIG	Employers Holdings	3,274,678	0	103,400	31.67	20.12	626,810	626,810,000	0.5224	No
DPZ	Domino's Pizza	22,426,199	0.03	317,292	70.68	75.83	4,260,000	4,260,000,000	0.5264	No
GNTX	Gentex Corporation	22,126,608	0.03	671,317	32.96	28.82	4,200,000	4,200,000,000	0.5268	No
ARSD	Arabian American Development Company	1,445,850	0	113,400	12.75	11.15	273,540	273,540,000	0.5286	No
BOOM	Dynamic Materials Corporation	1,393,760	0	62,000	22.48	18.74	263,630	263,630,000	0.5287	No
LXK	Lexmark International	15,208,471	0.02	436,774	34.82	45.66	2,850,000	2,850,000,000	0.5336	No
CAC	Camden National Corporation	1,620,826	0	38,200	42.43	40.55	303,590	303,590,000	0.5339	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
LOPE	Grand Canyon Education	11,187,246	0.02	252,762	44.26	44.62	2,090,000	2,090,000,000	0.5353	No
AVY	Avery Dennison Corporation	26,524,139	0.04	523,675	50.65	50.56	4,900,000	4,900,000,000	0.5413	No
CYBX	Cyberonics	9,225,313	0.01	144,123	64.01	63.03	1,700,000	1,700,000,000	0.5427	No
CMCO	Columbus McKinnon	2,894,017	0	103,100	28.07	26.728	530,650	530,650,000	0.5454	No
AGM	Federal Agricultural Mortgage	2,123,028	0	61,200	34.69	34.23	387,430	387,430,000	0.5480	No
ATSG	Air Transport Services	2,754,876	0	341,796	8.06	7.67	502,360	502,360,000	0.5484	No
ALOG	Analogic Corporation	5,719,762	0.01	62,600	91.37	82.67	1,040,000	1,040,000,000	0.5500	No
BCO	Brink's Company	7,876,070	0.01	229,757	34.28	29.335	1,430,000	1,430,000,000	0.5508	No
BTN	Ballantyne Strong	369,129	0	78,538	4.7	4.85	66,400	66,400,000	0.5559	No
FLR	Fluor Corporation	68,999,626	0.1	862,711	79.98	76.21	12,390,000	12,390,000,000	0.5569	No
CGA	China Green Agriculture	519,704	0	133,600	3.89	2.88	92,610	92,610,000	0.5612	No
AMSC	American Superconductor Corporation	603,301	0	404,900	1.49	1.4611	106,980	106,980,000	0.5639	No
HSII	Heidrick & Struggles International	2,039,169	0	101,300	20.13	19.88	360,870	360,870,000	0.5651	No
CLI	Mack-Cali Realty	10,655,061	0.02	498,599	21.37	21.3	1,880,000	1,880,000,000	0.5668	No
GHM	Graham Corporation	1,879,944	0	50,947	36.9	32.59	331,100	331,100,000	0.5678	No
CHCI	Comstock Homebuilding Companies	175,579	0	84,413	2.08	1.48	30,920	30,920,000	0.5678	No
FDEF	First Defiance Financial	1,512,971	0	56,900	26.59	27.17	262,270	262,270,000	0.5769	No
ARII	American Railcar Industries	8,054,298	0.01	174,600	46.13	65.37	1,390,000	1,390,000,000	0.5794	No
HA	Hawaiian Holdings	4,201,029	0.01	449,789	9.34	13.43	720,290	720,290,000	0.5832	No
CAMP	CalAmp	5,452,702	0.01	209,800	25.99	25.6	908,470	908,470,000	0.6002	No
CBB	Cincinnati Bell	4,729,550	0.01	1,324,804	3.57	3.72	781,720	781,720,000	0.6050	No
CATM	Cardtronics	10,281,285	0.01	233,825	43.97	37.515	1,690,000	1,690,000,000	0.6084	No
ABMD	ABIOMED	5,782,688	0.01	214,571	26.95	23.96	943,670	943,670,000	0.6128	No
HSTM	HealthStream	4,312,348	0.01	129,890	33.2	25.1	702,770	702,770,000	0.6136	No
AOL	AOL	21,430,608	0.03	468,531	45.74	42.5	3,410,000	3,410,000,000	0.6285	No
INTX	Intersections	615,330	0	77,400	7.95	5.49	97,750	97,750,000	0.6295	No
ECHO	Echo Global Logistics	2,616,449	0	123,127	21.25	17.31	415,120	415,120,000	0.6303	No
ASBI	Ameriana Bancorp	261,009	0	18,900	13.81	13.84	41,380	41,380,000	0.6308	No
ETM	Entercom Communications	2,412,300	0	224,400	10.75	10.21	380,350	380,350,000	0.6342	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
AVP	Avon Products	40,924,568	0.06	2,357,406	17.36	14.915	6,430,000	6,430,000,000	0.6365	No
HERO	Hercules Offshore	4,585,355	0.01	719,836	6.37	4.58	717,810	717,810,000	0.6388	No
BBY	Best Buy	61,478,002	0.09	1,498,002	41.04	27.27	9,570,000	9,570,000,000	0.6424	No
BRKL	Brookline Bancorp	4,286,916	0.01	447,486	9.58	9.26	647,150	647,150,000	0.6624	No
AKS	AK Steel Holding Corporation	6,995,116	0.01	882,108	7.93	7.6	1,050,000	1,050,000,000	0.6662	No
CRRC	Courier Corporation	1,162,191	0	62,517	18.59	15.23	174,260	174,260,000	0.6669	No
CBR	CIBER	2,265,063	0	532,956	4.25	4.36	337,900	337,900,000	0.6703	No
HAUP	Hauppauge Digital	10,897	0	64,100	0.17	0.1601	1,620	1,620,000	0.6727	No
DENN	Denny's Corporation	3,867,039	0.01	524,700	7.37	6.47	573,340	573,340,000	0.6745	No
DK	Delek US Holdings	12,038,430	0.02	358,500	33.58	28.97	1,780,000	1,780,000,000	0.6763	No
CPLA	Capella Education Company	4,881,724	0.01	72,354	67.47	57.69	717,670	717,670,000	0.6802	No
BOBE	Bob Evans Farms	8,070,444	0.01	159,558	50.58	47.15	1,180,000	1,180,000,000	0.6839	No
ACET	Aceto Corporation	4,004,512	0.01	171,133	23.4	20	574,980	574,980,000	0.6965	No
CKP	Checkpoint Systems	3,816,189	0.01	250,900	15.21	12.65	537,160	537,160,000	0.7104	No
AVID	Avid Technology	1,969,344	0	236,700	8.32	7.01	276,370	276,370,000	0.7126	No
DGI	DigitalGlobe	15,090,943	0.02	359,565	41.97	27.78	2,110,000	2,110,000,000	0.7152	No
HDNG	Hardinge	1,314,388	0	88,750	14.81	14.34	182,500	182,500,000	0.7202	No
GCA	Global Cash Access Holdings	3,396,087	0	352,657	9.63	6.99	464,660	464,660,000	0.7309	No
BYI	Bally Technologies	18,349,502	0.03	237,534	77.25	63.48	2,500,000	2,500,000,000	0.7340	No
AFFX	Affymetrix	3,849,370	0.01	444,500	8.66	7.24	517,510	517,510,000	0.7438	No
ANIK	Anika Therapeutics	4,365,953	0.01	115,900	37.67	39.2601	585,580	585,580,000	0.7456	No
CBEY	Cbeyond	1,653,563	0	239,300	6.91	7.1	217,200	217,200,000	0.7613	No
DRIV	Digital River	4,269,858	0.01	232,310	18.38	17.865	544,440	544,440,000	0.7843	No
ARO	Aeropostale	3,108,766	0	343,510	9.05	4.93	393,250	393,250,000	0.7905	No
CRL	Charles River Laboratories	22,390,826	0.03	420,485	53.25	58.07	2,810,000	2,810,000,000	0.7968	No
AMED	Amedisys	3,827,076	0.01	260,700	14.68	14.52	479,630	479,630,000	0.7979	No
CQB	Chiquita Brands International	4,641,966	0.01	387,800	11.97	12.11	581,190	581,190,000	0.7987	No
CLMS	Calamos Asset Management	2,095,060	0	178,000	11.77	12.6	261,300	261,300,000	0.8018	No
APRI	Apricus Bioscience	689,207	0	258,130	2.67	2.19	84,150	84,150,000	0.8190	No
BSET	Bassett Furniture Industries	1,226,220	0	76,400	16.05	14.09	149,310	149,310,000	0.8213	No
BBOX	Black Box Corporation	3,098,686	0	104,827	29.56	23.78	375,460	375,460,000	0.8253	No

(continued)

Table E1. Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
CLGX	CoreLogic	22,517,555	0.03	639,340	35.22	28.88	2,690,000	2,690,000,000	0.8371	No
APP	American Apparel	749,149	0	624,291	1.2	0.511	87,870	87,870,000	0.8526	No
CMTL	Comtech Telecomm	4,176,284	0.01	130,795	31.93	31.86	488,590	488,590,000	0.8548	No
FVE	Five Star Quality Care	2,028,052	0	362,800	5.59	4.78	234,110	234,110,000	0.8663	No
CPSS	Consumer Portfolio Services	1,646,160	0	180,500	9.12	7.66	189,390	189,390,000	0.8692	No
CWST	Casella Waste Systems	1,806,378	0	314,700	5.74	5.21	207,800	207,800,000	0.8693	No
GNI	Great Northern Iron Ore Properties	230,996	0	3,160	73.1	17.71	26,380	26,380,000	0.8756	No
ASYS	Amtech Systems	877,045	0	134,930	6.5	9.78	95,740	95,740,000	0.9161	No
CTRN	Citi Trends	2,253,609	0	131,100	17.19	16.34	244,710	244,710,000	0.9209	No
AVT	Avnet	60,089,692	0.09	1,388,394	43.28	46.79	6,500,000	6,500,000,000	0.9245	No
BVSN	BroadVision	488,070	0	49,500	9.86	10.75	52,510	52,510,000	0.9295	No
AFAM	Almost Family	2,043,804	0	60,900	33.56	23.01	215,180	215,180,000	0.9498	No
CSV	Carriage Services	3,207,523	0	163,900	19.57	18.01	333,660	333,660,000	0.9613	No
KWK	Quicksilver Resources	4,690,344	0.01	1,600,800	2.93	2.75	478,680	478,680,000	0.9798	No
AIZ	Assurant	46,532,332	0.07	701,951	66.29	64.64	4,640,000	4,640,000,000	1.0029	No
KOPN	Kopin Corporation	2,371,976	0	554,200	4.28	3.7	234,910	234,910,000	1.0097	No
BTH	Blyth	1,589,814	0	149,700	10.62	9.7	156,020	156,020,000	1.0190	No
CACH	Cache	752,693	0	142,286	5.29	3.3	70,730	70,730,000	1.0642	No
BBSI	Barrett Business Services	4,855,199	0.01	52,100	93.19	61	446,230	446,230,000	1.0880	No
DWCH	Datawatch Corporation	2,221,133	0	64,643	34.36	23.19	196,580	196,580,000	1.1299	No
GTIV	Gentiva Health Services	3,891,065	0.01	310,045	12.55	8.97	325,380	325,380,000	1.1959	No
CVO	Cenveo	2,550,366	0	737,100	3.46	3.06	211,000	211,000,000	1.2087	No
AVNW	Aviat Networks	1,156,894	0	505,194	2.29	1.49	92,910	92,910,000	1.2452	No
CECO	Career Education	5,977,295	0.01	1,043,158	5.73	6.97	474,070	474,070,000	1.2608	No
GTS	Triple-S Management	5,665,770	0.01	291,000	19.47	16.18	445,590	445,590,000	1.2715	No
BAGL	Einstein Noah Restaurant	3,579,996	0.01	234,600	15.26	15.87	280,820	280,820,000	1.2748	No
ALSK	Alaska Communications Systems	1,207,290	0	574,900	2.1	1.9276	92,900	92,900,000	1.2996	No
CTWS	Connecticut Water Service	5,016,075	0.01	142,300	35.25	33.43	371,370	371,370,000	1.3507	No
CEP	Constellation Energy Partners	1,059,135	0	432,300	2.45	2.5	73,060	73,060,000	1.4497	No
BONT	Bon-Ton Stores	3,539,740	0.01	209,949	16.86	10.5599	209,920	209,920,000	1.6862	No

(continued)

Table E1.   Analysis of CalPERS' Portfolio Holdings (continued)

Ticker	Name	Portfolio Value	Portfolio Weight	Share Count	Price	Last Trade Price	Firm Total Market Cap (thousands)	Firm Total Market Cap ($)	Share of Firm Market Cap	Meets SEC Ownership Threshold (Yes/No)
DVR	Cal Dive International	2,874,965	0	1,423,250	2.02	1.68	168,860	168,860,000	1.7026	No
FST	Forest Oil Corporation	3,800,052	0.01	1,010,652	3.76	1.895	216,890	216,890,000	1.7521	No
COCO	Corinthian Colleges	2,067,850	0	1,168,277	1.77	1.33	117,770	117,770,000	1.7558	No
ATEA	Astea International	158,796	0	59,474	2.67	2.3199	8,140	8,140,000	1.9508	No
FPP	Fieldpoint Petroleum Corporation	835,078	0	200,740	4.16	4.83	38,560	38,560,000	2.1657	No
BODY	Body Central Acquisition Corporation	464,252	0	110,800	4.19	1.1499	18,570	18,570,000	2.5000	No
AIRT	AirT	719,216	0	63,200	11.38	12.1899	28,140	28,140,000	2.5558	No

Note: This analysis reflects the firms in CalPERS' portfolio for which data on market capitalization were available. To the extent that this information was not available for a particular firm, we were unable to determine if CalPERS met the SEC's 3% ownership threshold for that firm. Given this context, our analysis reflects 949 companies in CalPERS' portfolio for which data on market capitalization were available. Collectively, the firms included in our analysis reflect approximately 30% of the value of CalPERS' entire portfolio.

Source: Reflects information contained in CalPERS' 13F filing for the period ended 31 December 2013. Available online at http://www.sec.gov/Archives/edgar/data/919079/000140361400654/000140361-14-006548.txt. In addition, we retrieved information on firm-level market capitalization from YahooFinance using the Yahoo EXCEL Stock Market Add-In: https://groups.yahoo.com/neo/groups/smf_addin/info, using function RCHGetElementNumber ("ticker",941).

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