

## SUPPLEMENTARY ONLINE APPENDIX

For

### Managing the Conflicting Interests of Workers and Shareholders: Evidence from Pension-Assumption Manipulations

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This document contains a detailed discussion of fiduciary standards laws and a discussion of potential selection issues. I ordered this document such that the appendices material appears in the same order as in the published article:

Appendix A: Fiduciary Standards of Institutional Investors

Appendix B: Potential Sample Selection Issues

#### **Appendix A. Fiduciary Standards of Institutional Investors**

All institutional investors maintain discretion over the assets of others. Yet, under the Prudent Man Investment Act of 1940 and numerous state trust laws, the strength of the fiduciary standards among institutional investors varies based largely on their client base (Del Guercio 1996; Bushee 2001).

Bank trusts manage equities on behalf of other institutions, including pension funds and endowments, and face particularly strict fiduciary requirements that motivate them to avoid investments that the courts would deem imprudent (Badrinath, Gay, and Kale 1989). Del Guercio (1996) found that bank-trust managers invest more heavily in stocks with a better Standard & Poor's Earnings and Dividend Ranking, a measure often used in courts to defend a stock investment as prudent, whereas mutual fund managers do not. Similarly, Bushee (2001) found that equity ownership by bank trusts is associated with a preference for near-term earnings over long-run value.

Public pension funds, as retirement vehicles for public-sector workers, also face strict fiduciary responsibilities under the state and local laws governing their investment operations (Shin and Seo 2011), and the fear of litigation is a particularly strong motivating investment criterion for public pension managers (O'Barr and Conley 1992). Under the Employment Retirement Investment Security Act of 1974, managers of company pension funds are personally liable for losses on imprudent investments. Endowments are considered to have fiduciary standards similar to those of pension funds (O'Barr and Conley 1992; Bushee 2001). Thus, public pension, company pension, and endowment fund managers have a strong incentive to invest in safe, high-quality stocks.

By contrast, investment advisors primarily manage individual investments through mutual funds. Whereas the Model Prudent Investment Act of 1940 imposes a fiduciary responsibility on mutual fund managers, it makes no reference to prudent investments. Hence, these managers are held to the least-restrictive fiduciary responsibilities among institutional

investors, granting them great latitude in selecting firms in which to invest (Del Guercio 1996). Insurance companies hold equities as an investment vehicle for their premiums. Compared to mutual funds, insurance companies are subject to stricter fiduciary constraints; however, these restraints are still relaxed when compared to those for banks and pension funds.

### **Uniform Prudent Investor Act**

In 1997, the Uniform Prudent Investor Act codified into law several provisions outlined in the American Law Institute's (ALI) 1992 *Restatement (Third) of Trusts*. The law made five main alterations in prudent investing concepts by "(a) Focusing on the total portfolio, rather than individual investments; (b) Defining the fiduciary's central concern as the trade-off between risk and return; (c) Removing all categorical restrictions on types of investment; (d) Prescribing diversification as integral to prudent investing; and (e) Reversing the non-delegation rule with respect to investment and management functions" (Hawley, Johnson, and Waitzer 2011: 7). Although this legal change gave fiduciaries more leeway in picking riskier, longer-term investments, trustees still maintained some responsibilities that other investment managers did not have. According to the *Journal of Accountancy* (1998),

While the rules provide trustees with some relief on individual investments, trustees are held to a higher standard in the factors and variables they must consider when making investment decisions. For example, a trustee must take into account economic conditions (including inflation and deflation), tax consequences, the role each investment plays in the beneficiary's portfolio strategy, the anticipated income and capital return, liquidity and cash flow needs, and the diversity of investments for risk management purposes. So, while a trustee is not necessarily in breach of the prudent investor rule if an investment performs poorly, he or she must be able to show how each investment meets specific risk and return objectives.<sup>1</sup>

Additionally, the act confirmed a prudent-professional standard (rather than a prudent-man standard), to clarify the need for a higher standard of care for trustees.

Despite this change, research has shown that institutions with stronger fiduciary standards engage in different kinds of practices and strategies than do their weaker-standard counterparts. For example, Bushee (2001) found that the level of ownership by institutions held to more stringent fiduciary standards is positively associated with the amount of firm value in expected near-term earnings, which suggests that these institutions may overweight short-term earnings potential. Shin and Seo (2011) showed that equity ownership by pension funds is more negatively associated with the level of CEO pay. The authors speculated that this is because public pension funds have strong incentives to rein in executive pay, to avoid scrutiny, and to

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<sup>1</sup> See <http://www.journalofaccountancy.com/issues/1998/nov/spalding.html>.

boost earnings. Bushee, Carter, and Gerakos (2014) showed that institutions with stronger fiduciary standards invest more heavily in firms with stronger shareholder-friendly governance mechanisms. The authors speculated that this finding is because these firms tend to be safer, more transparent investment targets.

Moreover, observers have noted that the stringency of fiduciary standards of bank trusts and pension funds discourage them from engaging in investment strategies that fall outside of the norm of other institutions. The focus on short-term earnings by institutional investors over the past several decades therefore creates powerful incentives for fiduciaries to engage in a similar set of investment strategies. Doing so minimizes the risk of being accused and/or found guilty of being derelict in fiduciary responsibility (Stone 1994; Johnson and de Graaf 2009; Hawley et al. 2011).

## **Appendix B. Potential Sample-Selection Issues**

Firms in this study could exit the sample in two main ways. First, firms can cease to operate as an independent business, as would occur when the firm was acquired or ceased operations and liquidated its assets. Second, the firm could cease to offer DB pension plans, which I capture by indicators of firms terminating or hard freezing their DB plan(s). The potential for firms to exit the sample does raise some selection issues. Because I used a firm-fixed effects regression as my primary analyses and, thus, examine only the impact of within-firm variance of the covariates on ERRs, some of the potential issues associated with firms dropping out of the sample are minimized. A fixed-effects regression would not fully resolve this concern, however, if we assumed that firms make different ERR decisions because they anticipate being acquired/liquidated or terminating/freezing their DB plan(s). Note that executives anticipating one of these two outcomes is only a problem if it affects the relationship between the independent variables and ERRs. For example, we have to assume that finance CEOs who anticipate their firms may be acquired behave differently from non-finance CEOs who anticipate being acquired. Because I cannot rule out the possibility that anticipating these outcomes affects the relationship between the independent variables and ERRs, I ran three additional tests to help rule out that a sample-selection bias affects my results.

First, I ran firm-fixed-effects analyses of firms that had a DB plan and were part of the sample for all years between 1992 and 2006. In the model including only firms that were in the sample during the entire observation period, the coefficients for unionization ( $b = -0.260$ ,  $p < .05$ ) and finance CEO ( $b = 9.672$ ,  $p < .001$ ) are significant and in the hypothesized direction. The coefficient for high fiduciary standards is positive and significant but only at the .10 level ( $b = .338$ ,  $p < .10$ ). This modestly weaker result seems most likely attributable to the loss in statistical power from having a smaller sample of firms ( $n = 411$ ).

Second, I ran firm-random-effects analyses whereby I included time-invariant control variables for whether the firm was either acquired or liquidated during the observation period (1 = Yes) or whether the firm's DB plan was either terminated or hard frozen during the period (1 =

Yes). Including dummies had no material effect on the random-effects results. Finally, I ran random-effects regressions interacting these dummy variables with the covariates of interest. The interaction terms of these dummy variables and the covariates revealed very little of consequence. The coefficient for the interaction of finance CEO and ever acquired or liquidated was negative and significant ( $b = -12.856, p < .05$ ). This result suggests that if there were some anticipation, it was to make ERRs more conservative, which is less of a concern because it works against finding support for Hypothesis 3. None of the other interactions were significant.

### References for Online Appendix

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