

Legal Environment Changes and Firm Value: Evidence From the 1999 SGI Case

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The 1999 Silicon Graphics International (SGI) case reduced litigation risks and allowed for discretion in financial statements, resulting in a decrease in the expected losses associated with litigation. In this paper, we explore this new legislative environment and examine the pathways underlying the impact of changes to the legal environment on firm value. Accordingly, this study visualizes how these changes can enhance the value of a firm. In addition, this paper reveals how managers react to the legal changes in financial reporting practices.

Keywords: litigation risk, financial health, firm value, financial information

INTRODUCTION

What are investors' and shareholders' concerns regarding changes to the legal environment associated with firm value? As an effective test, we propose that a lawsuit case should be analyzed, since a lawsuit is one of the enforcing ways of influencing firms' financial reporting. Changes to litigation risks brought about by a new lawsuit case can change investors' motivation, for example, regarding financial information and financial health. Thus, this study examines the implications relating to the impact of new legislation on firm value by focusing on the 1999 SGI court case, which substantially reduced the common litigation risk for firms in the Ninth Circuit.

This research focuses on a specific court case, Re: Silicon Graphics Inc. (the ninth circuit¹). The court made a decision that reduced the risk of shareholder litigation under securities law for the firms' headquarters located in the United States Court of Appeals for the Ninth Circuit². The objective of this study is to examine how the reduced litigation risk resulting from this case decision affects a firm's value through multiple staged evaluations. The 1999 SGI case is an ideal example for several reasons. First, the SGI decision provides a perfect context as it led to a strong shift in litigation risk. Second, the SGI decision was widely publicized and clearly articulated how it would affect firms. Third, at the time of the SGI

decision, the Ninth Federal Circuit was the most significant venue in terms of the volume of class-action securities lawsuits carried out.

Class-action lawsuits implemented under securities laws impose tremendous costs on the U.S. economy and are growing in popularity throughout the world. Despite their perceived importance in regulating securities markets, little empirical evidence exists regarding how they influence the ways in which investors use financial reporting. Accordingly, this paper examines the alleged benefits of class actions by testing whether an unexpected decline in litigation risk affects the levels of discretionary revenues and the market reaction to unexpected revenues.

In this study, we examine firm value with respect to the litigation risk of a voluntary financial statement and a firm's financial health. Research that attempts to explain how legal environmental factors can affect a firm's value is worthwhile for several reasons. While several studies have analyzed firm value determinants, few existing studies have considered the underlying mechanism of the effects of legal environmental factors. This research extends the literature by using a Throughput model (Rodgers, 1997) to capture different pathways and stages that can affect firm value in the wake of the 1999 SGI court case decision. We find that investors tend to give higher worth to the subsequent quarter firm value through multiple pathways when the risk of litigation for firms is reduced. This higher expected firm value indicates that the levels of discretionary revenues increased following the decision for firms affected by the decision, relative to firms that were not affected. Further, these reporting changes were driven by firms that faced the highest risk of litigation. Overall, the risk of class-action lawsuits filed under securities laws prevents managers from adopting aggressive reporting practices. Otherwise, investors use the aggressive report for investment, reducing the cost of requirements in accounting standards, and raising the stock price and firm value (Hopkins, 2012; Zhang, 2007).

Empirically, we first identify a court decision that reduced the risk of shareholder litigation only for the firms' headquarters located in the U.S. Court of Appeals for the Ninth Circuit. This decision offers a robust context in which to examine the issue as it affected legal outcomes (Perino, 2003; Pritchard & Sale, 2005) and affected a subset of firms based on the geographic location of their headquarters.

This paper demonstrates that, as the risk of private securities litigation decreases, managers adopt opportunistic and aggressive accounting reporting to enhance their firm's market value. Furthermore, it suggests that, following this court decision, investors can expect an increase in firm value, considering financial information and financial soundness as bases for judgment. As such, it contributes to the literature that examines the determinants and consequences of litigation risk in terms of accounting outcomes (Baginski, Hassell, & Kimbrough, 2002; Field, Lowry, & Shu, 2005; Francis, Philbrick, & Schipper, 1994; Hopkins, 2012; Johnson, Kasznik, & Nelson, 2001; Johnson, Nelson, & Pritchard, 2007; Kasznik & Lev, 1995; Palmrose & Scholz, 2004; Rogers & Van Buskirk, 2009; Skinner, 1994, 1997). Our empirical tests limit the period to the quarter immediately following the event. We follow the decision-making model (Rodgers, Choy, & Guiral, 2013) to reveal these relations within a broad framework.

The remainder of the study is organized as follows. Section 2 describes the background and provides a literature review. Section 3 develops our hypothesis. Section 4 provides empirical models. Section 5 reports empirical results. Finally, Section 6 provides a conclusion.

BACKGROUND AND LITERATURE REVIEW

Re: Silicon Graphics, Inc., Securities Litigation

Congress passed the Private Securities Litigation Reform Act of 1995 (PSLRA) in response to complaints that class-action lawsuits filed under securities laws impose significant costs on the economy. The PSLRA included several provisions to reduce baseless lawsuits and ease the legal burden on corporations and third parties such as law and accounting firms. One of the outcomes of the reforms was that it heightened the standards of the pleas for which plaintiffs must gather evidence of fraud.

Prior to PSLRA, shareholders could file a lawsuit against a corporation with relatively little evidence of misrepresentation on the part of the corporation. The plaintiffs could gather evidence during the discovery process. The PSLRA requires that plaintiffs state with particularity a strong inference that the

defendant acted with the required state of mind. Subsequently, circuits interpreted the phrase “strong inference” differently, and the Ninth Circuit interpreted the pleading provision in the strictest manner. In the SGI case, the Ninth Circuit required plaintiffs to plead, at minimum, a strong inference of deliberate recklessness.

The SGI decision primarily affects firms headquartered in a single jurisdiction, the Ninth Circuit, which is a critical element in the research design. The majority of class actions are ultimately consolidated and litigated in the federal district where the corporation maintains its headquarters (Cox, Thomas, & Bai, 2009). Therefore, the litigation risk managers face is apparent at the time they make their financial reporting choices. Furthermore, since only public firms headquartered in the Ninth Circuit are affected by the decision, firms in the remaining circuits can be utilized as a control group. This design creates a natural control for changes in the business environment.

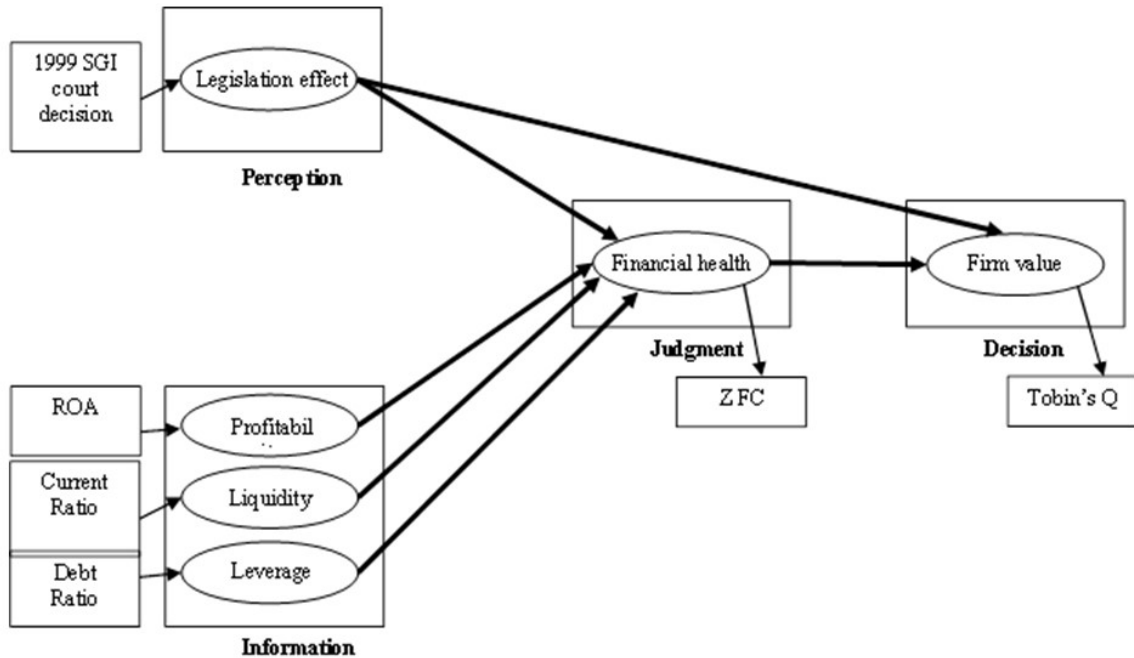
The SGI decision was widely publicized and clearly articulated how it would affect firms. The AP news covered the decision on the day of the announcement—July 2, 1999. The *San Francisco Chronicle*, the *San Jose Mercury* and the *Los Angeles Times* reported on the decision the following day. Furthermore, writers indicated the effect of court decisions on litigation risk, suggesting that future lawsuits against firms in the Ninth Circuit appeared to have little chance of success. Thus, the Ninth Circuit unexpectedly moved from one of the easiest in which circuits to certify a class action to one of the most difficult. Our sample—the 1999 SGI court case—provides a better picture of the effect of the change in the litigation environment on stock prices.

Investor Decision-Making Model

A Throughput Model (Rodgers, 1997) that captures different pathways and stages that can influence a firm’s valuation is used in this paper. This model provides a conceptual framework to support our arguments. Specifically, it incorporates perceptions, financial information, financial health, and decision choice (Rodgers, Choy, & Guiral, 2013).

Investors form their perception based on the SGI court case decision when considering a firm’s valuation. The SGI decision affects firms headquartered in the Ninth Circuit. Further, the litigation risk faced by managers is apparent at the time at which they make their financial reporting choices. Therefore, managers are more likely to increase their degree of aggressiveness and their levels of discretionary revenues in light of the decision. Investors rely on this new legislation effect to develop their perception of a firm’s valuation following the SGI case. We describe this insight as perception in this model. Perception, along with other financial information, is used for the second-stage evaluation, in this case, an assessment of a firm’s financial health. The information includes the set of financial information reported in accounting resources. We incorporate profitability, liquidity, and leverage ratios into the information (I). In this model, information (I), which includes investors’ perception of the new legislation’s effect on firm value, affects their financial health judgment (J). Investors form their perception regarding the effect of legal environment change on firm value based on several forms of information made available in the financial statements. Financial health judgment involves a detailed analysis of all the available information on the legislation’s effect, and decisions then follow. This final stage represents a culmination of information, perception, and judgment (see Fig 1).

**FIGURE 1
INVESTOR DECISION-MAKING MODEL**



HYPOTHESES

Following the decision-making model (Rodgers, Choy, & Guiral, 2013), we hypothesize that, along with accounting-based measurement of CFP, investors’ perception of the legal effects also plays a significant role in determining the firm’s valuation (see Fig. 1). The environment influencing the investors’ perception is an important determinant. Zhang (2007) finds that the cumulative abnormal return around the legislative events leading to SOX is significantly negative. The evidence reveals that investors consider the Act to be costly and the information conveyed by the passage of the Act to be bad news for business. The loss in market value relating to the most significant rulemaking events amounts to \$1.4 trillion, which likely reflects the direct compliance costs, indirect costs and expected costs of future anti-business legislation. In contrast to the SOX Act of 2002, the 1999 SGI case effect is entirely reversed. 1999 SGI case decreases the expected loss associated with litigation. This legislation environment change attracts investors or shareholders, and thus boosting the firm’s stock price. As such, we assume the 1999 SGI court case decision has a positive impact on a firm’s value, and we incorporate this new value-increasing situation into the model.

In addition, we use the financial health construct (J) as a representative measure of a firm’s accounting-based CFP. This construct simultaneously captures a firm’s profitability, liquidity, and leverage information (Johnstone & Bedard, 2004). It is important to consider going-concern issue in evaluating a firm. Regarding this issue, the firm’s health should be analyzed because a profitable firm can suffer from cash-shortening and debt obligations. All these can consistently impede the firm’s potential in the future. As such, financial health provides a more comprehensive measure of the firm’s financial condition than a profitability measure alone.

Taken together, our view is that the investors’ perception can influence the firm’s value through multiple staged evaluations. To this end, this model forms a concept that, in addition to the financial information for a firm, investors incorporate their perception of the new legal environment in their valuation decisions. These arguments lead to the following hypothesis:

H: a firm's financial information, in the new legal environment following the 1999 SGI court case decision, positively affects the valuation of the firm.

EMPIRICAL DESIGN

Sample

The data sample consists of 303 observations—27 firms in the Ninth Circuit and 276 firms in the remaining circuits. We intend this empirical study to research the investors' decision-making, in several regards, with reference to their perception of the new legal environment, financial information, and financial health. Our sample period starts in July 1999 since this was the month in which the 1999 SGI court case decision was announced. We assume that studying a single quarter is most suitable for testing our hypothesis and, therefore, designate the period ending in September 1999.

Proxies for Legislative Effect, Financial Information, Financial Health, and Firm Value

Legitimate change was indicated using a dummy variable which is equal to one if the legitimate effects have been observed in a state and zero otherwise.

We follow closely the decision-making model outlined in Rodgers, Choy, and Guiral (2013) in studying the relation between the legislation event and firm value. This model suggests the broad implications of incorporating financial information and the environmental perception of investors in evaluating a firm. As such, we consider three sets of financial measures that are mostly significant determinants of a firm's financial health, including profitability, liquidity, and leverage ratios. This paper uses the Return on Assets (ROA), which is an indicator of how profitable a firm is relative to its total assets, to measure a firm's profitability. A firm's liquidity is measured by the current ratio (Current Asset/Current Liabilities) that determine a firm's ability to pay short-term and long-term obligations. Leverage is measured by the debt ratio (ratio of total debt to total assets), which is interpreted as the proportion of a firm's assets that are financed by debt.

We use a firm's financial health status as a proxy for the firm's accounting resources. This serves as a judgment through which we can measure the effect of the perception on the overall market value of a firm, considering financial viability. Since we are interested in the effect of the legal event on a firm's valuation, we use the Zmijewski score (Zmijewski, 1984) as a proxy for financial health (Rodgers, Choy, & Guiral, 2013). This financial health score measures a firm's financial viability. The higher the score, the lower the probability that going-concern problems will occur for a firm. The Zmijewski score, ZFC, is constructed based on a firm's profitability, leverage, and liquidity ratios as follows:

$$ZFC = - 4.336 - 4.513(\text{ROA}) + 5.679(\text{LEV}) + 0.004(\text{LIQ})$$

where ROA is the return on assets, LEV is debt-to-asset, and LIQ is the current ratio. The financial health measure is computed as ZFC.

Finally, the valuation of a firm is measured by Tobin's Q, computed as the sum of the market value of a firm divided by its total asset value. For example, a low Q (between 0 and 1) means that the cost to replace a firm's assets is greater than the value of its stock, which implies that the stock is undervalued. This measure of stock valuation is the factor behind investment decisions in Tobin's Q. The model has been widely used in prior research as a measure of a firm's performance (Garcia-Castro, Ariño, & Canela, 2010; Kaplan & Zingales, 1997; Pava & Krausz, 1996; Smith & Watts, 1992). It captures the market's expectations regarding the firm's potential growth and, thereby, estimates the firm's value in the future. If investors perceive the change in the legal environment as a value-increasing opportunity, this perception is reflected in the firm's market value and hence raises its Tobin's Q.

RESULTS

We use partial least squares (PLS) to analyze comprehensive relation in our empirical model. PLS regression is probably the least restrictive of the various multivariate extensions of the multiple linear regression model. This flexibility allows it to be used in situations where the use of traditional multivariate methods is severely limited. Since our model contains several latent relations with multiple indicators, we believe PLS is useful in describing the overall picture in this study. Further, we add a bootstrapping method, which is a statistical technique that is repeated a large number of times to reach a more accurate inference. Table 1 provides descriptive statistics.

**TABLE 1
DESCRIPTIVE STATISTICS**

	Mean	Median	Maximum	Minimum	Standard Deviation
Legitimate Effect	0.089	0.000	1.000	0.000	0.285
ROA	0.009	0.010	0.077	-0.103	0.012
Debt Ratio	0.304	0.300	0.748	0.000	0.096
Current Ratio	0.904	0.813	4.491	0.077	0.487
Financial Health	2.645	2.692	0.138	4.345	0.550
Tobin's Q	1.229	1.205	2.596	0.698	0.205

Table 2 displays the correlations of variables. As expected, in the three measures of financial information, ROAs are positively correlated with the current ratio but negatively with the debt ratio.

**TABLE 2
CORRELATION TABLE**

	Legal effect	ROA	Leverage Ratio	Liquidity Ratio	Tobin's Q	Financial Health
Legal Effect	1.0000					
ROA	0.0132**	1.0000				
Leverage Ratio	0.1244*	-0.0473***	1.0000			
Liquidity Ratio	-0.0275***	0.0234*	-0.0132**	1.0000		
Tobin's Q	0.0722**	-0.1239***	0.1423**	0.0447*	1.0000	
Financial Health	-0.1213**	0.1478*	-0.9958***	0.0124**	-0.1536**	1.0000

* Significant at $p < 0.10$, ** significant at $p < 0.05$, *** significant at $p < 0.01$

The PLS path coefficients from our empirical design are shown in Table 3. Our results suggest that investors incorporate both the legal environmental issue and financial measures in their valuation of a firm. In Table 3, the results indicate the effects of the new legal environment on subsequent quarter firm values. We

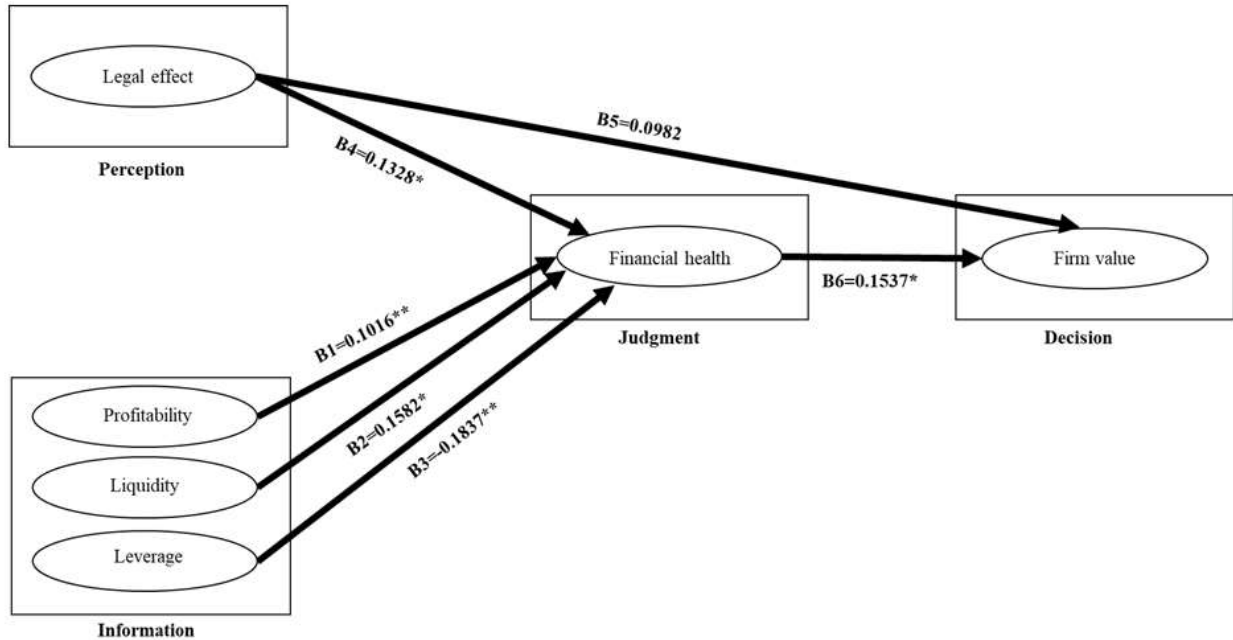
observe that a new legitimate situation has significantly positive influence on the investor's judgment (ZFC) with diverse respect to the accounting-based information ($\beta_4= 0.1328$, $p\text{-value}= 0.0893$) in the subsequent quarter. Also, we find that the relation between profitability (ROA) and financial health (ZFC) is a significantly positive ($\beta_1= 0.1016$, $p\text{-value}= 0.0163$) and that the relation between the liquidity ratio (current ratio) and financial health (ZFC) has a significantly positive number ($\beta_2= 0.1582$, $p\text{-value}= 0.0510$) but that the leverage ratio (debt-to-asset ratio) and financial health (ZFC) show a significantly negative relation ($\beta_3= -0.1837$, $p\text{-value} = 0.0209$). As expected, the financial health latent variable has a significantly positive effect on the market value of the firm ($\beta_6= 0.1537$, $p\text{-value}= 0.0510$). In other words, firms with sound financial health are more likely to be those with a higher market value. In summary, the new legal decision has significant indirect effects on firm value, based on a decision-making process. In accordance with our findings, Figure 2 visualizes how the legal environment change can lead to a positive enhancement in firm value.

**TABLE 3
MAIN RESULTS**

Pathways	Parameter Estimates	P-value
Profitability – financial health (β_1)	0.1016**	0.0163
Liquidity – financial health (β_2)	0.1582*	0.0510
Leverage – financial health (β_3)	-0.1837**	0.0209
Legal event – financial health (β_4)	0.1328*	0.0893
Legal event – investor decision (β_5)	0.0982	0.9220
Financial health – investor decision (β_6)	0.1537*	0.0510

* Significant at $p<0.10$, ** significant at $p<0.05$, *** significant at $p<0.01$

FIGURE 2
PLS RESULTS FOR MODEL



* Significant at $p < 0.10$, ** significant at $p < 0.05$, *** significant at $p < 0.01$

Overall, the results suggest that the investor’s perception regarding the new legislative environment contributes significantly to the firm’s market value via the financial status of the firm, consistent with the hypothesis.

CONCLUSION

In this paper, we describe how the changes to the legal environment in the Ninth Circuit can lead to a positive enhancement of a firm’s value. The change in litigation risk brought about by a new lawsuit case can affect investors’ perception when considering financial information and financial health. When the risk of litigation for firms is reduced, managers are more likely to adopt aggressive reporting practices. If investors positively perceive financial health resulting from the opportunistic chance, its firm value should increase in the following quarter. Consistent with our argument, we visualize how the legal environment changes can enhance the value of a firm.

Our empirical results suggest that legislative change not only affects financial health, captured by the accounting-based measure, but also affects the firm’s stock price and value. In this empirical analysis, we provide evidence that supports the hypothesis that a firm’s financial information can, in the new legal environment following the 1999 SGI court case decision, positively affect the investor’s decision-based valuation of the firm. Our findings contribute to the accounting literature in that this research shows how managers react to legitimate changes. Prior research has shown that managers want to adopt aggressive financial reporting in ways that increase firm value. Nonetheless, this prior literature could not demonstrate the detailed processes of managers’ reactions to a legal environment change. To address this gap, this study suggests a new approach for uncovering the procedures of managers’ financial reporting behaviors using a decision-making model.

ENDNOTES

1. The United States Courts for the Ninth Circuit consists of the Ninth Circuit Court of Appeals along with district and bankruptcy courts in the 15 federal judicial districts that comprise the circuit and associated administrative units that provide various court services.
(http://www.ca9.uscourts.gov/judicial_council/what_is_the_ninth_circuit.php)
2. While shareholders may file lawsuits in any federal jurisdiction, the vast majority of lawsuits are consolidated and moved to the district where the firm is headquartered (Cox, Thomas, & Bai, 2009)

REFERENCES

- Baginski, S.P., Hassell, J.M., & Kimbrough, M.D. (2002). The Effect of Legal Environment on Voluntary Disclosure: Evidence from Management Earnings Forecasts Issued in U.S. and Canadian Markets. *The Accounting Review*, 77(1), 25-50.
- Cox, J.D., Thomas, R.S., & Bai, L. (2009). Do Differences in Pleading Standards Cause Forum Shopping in Securities Class Actions?: Doctrinal and Empirical Analyses. *2009 Wisconsin Law Review*, pp. 421-453.
- Field, L., Lowry, M., & Shu, S. (2005). Does disclosure deter or trigger litigation? *Journal of Accounting and Economics*, 39(3), 487-507.
- Francis, J., Philbrick, D., & Schipper, K. (1994). Shareholder Litigation and Corporate Disclosures. *Journal of Accounting Research*, 32(2), 137-164.
- Garcia-Castro, R., Ariño, M.A., & Canela, M.A. (2010). Does Social Performance Really Lead to Financial Performance? Accounting for Endogeneity. *Journal of Business Ethics*, 92(1), 107-126.
- Hopkins, J. (2012). *Private Enforcement of Securities Laws and Financial Reporting Choices*.
- Johnson, M.F., Kasznik, R., & Nelson, K.K. (2001). The Impact of Securities Litigation Reform on the Disclosure of Forward-Looking Information By High Technology Firms. *Journal of Accounting Research*, 39(2), 297-327.
- Johnson, M.F., Nelson, K.K., & Pritchard, A. (2007). Do the Merits Matter More? The Impact of the Private Securities Litigation Reform Act. *The Journal of Law, Economics, and Organization*, 23(3), 627-652.
- Johnstone, K.M., & Bedard, J.C. (2004). Audit Firm Portfolio Management Decisions. *Journal of Accounting Research*, 42(4), 659-690.
- Kaplan, S.N., & Zingales, L. (1997). Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints?*. *The Quarterly Journal of Economics*, 112(1), 169-215.
- Kasznik, R., & Lev, B. (1995). To Warn or Not to Warn: Management Disclosures in the Face of an Earnings Surprise. *The Accounting Review*, 70(1), 113-134.
- Palmrose, Z.-V., & Scholz, S. (2004). The Circumstances and Legal Consequences of Non-GAAP Reporting: Evidence from Restatements*. *Contemporary Accounting Research*, 21(1), 139-180.
- Pava, M.L., & Krausz, J. (1996). The Association between Corporate Social-Responsibility and Financial Performance: The Paradox of Social Cost. *Journal of Business Ethics*, 15(3), 321-357.
- Perino, M.A. (2003). Did the Private Securities Litigation Reform Act Work? *University of Illinois Law Review*, 913.
- Pritchard, A.C., & Sale, H. A. (2005). What Counts as Fraud? An Empirical Study of Motions to Dismiss Under the Private Securities Litigation Reform Act. *Journal of Empirical Legal Studies*, 2(1), 125-149.
- Rodgers, W. (1997). *Throughput Modeling: Financial Information Used by Decision Makers*. Greenwich, CT: JAI Press.
- Rodgers, W., Choy, H., & Guiral, A. (2013). Do Investors Value a Firm's Commitment to Social Activities? *Journal of Business Ethics*, 114(4), 607-623.
- Rogers, J.L., & Van Buskirk, A. (2009). Shareholder litigation and changes in disclosure behavior. *Journal of Accounting and Economics*, 47(1), 136-156.

- Skinner, D.J. (1994). Why Firms Voluntarily Disclose Bad News. *Journal of Accounting Research*, 32(1), 38-60.
- Skinner, D.J. (1997). Earnings disclosures and stockholder lawsuits. *Journal of Accounting and Economics*, 23(3), 249-282.
- Smith, C.W., & Watts, R.L. (1992). The investment opportunity set and corporate financing, dividend, and compensation policies. *Journal of Financial Economics*, 32(3), 263-292.
- Zhang, I.X. (2007). Economic consequences of the Sarbanes–Oxley Act of 2002. *Journal of Accounting and Economics*, 44(1), 74-115.
- Zmijewski, M.E. (1984). Methodological Issues Related to the Estimation of Financial Distress Prediction Models. *Journal of Accounting Research*, 22, 59-82.

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