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Citation

HUANG, Sterling; ROYCHOWDHURY, Sugata; and SLETTEN, Ewa. Does litigation deter or encourage real earnings management. (2020). *Accounting Review*. 95, (3), 251-278.
Available at: https://ink.library.smu.edu.sg/soa_research/1832

Does Litigation Deter or Encourage Real Earnings Management?[*]

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Abstract

In this paper, we rely on an exogenous shock to examine the impact of litigation risk on real earnings management (REM). We conduct differences-in-differences tests centered on an unanticipated court ruling that *reduced* litigation risk for firms headquartered in the Ninth Circuit. REM increases significantly following the ruling for Ninth-Circuit firms relative to other firms, consistent with litigation risk deterring REM. Additional analyses reveal that REM rises more following the ruling when firms issue more optimistic disclosures. The evidence is consistent with litigation deterring REM by constraining managers' ability to issue optimistic and misleading disclosures that can conceal the myopic and opportunistic motives underlying REM. We further document that an increase in REM in response to a decline in litigation risk is more pronounced when managers have higher incentives to manipulate earnings and governance mechanisms are weaker.

Keywords: Real Earnings Management, Earnings Management, Deterrence, Litigation, Corporate Governance

INTRODUCTION

Real earnings management (REM) refers to managers' attempts to overstate earnings by altering underlying real transactions in a way that is often detrimental for long-term value (Graham, Harvey and Rajgopal 2005; Roychowdhury 2006). In anonymous surveys, executives admit to a preference for this method of managing earnings relative to manipulating accruals (Bruns and Merchant 1990; Graham, et al. 2005). This is cause for concern, because existing evidence indicates that REM is more opaque to external stakeholders and more negatively associated with future firm performance and stock returns than accruals management (Cohen and Zarowin 2010; Kothari, Mizik and Roychowdhury 2016). Not surprisingly, the literature has been interested in factors that constrain REM, with most of the focus centering on external and internal corporate governance (Bushee 1998; Zang 2012; Chen, Cheng, Lo, and Wang 2015; Cheng, Lee and Shevlin 2016). In the case of voluntary disclosures and financial reporting, litigation risk has been shown to be a powerful disciplining force in addition to governance (Skinner 1994; Hopkins 2017). In this context, the goal of our paper is to examine whether the threat of litigation deters managers from engaging in REM.

REM involves the overstatement of earnings via real actions that depart from normal operational and investment processes. Examples include overproduction, aggressive acceleration of sales and reduction of discretionary expenses (Graham, et al. 2005; Roychowdhury 2006; Zang 2012). The influence of litigation risk on REM is more ambiguous than that on disclosure and financial reporting practices, as discussed below.

REM is not directly susceptible to class action lawsuits, which typically allege that managers issued misleading disclosures or financial reports. The "business judgment" principle allows for the possibility that managers exercised their best judgment in choosing their actions, even though there were negative consequences ex post, providing legal cover for REM. It is important to consider, however, that REM hardly exists in a vacuum. A significant number of

class action lawsuits accuse managers of issuing misleading disclosures whose origins are rooted in REM. This is because managers bear the risk that they have to explain to the investing community and financial analysts the rationale for short-term actions undertaken to boost earnings but detrimental to long-term value. REM can thus require managers to misrepresent business circumstances or the true intent of their actions (Lo, Ramos and Rogo 2017). Such statements, when revealed later to be misleading and deceptive, can become subject to lawsuits. For example, over 2009-2010, analysts and auditors suspected Green Mountain Coffee of overproducing inventory over successive periods to under-report their cost of goods sold (Green Mountain Coffee Class Action, 2012). Green Mountain Coffee managers repeatedly represented the sustained inventory increases as a response to "booming" business and surging demand. When Green Mountain eventually started missing sales and earnings targets, shareholders sued the company alleging that managers had misrepresented business conditions and misled shareholders about their inventory policies.[1] Because of this link between REM and misleading disclosures, higher threat of litigation can deter managers from engaging in REM.

Litigation may also encourage REM. Managers intending to overstate earnings tend to shift from manipulating accruals to real actions when accounting practices are under intense regulatory or court scrutiny (Cohen and Zarowin 2010, Zang, 2012). Consistent with this notion, Cohen, Dey and Lys (2008) document that firms switched from accruals management to REM after the Sarbanes and Oxley Act (SOX), which strengthened regulatory oversight over financial reporting. Since higher litigation risk is known to constrain accruals manipulation (Hopkins 2017), it may induce managers to engage in more REM. Overall, the net effect of litigation risk on REM is not obvious ex ante.

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[1] The following section (subsection "Class Action Lawsuits Involving REM") discusses in greater detail litigation cases in which misleading disclosures issued to justify opportunistic overproduction of inventory, cost-cutting and channel-stuffing led to litigation.

To circumvent endogeneity in the relation between litigation risk and earnings management, we study changes in REM following an exogenous shock to the stringency of securities class action litigation standards in the U.S. Ninth Circuit Court District. On July 2, 1999, the U.S. Ninth Circuit Court of Appeals issued a surprising ruling (re: Silicon Graphics Inc. Securities Litigation) requiring plaintiffs to prove that defendants acted with "deliberate recklessness". The requirement significantly increased the hurdle for successful litigation against corporations headquartered in this circuit and reduced their litigation risk (Pritchard and Sale 2005). Since the shock affected only firms located in states belonging to the Ninth Circuit, we are able to compare their post-ruling changes in REM to those of firms located in states belonging to other circuits in differences-in-differences tests.

Using a sample of firm-years spanning four years before and four years after the 1999 ruling which reduced litigation risk for Ninth Circuit firms, we find significant post-ruling increases in REM for these firms relative to firms located in other circuits. Our tests include firm and year fixed effects. The results are incremental to any increase in accruals management following the ruling, and are robust to a battery of tests controlling for systematic differences between Ninth Circuit firms and other firms. In parallel trends analyses, we find no trending differences preceding the ruling. Further, we document that REM also increases following exogenous shocks that reduce investors' ability to launch derivative lawsuits. The collective evidence is strongly indicative of litigation risk acting as a deterrent to REM.

To substantiate the argument that the deterrence effect of litigation on REM arises due to its link with misleading optimistic disclosure, we next focus on three different manifestations of optimism: (a) optimistic tone in the management discussion and analysis (MD&A) section of 10K-s, (b) optimistic tone in the earnings press releases, and (c) optimistic management forecasts. We find that the post-ruling increase in REM is more pronounced in Ninth Circuit firms with abnormally positive tone in the MD&As and in the earnings press releases. In

addition, REM increases more for Ninth Circuit firms that issue optimistic forecasts. Overall, these results provide evidence on the link between litigation risk, REM and misleading disclosures.

Our next set of tests provide evidence that litigation risk is a more salient deterrent to REM in those firms in which managers have heightened incentives to manipulate earnings and face weaker governance constraints on their ability to do so. Consistent with the role of incentives, REM increased more following the ruling for Ninth Circuit firms meeting/beating analysts' forecasts and for those in which managers engaged in greater opportunistic insider sales of stock. Consistent with the positive role of governance, post-ruling REM increases were less pronounced for Ninth Circuit firms with lower managerial entrenchment, higher institutional ownership, and higher ownership by institutions more likely to monitor the firm. One possibility is that managers are truly optimistic at the time of their operational and investment decisions, and these decisions manifest as REM in our empirical measurement. Our cross-sectional findings are important in this context. They highlight that at the very least, litigation risk deters managerial actions that are not just motivated by optimism, but are also more likely to be perceived as opportunistic.

In the light of previous evidence suggesting that managers make more aggressive accrual choices following the Ninth Circuit ruling (Hopkins 2017), we examine how post-ruling increases in earnings management via real activities vary with that via accruals. We find that REM increases more for Ninth Circuit firms that report *lower* discretionary accruals. Our results imply that increases in REM and accruals manipulation following the ruling were negatively correlated in the cross-section of Ninth Circuit firms. Thus, the increase in REM cannot be attributed simply to the same firms increasing all types of earnings management.

Research on factors that constrain REM has focused on various aspects of the firm's governance: the appropriate design of the executive compensation package (Chen et al. 2015),

the checks and balances within a firm, that is, internal corporate governance (Cheng et al. 2016), and the monitoring role of long-term institutional investors (Bushee 1998; Roychowdhury 2006). Our results suggest that litigation is an important force because it provides recourse to shareholders when governance, incentive mechanisms and other sources of monitoring fail. The ex post settling-up opportunity that litigation provides also makes it an effective ex ante deterrent to REM.

By considering both earnings management and disclosure choices, our paper provides a significantly expanded view of how litigation risk affects managerial attempts to mislead investors. Hopkins (2017) and Chen, Li and Xu (2018) provide evidence on litigation risk deterring managers from engaging in aggressive accrual choices. Accrual manipulations are in and of themselves misrepresentations and can lead to financial restatements and SEC enforcement actions, which can directly become the subject of lawsuits (Dechow, Sloan and Sweeney 1996). The ability of litigation risk to constrain REM is less obvious, since REM per se does not necessarily constitute a misrepresentation. Our findings are important in this context as they suggest that opportunistic real actions can attract scrutiny and require managers to misrepresent the purpose or the circumstances of these actions, which in turn can lead to litigation. Thus, higher litigation risk can discipline managers' real actions by tightening the constraints on managers' ability to issue misleading disclosures.

Finally, Bourveau et al. (2017) document that a decline in the threat of derivative lawsuits is associated with an increase in the frequency of both optimistic and pessimistic management forecasts, implying an improvement in voluntary disclosure quality. Using the same setting, Lin, Liu and Manso (2017) find that innovation increases when litigation risk subsides. Thus, a decline in litigation risk can improve the quality of disclosures as well as operational and investment decisions. Our results strike a cautionary note on these benefits by pointing to the costs associated with a reduced threat of lawsuits. In the presence of short term

goals and managerial opportunism, reduced litigation risk can increase myopic real actions accompanied by misleading disclosures to conceal the true intent of those actions.

SETTING AND HYPOTHESES

Real Earnings Management (REM) Methods

The literature points to multiple ways in which managers can overstate earnings via their real actions. These actions include overproduction, channel-stuffing, and aggressive reduction of discretionary expenses (Bushee 1998; Graham et al. 2005; Roychowdhury 2006; Stubben 2010; Zang 2012).

Overproduction refers to the practice of producing quantities significantly higher than expected sales and normal levels of target inventory. Higher-than-normal production levels can conceivably result from anticipated increases in demand. However, overproduction (higher than normal production without corresponding anticipated increases in future demand) can also be driven by a managerial focus on inflating short-term profitability at the expense of long-term value, in at least two ways. First, when the overproduced units are not sold and remain in inventory, fixed costs are spread out over all produced units because of absorption costing and cost of goods sold is understated, inflating current-period earnings. Larger inventories resulting from overproduction impose holding costs on firms and can also lead to future losses because of increased obsolescence risk. Second, managers can aggressively ship the overproduced inventories to intermediate dealers even when retail demand is lacking, in order to book sales. This practice, commonly referred to as "channel-stuffing" is often achieved by incentivizing dealers to accept higher inventories with especially lenient sales terms such as price discounts.

Concerns with channel-stuffing include a reduction in margins, supply chain inefficiencies and inventory backlogs.[2]

Overproduction and channel-stuffing can lead to unusual patterns either in the firm's own inventory or in the inventory held by downstream dealers that are likely to come under scrutiny from investors and financial analysts. Consequently, managers have incentives to characterize these actions as a response to increased demand even though the increases in production and shipping of inventory may be disproportionately high relative to that in demand.

Another type of REM involves an aggressive (and opportunistic) reduction of discretionary expenses such as maintenance, advertising or R&D expenditures. Managers can portray these reductions as having a persistent positive influence on earnings, when in fact they are unsustainable and/or detrimental to a company's long-term competitiveness (Cohen and Zarowin 2010; Kothari et al. 2016; Vorst 2016).

The Link between REM and Misleading Disclosure

As discussed above, REM involves decisions on pricing, production and discretionary expenditures that involve firms' operations and investments and can have implications for value across multiple periods. Investors and analysts are therefore keenly interested in, and often raise questions about these operational and investment choices, for example, in conference calls (Tasker 1998).

In engaging in REM, managers bear the risk that they are asked to justify actions that boost short-term earnings but are detrimental for long-term value. To successfully mislead, managers would then be forced to misrepresent their true intentions and/or issue misleadingly optimistic statements that justify their real actions. For example, managers may be tempted to

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[2] Roychowdhury (2006), Cohen et al. (2008) and Cohen and Zarowin (2010) refer to the acceleration of sales via price discounts and lenient credit terms that typically characterize channel stuffing as a manipulation of earnings through real actions. Stubben (2010) points to managers overstating revenues using multiple possible methods that can include real actions such as channel stuffing.

justify excessive shipments to dealers as motivated by surging demand, or to characterize an aggressive reduction of discretionary expenses as an elimination of inefficiencies. If these claims and declarations are later suspected or revealed to be false, or motivated by a desire to mislead, they can attract lawsuits. Lawsuits that allege misrepresentation may additionally rely on evidence of REM to argue scienter and intent on the part of managers. The lawsuit cases discussed next describe circumstances in which firms engaging in REM attracted lawsuits because of associated misleading and optimistic statements that managers made to justify their actions.

Class Action Lawsuits Involving REM

Class-action lawsuits that explicitly refer to managers' real actions share some common features. They typically allege intent to mislead, managerial actions that were detrimental for firm and shareholder value, and associated misrepresentations and misleading disclosures. We discuss a few examples below.

Over 2009-2010, analysts and auditors suspected Green Mountain Coffee of overproducing inventory to under-report their cost of goods sold, due to a sustained increase in inventory levels over successive periods (Green Mountain Coffee Class Action, 2012). Green Mountain Coffee managers repeatedly represented the inventory increases as a response to "*booming*" business and surging demand it was "*straining to meet*". Eventually, in an effort to convince investors that their production was indeed driven by high expected demand, company officials allegedly started destroying and hiding excess inventory that had expired. Shareholders ultimately formed a class-action in September 2010 accusing managers of misrepresenting demand and actively concealing their overproduced inventory. Plaintiffs relied heavily on evidence of rising inventory levels resulting from overproduction to support the claim that managers had intended to mislead. The case was further strengthened by the evidence that managers benefited personally by selling their shares while misleading investors

and attributing the increases in production to surging demand. The case was initially dismissed but the dismissal was later reversed by the Appeals Court. The case was relaunched in 2015, with Green Mountain finally settling in 2018 for $36.5 million (Green Mountain Coffee Class Action 2012, 2015, Settlement Agreement 2018).

In a well-publicized channel-stuffing case, Coca Cola Inc. paid $137.5 million to settle a lawsuit accusing it of overstating demand while using price discounts to ship excessive inventory of concentrate to their bottlers, where it stagnated because retail demand was lacking (Coca Cola Settlement Agreement, 2008). Other high-profile security class actions involving channel-stuffing include the lawsuit against Bristol-Myers Squibb Company in 2002 and that against General Motors in 2012 (Bristol-Myers Squibb Class Action 2002; General Motors Class Action 2012).

The securities class action lawsuit against Hospira Inc. in 2011 was focused on an aggressive reduction of discretionary expenses. Hospira had initiated a significant cost-cutting initiative in March 2009 that they called "Project Fuel". Managers claimed the cost cuts would "*increase shareholder value by eliminating underperforming and duplicative units and reducing its global workforce.*" Shareholders alleged that managers misrepresented their true intentions, because the initiative reduced remediation costs and resulted in higher margins in the short term while compromising crucial quality control procedures (Hospira Class Action 2011; Reuters 2014). Specifically the lawsuit accused the management of "*...gutting quality control efforts through cost cutting aimed at boosting short-term profitability.*" The lawsuit alleged that by the time the FDA detected the quality control deficiencies, product quality had suffered, sales had declined, and the delayed remediation had become significantly more costly. Hospira settled the case in 2014 for $60 million.

Excessive cost-cutting to boost short-term profitability at the expense of long-term competitiveness was also a key component of the class action lawsuit against AT&T in 2001.

Shareholders claimed that upon becoming CEO at AT&T in 1997, C. Michael Armstrong was keen to demonstrate improved profitability and pursued extensive cost-cutting measures that eliminated "*billions of dollars of overhead*" and involved the termination of thousands of employees including experienced service representatives and sales personnel. This aggressive expense-reduction initially yielded a sharp increase in earnings and a surge in AT&T's stock price. However AT&T's management did not reveal that their intense cost-cutting resulted in a significantly depleted ability to grow revenues in their most important business: long-distance calls by multinational companies. Furthermore, the elimination of service personnel negatively impacted AT&T's ability to retain customers, leading to the departure of several high-profile clients such as BP Amoco, Pepsi and Chase Manhattan. When profitability and revenues ultimately declined immediately following AT&T's public issue of tracking stock, shareholders sued the company. They alleged that managers at AT&T were aware that the positive effects of their cost cuts were short-lived and deliberately concealed imminent revenue declines. Further, the lawsuit alleged that AT&T managers intentionally misattributed their poor profitability to "*higher-than-anticipated wireless and cable upgrade costs*", when in fact, they were aware it was driven by revenue declines resulting from their earlier aggressive cost-cutting programs. The lawsuit lasted four years and was eventually settled for $100 million.

Class Action Lawsuits and the Ninth Circuit Court Ruling

The 1995 Private Securities Litigation Reform Act (PSLRA) requires plaintiffs in securities class action lawsuits to provide proof of scienter (i.e., intent or knowledge of wrong-doing). But the exact interpretation of the act's pleading standards is left to the individual U.S. circuit courts. The Ninth Circuit Court was considered one of the most plaintiff-friendly circuit courts with a high volume of securities class action litigation (Gibney 2001; Pritchard and Sale

2005).[3] It thus came as a surprise that on July 2, 1999 the Ninth Circuit Court of Appeals issued a ruling (Re: Silicon Graphics Inc. Securities Litigation, 183 F.3d 970) that resulted in a much stricter interpretation of pleading standards than in any other circuit courts (Johnson, Nelson and Pritchard 1999; Grundfest and Pritchard 2002).[4] According to the ruling, to form a class, the plaintiffs in the Ninth Circuit are required to show that the defendants acted with "deliberate recklessness", rather than mere "recklessness" which is sufficient in other circuits.[5] The Ninth Circuit ruling introduced a particularly high burden of proof given that evidence of intent is usually obtained only in discovery, after a class has been formed. Empirical evidence indicates that the ruling significantly reduced the incidence of class action lawsuits. Crane and Koch (2018) document that relative to the first half of 1999, lawsuit filings in the second half decreased in the Ninth Circuit by 43% compared to an increase of 14% in other circuits.[6] Pritchard and Sale (2005) point out that the exceptionally strict pleading standards in the Ninth Circuit led to a higher rate of case dismissals.

Studying the effect of litigation risk on earnings management is challenging because of endogeneity. If firms more likely to engage in earnings management are more susceptible to litigation, this would manifest as a positive association between the two, which however would not necessarily imply that litigation risk encourages earnings management (Skinner 1997; Hopkins 2017). The Ninth Circuit ruling allows us to circumvent this endogeneity. It facilitates

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[3] The Ninth Circuit includes the following states: Alaska, Arizona, California, Hawaii, Idaho, Montana, Nevada, Oregon, and Washington.

[4] The ruling was very likely driven by the ideologies of the ruling judges. The Ninth Circuit randomly selects three judges to adjudicate such cases (Hopkins 2017). In the case of *Silicon Graphics*, two conservative judges were selected, and they voted against the plaintiffs. The liberal-leaning third judge dissented, voting in favor of the plaintiffs.

[5] Re: Silicon Graphics Inc. Securities Litigation, 183 F.3d 970 (9th Cir. 1999) involved an allegation that managers engaged in insider trading after issuing misleading statements to hype the stock price. The case was dismissed on the premise that stock sales coupled with negative internal performance news are insufficient to prove that managers' actions were deliberate.

[6] Crane and Koch (2018) find a similar magnitude of post-ruling changes in lawsuits filings between the Ninth Circuit and other circuits over longer horizons as well (from the beginning of 1998 to the end of 2000, and over their sample period: 1996-2014). Houston, Lin, Liu and Wei (2015) also confirm decline in the number of class action lawsuits filed in the Ninth Circuit relative to other jurisdictions following the ruling.

a differences-in-differences framework in which we compare post-ruling changes in REM in firms headquartered in the Ninth Circuit to similar changes in firms headquartered in other circuits. We use the firm's headquarters to determine the most likely location of litigation because most lawsuits are ultimately litigated where the firm is headquartered.[7]

Hypotheses

Recent evidence points to the power of the Ninth Circuit setting to detect changes in managers' disclosure and reporting behavior in response to reduced litigation risk. Houston et al. (2015) and Cazier, Christensen, Merkley and Treu (2017) use the Ninth Circuit ruling to provide evidence on the disciplining effect of litigation on management forecasts and non-GAAP reporting.[8] Hopkins (2017) finds that Ninth Circuit firms exhibit increased restatement frequency and higher revenue management following the ruling, consistent with litigation risk deterring managers from misstating financial statements. Hopkins (2017) attributes his evidence to misleading reporting choices. One caveat to his interpretation is that the empirical proxy for revenue management cannot distinguish between higher revenues being achieved via accruals or via real actions (see Stubben 2010).

The influence of changes in litigation risk on REM is ambiguous. Given the intrinsic information asymmetry about real operations between a firm's managers and its external stakeholders, REM is more opaque and thus harder to detect than financial reporting violations and accrual manipulations (Cohen and Zarowin 2010; Kothari et al. 2016). Further, REM involves business decisions which managers could justify as sound given their interpretation of the economic circumstances, invoking the so called "business judgment" principle. Proving

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[7] Hopkins (2017) finds that at least 84% of lawsuits are ultimately litigated in the district of the firm's headquarters. Filing lawsuits in districts other than the firm's headquarters is costly and time-consuming for the plaintiffs. Moreover, even if shareholders were to file lawsuits against the firm in various locations, legal panels consolidate these lawsuits and relocate them to the district with the easiest access to documents and witnesses, i.e., a firm's headquarters (Cox, Thomas and Bai 2009; Hopkins 2017; Houston et al. 2015).

[8] Houston et al. (2015) find that management forecasts become less frequent and less accurate and Cazier et al. (2017) find that non-GAAP reporting increases following the Ninth Circuit ruling.

intentional wrong-doing under securities law may thus be significantly more difficult in the case of REM, negatively impacting shareholders' ability to form a class. Thus, it is possible that opportunistic and myopic real actions are "immune" to changes in litigation risk.

However, as already discussed above, REM is likely to be accompanied by misleading disclosures and misrepresentations, as managers attempt to conceal the myopic and opportunistic nature of REM. An increase in the threat of litigation raises the expected costs to managers of issuing such misleading disclosures and misrepresentations. Reduced managerial ability to issue optimistic and misleading disclosures, in turn, is likely to deter REM, since it erodes managers' ability to disguise the true intent underlying their actions.

The expected costs of litigation associated with REM can be significant and include not only monetary expenditures but also loss of reputation and capital market penalties, even in instances when the lawsuits are ultimately dismissed. For example, settlement costs alone for Bristol-Myers-Squibb, Coca Cola and Hospira Inc. amounted to $300 million, $137.5 million, and $60 million respectively.[9] The case against General Motors alleging overproduction and channel-stuffing of inventory was ultimately dismissed but dragged on for three years, absorbing managers' attention, their time and expensive legal resources. GM's stock price declined over 30% as the market learned about the inventory issues (General Motors Class Action, 2012). Thus, the uncertainty about the eventual outcome of lawsuits, the opportunity cost of managers' time, and the loss of market value can make litigation extremely costly. This has the potential to deter REM. If that is the case, following the decline in expected litigation costs with the 1999 ruling, REM would increase in firms headquartered in the Ninth Circuit relative to other firms.

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[9] See Bristol Myers Squibb Settlement Agreement (2004), Coca Cola Settlement Agreement (2008), and Hospira Settlement Agreement (2014).

It is also conceivable that a more litigious environment that discourages opportunistic reporting choices can encourage REM. Cohen et al. (2008) document firms replaced accruals management with more real earnings management after the Sarbanes and Oxley Act in 2002 (SOX), which strengthened regulatory oversight over financial reporting. Cohen and Zarowin (2010) find evidence consistent with REM being higher when there is greater auditor scrutiny of accruals and lower ability to manipulate accruals. Similarly, Badertscher (2011) provides evidence that managers engage in REM to sustain overvaluation only when they have exhausted their ability to manage accruals. Thus, it is possible that higher litigation risk encourages managers to manipulate earnings via real activities instead of accruals. In that case, the reduction in litigation risk with the 1999 ruling would lead to declines in REM at the Ninth Circuit firms, as they begin relying more on accruals management.

In summary, the net effect of litigation risk on real earnings management is an empirical question. Our subsequent analyses are thus designed to test the following two-sided hypothesis:

Hypothesis 1 (null): *Real earnings management (REM) in firms headquartered in the Ninth Circuit relative to firms headquartered in other circuits did not change after the 1999 ruling.*

SAMPLE DESCRIPTION, RESEARCH DESIGN AND VARIABLES

Sample

We begin the sample selection process by obtaining data on all publicly listed firms from the Compustat/CRSP database with non-missing information on historical headquarters over the period 1995-2003.[10] Our tests compare the post-ruling period, four years beginning the year after the ruling (2000-2003), to the pre-ruling period, four years preceding the Ninth

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[10] To determine the relevant court circuit, we use the firm's historical headquarters at the time of the ruling obtained from 10-K filings from Edgar online. The historical headquarters are not available from COMPUSTAT, which backfills the data and instead reports the current headquarters for all firm-years in the database.

Circuit court ruling (1995-1998). The year of the ruling, 1999, is excluded from the analysis. We restrict our analyses to four years before and four years after the ruling to limit concerns about the potential effect of confounding events over longer horizons.[11]

The sample excludes firms in financial industries (sic 6000-6999) and utilities (sic 4000-4999), as well as penny stocks (firms with stock price smaller than $1). We next require the availability of COMPUSTAT and CRSP data necessary to construct our control variables.[12] We include only firms with at least one year of data in both the pre- and post-1999 periods. We winsorize all continuous variables at the 1st and 99th percentile.

Research Design and Variable Definitions

We classify a firm as treated (or a "Ninth Circuit" firm) if its headquarters are located in one of the states subject to the Ninth Circuit Court.[13] The remaining firms are classified as "controls". Our multivariate tests employ a differences-in-differences research design in which we compare the changes in REM following the 1999 ruling for treated firms to the corresponding changes for control firms.

We estimate the following differences-in-differences regression specification:

$$REM_{it} = \beta_0 + \beta_i \, Post_t \times Ninth \; Circuit_i + \gamma'X_{it} + FirmFE + YearFE + \varepsilon_{it} \tag{1}$$

i indexes firms and t time. The *Post* indicator takes the value of one from 2000 to 2003, and zero from 1995 to 1998, while the *Ninth Circuit* indicator takes the value of one in all sample years if the firm's headquarters are located in one of the Ninth Circuit states. We expect a significant and positive β, the coefficient on the interaction term $Post_t \times Ninth \; Circuit$.

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[11] Using a shorter alternative window of three years before and after 1999, that is 1996-2002, does not materially influence our results. This shorter window would exclude any effect following the passage of the Sarbanes Oxley Act in 2002.

[12] Control variables we require include ROA, total assets, firm age, dividends, capital expenditures, leverage, cash, debt issues, equity issues, abnormal accruals and institutional ownership (which is assumed zero when data is unavailable on Thomson 13f). These variables are described in greater detail in the next section.

[13] Firms change their headquarters infrequently. During our sample period, 147 firms (4.3% of the sample) changed headquarter location, with 46 firms switching from non-Ninth Circuit states to Ninth Circuit states. The largest shift occurred within non-Ninth Circuit firms, with 96 firms changing states, but not moving out of or into the Ninth Circuit. Our results are robust to excluding firms that changed states of headquarters.

Because we include firm (*FirmFE*) and year (*YearFE)* fixed effects, we do not include *Ninth Circuit* and *Post* indicators separately. These indicators are absorbed in the firm fixed effects and year fixed effects respectively. We cluster standard errors by the state of headquarters.

Our tests use three measures of REM: (1) abnormal discretionary expenses (*AbnDisx*), (2) abnormal production costs (*AbnProd)*, and (3) an aggregate measure which combines *AbnDisx* and *AbnProd*, denoted *RM* (see, for example, Cohen and Zarowin 2010 and Zang 2012).[14] Discretionary expenses are the sum of advertising expenses, R&D expenses and SG&A expenses, while production costs refer to the sum of the cost of goods sold and the change in inventory. The estimation of *AbnDisx* and *AbnProd* follows Kothari et al. (2016). The two metrics are described in detail in in Appendix A, "Variable Definitions".

Two specific features of our empirical proxies are worth noting. First, *AbnDisx* is appropriately signed to yield a higher value when real earnings management is higher, that is, when abnormal discretionary expenses are abnormally lower. Second, *AbnProd* is distinct from the revenue management proxy used in Stubben (2010) and Hopkins (2017), which captures overstatement of sales via both accruals and real actions. Unusually high *AbnProd* will capture the effects of both overproduction and price discounts (as discussed in Roychowdhury 2006) but will not be affected positively by any associated accrual manipulations, for example, under-provision for estimated returns on sales.[15] We add *AbnDisx* and *AbnProd* to construct the aggregate measure, *RM*. In untabulated tests, we confirm that all three metrics of REM, *AbnDisx*, *AbnProd* and *RM* are associated negatively with future operating performance, measured as one-year-ahead *ROA*.

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[14] We do not use abnormal cash flow from operations (CFO) because different methods of real earnings management can have opposite effects on CFO (Roychowdhury, 2006).

[15] If a firm under-provides for sales returns, net sales will be overstated. Since we use net sales as an explanatory variable in the model for production costs, under-provision for sales returns will tend to yield lower production costs relative to sales, not higher. This possibly weakens the power of the proxy *AbnProd* but does not cause it to be higher as a result of accruals manipulation.

X in equation (1) represents a vector of control variables. We control for firm characteristics such as size (*Firm Size*), performance (*ROA*), capital structure and various investment and financing decisions (*Leverage, Cash, Dividends, CAPEX, Debt Issue, Equity Issue, Acquisition*). Given prior evidence on the link between institutional ownership and REM, we include the percentage of shares outstanding held by institutional investors (*IO*) in our models. We assume zero institutional ownership when the firm is not included in Thomson Financial 13F files. To capture real earnings management independent of any accruals management, we control for abnormal accruals (*AbnAcc*). Finally, we control for the number of acquisitions and assume zero for this variable for firm-years with no acquisitions according to SDC. Since the Ninth Circuit court ruling represents an exogenous geographic shock to litigation risk, we include state level variables to control for variation in socio-economic factors that can affect managers' propensity to manipulate their real actions (Hilary and Hui 2009; McGuire, Omer and Sharp 2012; Heider and Ljungqvist 2015). These variables include *GDP Growth, Unemployment, Income, Population, Gender, Ethnicity, Education,* and *Vote Democrat*. All variables are defined in Appendix A.

DESCRIPTIVE STATISTICS AND PRIMARY RESULTS

Descriptive Statistics

Table 1 reports the descriptive statistics for real earnings management measures as well as the control variables for our sample. In every test, we use the maximum number of observations for each dependent variable after requiring that all cross-sectional partitioning variables be available as well. For example, our main analysis of the ruling's effect on abnormal discretionary expenses of the Ninth Circuit firms relative to non-Ninth Circuit firms includes 3,387 distinct firms and 15,225 firm-year observations between 1995 and 2003. The number of observations is slightly lower for *AbnProd* at 14,958 than it is for *AbnDisx* as a consequence

of data availability. The intersection of observations with sufficient data to compute both measures and to construct our aggregate measure *RM* includes 14,215 firm-years. The exclusion of penny stocks and the data requirements for computing earnings management proxies leads to slightly larger and more profitable firms in our sample relative to the COMPUSTAT population. The median firm in our sample has an ROA of 13.3%, total assets of $199.8 million and institutional ownership of 34.7%.

[INSERT TABLE 1 HERE]

Table 2 provides some preliminary insights into the differences-in-differences in REM in a univariate setting. The table reports pre- and post-ruling levels of our three REM measures as well as changes in those measures separately for firms headquartered in the Ninth Circuit (Panel A) and those headquartered in other circuits (Panel B). Panels A and B also reports p-values from t-tests of changes in REM from the pre- to the post-ruling period. As Panel A demonstrates, Ninth Circuit firms exhibit increases in all three metrics of REM (*AbnDisx*, *AbnProd* and *RM*) following the ruling. These increases are statistically significant for the individual REM metrics *AbnDisx* and *AbnProd* but not for the composite metric *RM*. Panel C reports the results for our main differences-in-differences tests comparing changes in REM for Ninth-Circuit firms relative to those for non-Ninth-Circuit firms. All three measures increase significantly at the 1% level. The univariate tests thus yield preliminary evidence consistent with a decline in litigation risk resulting in a significant increase in REM.

[INSERT TABLE 2 HERE]

Results of Multivariate Tests on Changes in Real Earnings Management

This section examines in multivariate tests whether the Ninth Circuit court ruling led to any significant changes in REM (Hypothesis 1). We estimate equation (1) using our three measures of REM as dependent variables. Table 3 presents the results. The coefficients on the interaction term *Post*Ninth Circuit* are positive and significant, with p-values less than or equal

to 0.05 for all three measures of REM. The coefficients point to statistically significant increases in REM following the ruling for Ninth Circuit firms relative to other firms. Moreover, these increases are economically significant. The increase in *AbnDisx* represents 10% of one standard deviation in *Abnisdx* and that in *AbnProd* represents 8.9% of one standard deviation of *AbnProd*. The increase in the aggregate measure represents 10.1% of its standard deviation. The results indicate that a decline in litigation risk with the Ninth Circuit ruling led to significant increases in REM at Ninth Circuit firms relative to other firms, consistent with litigation's deterrence effect on REM.[16]

The results in Table 3 also provide some support for the possibility that REM and accruals manipulation occur in conjunction. The coefficient on *AbnAcc* is positive and significant at the 5% level for all three REM metrics, suggesting complementarity between REM and accruals management. Examples of this complementarity include managers channel-stuffing but not adequately providing for estimated returns, and overproducing inventory but not increasing their inventory obsolescence reserves.

[INSERT TABLE 3 HERE]

We next perform a number of robustness tests, beginning with a parallel-trends analysis. This analysis investigates the possibility that the post-ruling changes reflect trending differences between Ninth Circuit firms and other firms from prior to the ruling, and do not result from the ruling itself. Table 4 reports the results. In these tests, 1995 (that is, year t-4) serves as the benchmark year. We find no trending differences between the Ninth Circuit and other circuit firms before the ruling. The coefficients on *D(t=-1)*Ninth Circuit*, *D(t=-2)*Ninth Circuit*, and *D(t=-3)*Ninth Circuit* indicators are not significantly different from zero in any of the columns. The results of this analysis imply that there are no pre-existing differential

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[16] Our results are not sensitive to removing observations with missing institutional ownership. Moreover, for a restricted sample with data available, we confirm that our results are robust to controlling for CEO tenure, where we include both its first and second power (to allow for potential non-linearity, see Ali and Zhang 2015).

trends in REM between the Ninth Circuit firms and other firms. The differences appear in the year after the ruling. The coefficient on *D(t=1)* Ninth Circuit* is significant and positive for all three REM metrics. The differences continue to be significantly different in years two and three after the ruling for *AbnDisx*, in year four for *AbnProd* and in all three years for the composite metric *RM*. Additionally, Figure 1 Panel A provides a graph for the composite metric *RM* for both treatment firms and control firms. The data in the graph is consistent with the results we observe with the parallel trend regressions.

While real earnings management increases up to four years following the ruling, the increases are economically more pronounced and statistically more significant in the first two post-event years. One reason for this may be a lack of power – breaking the post-event period into separate years and analyzing separate components of REM potentially weakens the power of our tests. Second, it is also possible that in later years following the ruling, alternative mechanisms step in to compensate for the reduced discipline from litigation risk. For example, Crane and Koch (2018) document that institutional ownership in Ninth Circuit firms rises following the ruling, which they interpret as a capital market response to the decline in governance-by-litigation.

[INSERT TABLE 4 HERE]

Our next set of robustness analyses aim to alleviate concerns that systematic differences between the Ninth Circuit firms and non-Ninth Circuit firms contribute to our findings. First, we confirm that our results are robust to re-estimating our regressions after augmenting them with industry-year fixed effects. Next, we consider the specific concern that Ninth Circuit firms are disproportionately represented by firms in high technology industries, which experienced the crash of the internet bubble in 2000 (i.e., in the post-ruling period). We conduct two separate tests in which we exclude from our sample (1) all firms in high technology industries, and (2) all firms in industries with negative cumulative abnormal returns over the years 2000-2003.

Despite a significant decline in the number of observations, we continue to find significant and positive coefficients on *Post*Ninth Circuit* in all columns. To control for geographic factors, we perform an adjacent-county analysis, in which we only include firms with headquarters located within 40 miles of the state borders, where one of the borders passes the Ninth Circuit.[17] We find positive coefficients on *Post*Ninth Circuit* in all three columns with p-values less than 0.05 (results untabulated). We also perform falsification tests in which we replace Ninth-Circuit firms with those from other circuits, circuit by circuit. We do not find consistent significant difference-in-difference increases in REM for any other circuit. The results of these tests are utnabulated, but available upon request.

Finally, we construct a propensity score matched sample of treatment and control firms. Specifically, we limit our sample to the Ninth-Circuit and non-Ninth-Circuit firm-years that are propensity score matched in year 1998 (the year before the ruling) on several firm characteristics.[18] Table 5, Panel A shows the mean values of firm characteristics for the Ninth-Circuit and non-Ninth-Circuit firms in this propensity score matched sample, as well as *p*-values from *t*-tests of differences. The matching is successful, yielding no significant differences in the overall propensity matching score. Among individual firm characteristics, only *Firm Size* is different at the 10% level between the treatment and the propensity score matched control sample.

Panel B presents the various REM proxies for both the treated and propensity-score-matched control firms separately for the pre-ruling period and the post-ruling period. No REM metric is significantly different between treated and control firms in the pre-ruling period, but

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[17] This test exploits the fact that economic conditions and other unobserved confounding factors (e.g., social, political) centric to certain geographic locations are likely to be similar across state borders, while the effects of the Ninth Circuit ruling stop at a state's border.

[18] The characteristics include: industry membership defined as 2-digit SIC code, ROA, size, dividends, capital expenditures, leverage, cash holdings, net debt issuance, equity issues, number of acquisitions, institutional ownership and abnormal accruals.

all REM metrics are significantly different for treatment firms following the ruling.[19] Table 5, Panel C, columns (1)-(3) report the results from re-estimating equation (1) on the propensity score matched sample. Despite a substantially lower number of observations, we find significant post-ruling increases in REM at the Ninth Circuit firms relative to those at similar firms in other circuits.

[INSERT TABLE 5 HERE]

Results on Changes in REM and Misleading Disclosure

We next turn our attention to examining potential complementarities between REM and misleading disclosures. Our tests utilize two primary measures of optimistic/misleading disclosures: (1) abnormally optimistic tone of the Management and Discussion Section (MD&A) of the 10-Ks (*OptTone_MDA*), and (2) abnormally optimistic tone of earnings announcement press releases (*OptTone_EPR*). *Tone* is measured as the difference between the count of positive and negative words scaled by the total number of words following the Loughran and McDonald (2011) methodology. Abnormal tone is measured following Huang, Teoh and Zhang (2014) as a residual from a regression of tone on a variety of factors that capture the firm's characteristics, performance and volatility.[20] Thus, positive or negative abnormal tone captures unusual optimism or pessimism respectively on the part of the managers providing the disclosures. *OptTone_MDA* and *OptTone_EPR* are set equal to one if abnormal tone in the MD&A or the earnings press release are respectively positive.

Rogers, Van Buskirk and Zechman (2011) find evidence that optimistic tone attracts class action litigation. Huang et al. (2014) report that unusually positive tone in earnings press

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[19] In untabulated robustness tests we also match on REM metrics measured in 1998. After the matching, we find no statistically significant differences between control and treated firms on any dimensions, including pre-ruling REM. Our results are fully robust to this alternative matching procedure.

[20] In arriving at abnormal tone, managerial tone is orthogonalized specifically with respect to the following factors: earnings, returns, size, book-to-market, volatility of returns and earnings, firm age, number of business and geographic segments, the incidence of losses, change in earnings, analyst forecast of earnings and analyst forecast error.

releases is associated with lower future earnings and cash flows as well as negative future returns , and conclude that managers use positive tone to mislead shareholders. Prior evidence suggests that significant variation exists in the content and tone of MD&A (Brown and Tucker 2010; Mayew, Sethuraman and Venkatachalam 2015; Muslu Radhakrishnan, Subramanyam and Lim 2015). Further, Rogers et al. (2011) report that in a randomly selected sample of 20 lawsuits, 55% referenced optimistic statements occurring within the 10-Ks. Requiring the availability of MD&As and the data for computing abnormal tone reduces the sample size significantly. Earnings press releases are also a natural disclosure medium through which managers can channel their optimism.[21] Unfortunately, the availability of earnings press releases is even more limited during our sample period (1995-2003). SEC mandated the filing of earnings releases via form 8-Ks starting only in 2003. As a result, the text of earnings releases before 2003 are available only for some firms via PR Newswire or Business Wire starting from 1997 (Huang et al. 2014). In the tests relying on unusual optimism in earnings press releases, the number of years in the pre-event period is thus restricted to two.

We expand our main specification to include each disclosure optimism measure (*OptTone_MDA* and *OptTone_EPR*), as well as its respective interaction terms with *Post, Ninth Circuit*, and *Post*Ninth Circuit*. We are particularly interested in the sign of the interaction term between each optimism measure and *Post*Ninth Circuit.* Table 6 presents results with abnormally optimistic tone of the MD&As (Panel A) and that of earnings press releases (Panel B). The coefficients on *Post*Ninth Circuit*OptTone_MDA* are significant and positive for *AbnProd* and *RM*. The coefficients on *Post*Ninth Circuit*OptTone_EPR* are significant and positive for all three measures (*AbbnDisx*, *AbnProd* and *RM*). These results indicate that following the decline in litigation risk with the ruling, REM increases are more pronounced in

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[21] While conference calls would be another form of communication worth examining to capture less scripted optimism in managerial responses to analysts' questions, conference call data is only available starting from 2001.

those Ninth Circuit firms whose managers use abnormally optimistic tone in their MD&As and earnings press releases, potentially to justify their actions.

[INSERT TABLE 6 HERE]

In further analyses, we test whether the post-ruling REM increases are more pronounced for Ninth Circuit firms that also issued optimistic management forecasts. A firm-year is classified as having an optimistic forecast if the last forecast before the fiscal period end exceeds the consensus analyst expectations at the time. Hilary, Hsu, Segal and Wang (2016) characterize management forecasts that exceed analyst expectations as indicative of over-optimism. Table 6, Panel C presents the results based on the indicator variable *Optimistic Forecast*. We find that the coefficient on *Post*Ninth Circuit* Optimistic Forecast* is positive in all three columns and statistically significant for *AbnDisx* and *RM*. The results are consistent with managers using more optimistic forecasts of future earnings to justify their opportunistic REM in the current period. Alternatively, it is also possible that managers issue more optimistic earnings forecasts following the decline in litigation risk (Bourveau et al. 2017), and then engage in increased REM to meet/beat those forecasts, consistent with Kasznik (1999).[22]

Table 6, Panel D uses a composite indicator measure of disclosure optimism (*Optimistic Disclosure*) that is set equal to one if abnormal tone in the MD&A or the earnings press release was positive, or the manager issued an optimistic forecast prior to the fiscal year-end.[23] Using this composite optimism metric, we observe that all three REM measures exhibit a significantly more pronounced post-ruling increase for those firms that also issue optimistic disclosures. The results suggest that in the post-ruling period, when managers manipulate real activities to report

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[22] In additional untabulated tests, we find that post-ruling increases in REM at the Ninth-Circuit firms relative to non-Ninth-Circuit firms are significantly more pronounced for firms that issue an optimistic forecast for the first time (i.e., initiate an optimistic forecast).

[23] Since our measure is meant to capture any form of optimism be it in MD&As, earnings releases or earnings forecasts, we rely on the maximum possible data points available in the dataset, that is, the union of the datasets used in the tests with each individual proxy for optimism.

higher current earnings, they are more likely to support and legitimize their actions with optimistic projections and explanations for their actions and/or reported performance.

Results on the Role of Incentives to Engage in Real Earnings Management

If the post-ruling increases in REM are symptomatic of heightened managerial myopia and opportunism, the REM increases should be more pronounced when managers have greater short-term incentives to report stronger financial performance. Specifically, we examine the role of incentives to meet/beat earnings targets as well as incentives arising from insider selling.

To study whether increases in REM enable managers to meet/beat earnings targets, we augment our main model to include variables that capture firms narrowly meeting or beating earnings expectations (*Narrow Beat*), beating these expectations comfortably (*Large Beat*) and narrowly missing expectations (*Narrow Miss*). We calculate the market expectation based on the consensus analyst forecast for firms with analyst following, and last year's EPS for firms that are not followed by analysts. *Narrow Beat* is an indicator variable representing cases in which the actual earnings per share (EPS) met or beat market expectations by less than two cents. *Large Beat* refers to firm-years in which the actual EPS exceeded the expectation by two cents or more. *Narrow Miss* is defined as actual EPS falling below the expectation by less than two cents. We then interact these variables with *Post, Ninth Circuit*, and *Post*Ninth Circuit*. Our interest is in the coefficients on *Post*Ninth Circuit* Narrow Beat*, *Post*Ninth Circuit* Large Beat*, and *Post*Ninth Circuit* Narrow Miss.* Firm-years in which actual earnings are below the expectation by a large margin are captured by *Post*Ninth Circuit*.

Table 7, Panel A reports the results from these tests. We find significant positive coefficients on *Post*Ninth Circuit* Narrow Beat* in all three columns, indicating that the increased use of REM after the ruling helps firms to meet/beat earnings targets by narrow margins. The coefficients on *Post*Ninth Circuit* Large Beat* also indicate significant post-ruling increases in REM for the firms that beat expectations by wider margins, even though the

coefficients are economically of smaller magnitude than for the *Narrow Beat* group. Since REM has to occur before fiscal year end, managers cannot always calibrate accurately the extent to which they need to alter real actions to just meet/beat outstanding expectations, potentially resulting in beating expectations by a larger margin. Interestingly, the coefficients on *Post*Ninth Circuit*Narrow Miss* are negative and significant in two of the three columns, indicating that fewer firms engage in REM and miss expectations by a narrow margin. We note that the coefficient on *Post*Ninth Circuit* is not significantly different from zero: thus there was no post-ruling changes in REM for Ninth-Circuit firms missing analyst forecasts by a large margin. Together, our results suggest that reduced litigation risk "emboldened' managers: they were willing to engage in more REM and err on the side of comfortably beating expectations rather than risk missing these expectations narrowly. However, in the absence of short-term incentives, firms did not increase their REM.

[INSERT TABLE 7 HERE]

We next examine whether post-ruling increases in REM at Ninth Circuit firms vary with insider selling. In order to distinguish between routine and opportunistic trades by executives we employ the methodology from Cohen, Malloy and Pomorski (2012). We then use the opportunistic insider trades to compute *Insider Net Sell* which is defined as the percentage of shares outstanding sold net of the percentage of shares purchased by executives when their sales exceed purchases, and zero otherwise.[24] We expand our main model to include the interactions of this variable with *Post, Ninth Circuit*, and *Post*Ninth Circuit*. Consistent with our expectations, we find in Table 7, Panel B that the coefficient on *Post*Ninth Circuit* Insider Net Sell* is positive and significant with p-values less than 0.05 in all three columns. The result indicates that the increases in REM are particularly pronounced when managers have

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[24] Executives include officers of the firm such as CEOs, CFOs, Senior VPs and VPs.

incentives to report strong performance to execute their opportunistic sales at more beneficial prices.

In untabulated additional analyses, we limit the sample to those firm-years in which managers had incentives to mislead (i.e., they met or beat earnings targets or were net-sellers of stock). Within this sample, we find that post-ruling increases in REM at Ninth-Circuit firms are significantly more pronounced if managers also engaged in optimistic disclosures. These results confirm a significant relation between REM and optimistic disclosures in those firms in which managers are likely to have acted opportunistically. [25]

It is possible in principle that REM represents in part managers' business judgment at the time that it was undertaken. Our evidence on meeting/beating earnings targets and insider selling is salient in this context, as it suggests that litigation risk constrains REM especially when it is likely to be viewed as opportunistic by shareholders and other external stakeholders.

Results on the Role of Governance Constraints on REM

In this section, we investigate cross-sectional variation in how litigation's deterrence effect on REM varies cross-sectionally with corporate governance. We expect litigation risk to be a more valuable deterrent when governance is weaker and less effective in restraining managers from engaging in REM.

We focus on two aspects of governance: managerial entrenchment and institutional ownership. Greater managerial entrenchment implies weaker governance, as both the board of directors and the market for corporate control find it difficult to discipline entrenched managers (Bebchuk, Cohen, and Ferrell, 2009). Thus, even if shareholders were to expect increased REM at Ninth Circuit firms at the time of ruling, their ability to constrain REM is lower when

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[25] Specifically, we repeat our tests reported in Table 6, Panel D on the subsample of firm-years in which managers had incentives to act opportunistically (i.e. they met or beat earnings expectations or were net sellers of stock), we continue to find a significant positive coefficient on *Post*Ninth Circuit*Optimistic Disclosure* for all three measures of REM.

managers are more entrenched. We thus expect more pronounced post-ruling increases in REM at Ninth Circuit firms with higher managerial entrenchment.

Turning to our second measure of governance, institutional owners are sophisticated investors who are likely to monitor managers' real choices more closely, and discourage actions detrimental for long-term value. They are also known to influence managerial actions via either voice or the threat of exit and do not rely solely on litigation (Parrino, Sias and Starks 2003; Edmans 2009; Edmans and Manso 2011). Thus institutional investors are likely to discourage REM because of its negative consequences for firm value and future performance. At firms with low institutional ownership, the lack of this external monitoring makes it easier for managers to inflate current earnings myopically via REM (Bushee 1998; Roychowdhury 2006). We thus expect the decline in litigation risk after the court ruling to lead to greater increases in REM at Ninth Circuit firms with lower institutional ownership.

As in Bebchuk et al. (2009), we use the entrenchment index (*E-Index*) to capture managerial entrenchment. E-Index is based on six provisions, four of which constitute limitations on shareholders' voting power and the remaining two are measures against hostile takeovers. To conduct this test, we augment equation (1) with the following terms: *E-Index*, *Post*E-Index, Ninth Circuit*E-Index*, and *Post*Ninth Circuit*E-Index*. In this specification reported in Table 8, Panel A the coefficient on *Post*Ninth Circuit*E-Index* is significant and positive in all three columns, implying that post-ruling increases in REM at the Ninth Circuit firms are stronger when managers are more entrenched.

[INSERT TABLE 8 HERE]

To test how changes in REM depend on institutional ownership, we expand equation (1) to supplement the main effect of institutional owners (IO) with the following interaction terms: *Post*IO*, *Ninth Circuit*IO*, and *Post*Ninth Circuit*IO*. Table 8, Panel B reports the results of this test in columns (1) through (3). The coefficient on *Post*Ninth Circuit*IO* is

negative and significant with *AbnProd* and *RM* as dependent variables, providing some support for our prediction that the post-ruling increases in REM at the Ninth Circuit firms are stronger when institutional ownership is lower. We next explore the role of institutional owners in more depth by focusing on ownership of those institutions that are known to monitor and exert positive influence on the firm's governance: dedicated investors and quasi-indexers (Bushee 1998; Appel, Gormley and Keim 2016). We repeat our tests replacing *IO* with *IO_Monitor* which is computed as the percentage of shares owned by dedicated investors and quasi-indexers divided by the percentage of shares owned by all institutional investors. The results are reported in columns (4) - (6) of Table 8, Panel B. In all three columns the coefficient on *Post*Ninth Circuit*IO_Monitor* is negative and statistically significant with p-values less than 0.05. These results indicate that higher ownership by institutions known to exert positive influence on the firm's governance constrained post-ruling increases in REM at the Ninth-Circuit firms.

ADDITIONAL ANALYSES

Results on Changes in REM and Accrual-Based Earnings Management

Although we control for accruals management in all our tests, in this section we test for an interacted effect: does REM increase more for those Ninth Circuit firms that report high discretionary accruals following the ruling? As a preliminary analysis, we test whether accruals management in Ninth Circuit exhibits an increase relative to that of control firms following the ruling. Figure 1, Panel B plots abnormal accruals in event time. As the figure reveals, abnormal accruals exhibits a significant increase in year 2 following the ruling but the difference in abnormal accruals between treatment and control firms is not significant in years 3 and 4.

Turning to our main analysis in this section, we augment our main model to include not only *AbnAcc*, but also its interaction terms with *Post, Ninth Circuit*, and *Post*Ninth Circuit*. Table 9 reports the results from these tests. The coefficients on *Post*Ninth Circuit* AbnAcc*

are significantly negative in all three columns, implying that REM increases more for Ninth Circuit firms with *lower* discretionary accruals. Together with the results in Hopkins (2017), those in Table 9 suggest that REM and accruals both increased following the ruling but the increases were negatively correlated in the cross-section of Ninth Circuit firms. In further untabulated tests, we find that increases in REM were particularly pronounced for Ninth Circuit firms that had limited ability to manipulate accruals, as measured by high net operating assets (Barton and Simko 2002; Zang 2012).[26]

[INSERT TABLE 9 HERE]

Results on the Importance of Firm-Specific Litigation Risk

Prior literature documents that litigation risk can vary across firms based on characteristics such as industry membership, return volatility and growth (Francis, Philbrick and Schipper 1995; Rogers and Stocken 2005; Kim and Skinner 2012). We expect that increases in REM accompanying the Ninth Circuit court ruling should be the most pronounced for firms most constrained by litigation risk in the year before the ruling.

We modify equation (1) to include a firm-specific litigation risk measure (*LitRisk*) introduced by Kim and Skinner (2012), along with its interaction terms with the following variables: *Post, Ninth Circuit*, and *Post*Ninth Circuit*. Table 10 presents the results. The coefficient on *Post*Ninth Circuit* LitRisk* is positive and statistically significant in the first two columns, providing some support for the notion that greater post-ruling REM increases in Ninth Circuit firms occur at those firms that were more constrained by litigation risk before the ruling.[27]

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[26] Firms with high net operating assets (NOA) do not show significant increases in abnormal accruals following the ruling. The evidence is consistent with high-NOA firms having reduced flexibility to increase, or even sustain aggressive accrual choices following the ruling and resorting to REM instead.

[27] Our results are stronger and statistically significant in all three columns when we replace continuous *LitRisk* with a binary variable *HighLitRisk* which takes the value of one for firms with above median *LitRisk*, suggesting that the effect of firm-specific litigation risk is not perfectly linear.

[INSERT TABLE 10 HERE]

Other Untabulated Analyses

REM Escalation: In untabulated analyses, we examine whether the decline in litigation risk following the 1999 ruling motivated managers to escalate the level of REM from year to year. In the presence of litigation risk, we expect managers to limit any escalation of REM escalation from one period to the next, out of concern that this escalation can cause them to issue misleading statements that, upon being uncovered, attract class action lawsuits. Thus, following the decline in litigation risk with the 1999 ruling, we expect Ninth Circuit firms to exhibit greater REM escalation relative to other firms. To measure REM escalation we use an indicator variable equal to 1 if a firm moves from tercile 1 of an REM proxy last year to tercile 2 or 3 in the current year for that proxy; or moves from tercile 2 of last year to tercile 3 in the current year; or belonged to tercile 3 last year and remains in tercile 3 in the current year. Untabulated results confirm that Ninth Circuit firms exhibit greater year-to-year escalation in REM following the decline in litigation risk with the 1999 ruling.

Derivative Lawsuits and Real Earnings Management: To increase the generalizability of our results, we next examine shocks to the ability of shareholders to file derivative lawsuits. Unlike the Ninth Circuit Court ruling, shocks to the filing of derivative lawsuits were staggered over time, which addresses potential concerns that the deterrence effect of litigation on REM is limited to one specific time-period or event.[28] Staggered adoption of universal demand (UD) laws in 23 states between 1989 and 2005 made the filing of derivative lawsuits significantly more difficult by requiring that shareholders seek the board's approval before initiating litigation (Appel 2016). The passage of UD laws reduced the incidence of litigation and

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[28] Derivative lawsuits allow shareholders to sue managers and/or directors *on behalf of the corporation* (rather than on behalf of shareholders) for a breach of fiduciary duty. Plaintiffs almost always prefer securities class action litigation but derivative lawsuits are often filed in addition whenever there are legal grounds for initiating both (Erickson 2010; Appel 2016)

contributed to poorer governance and higher cost of capital for affected firms (Appel 2016; Houston, Lin and Xie 2015). We create a sample of firm years encompassing years 1985-2009, which ranges from four years before the first state adoption of UD laws to four years after the last state adoption. Untabulated results from staggered differences-in-differences tests centered on UD law adoption reveal significant increases in REM for firms when their respective states of incorporation adopt UD laws. Consistent with our main results based on securities class action litigation, we conclude that litigation serves a deterrence role with respect to real earnings management and that REM increases when that role is reduced.

CONCLUSION

Shareholders can pursue various courses of action to prevent managers from violating their fiduciary duty and engaging in actions that transfer wealth away from shareholders. These actions include exercising governance through vote or exit (Parrino et al. 2003; Edmans 2009; Edmans and Manso 2011; Appel, Gormley and Keim 2016). In certain circumstances, shareholders are also able to file lawsuits against the firm's management and/or directors. Because litigation has serious reputation and career implications for management and directors (Srinivasan 2005; Brochet and Srinivasan 2014), it also serves a deterrence role. While prior literature has investigated the disciplining effect of litigation on management forecasts, as well as GAAP violations (Skinner 1994; Houston et al. 2015; Hopkins 2017), no prior research has explored whether this effect of litigation extends to real earnings management (REM). Establishing whether it does is important because the impact of REM on future performance is known to be more negative than that of accruals and at the same time, REM is more opaque and difficult to litigate against because of the business judgment principle.

In this paper, we provide robust evidence that litigation deters REM. Our results further indicate that litigation's deterrence effect arises because of REM's link with excessively optimistic disclosures. Managers that manipulate real actions bear the risk that they have to

misrepresent the true intent and circumstances underlying those actions and these misrepresentations can become subject to lawsuits. Further, we find that litigation's role in deterring REM is more salient when managerial incentives to overstate earnings are stronger and corporate governance is weaker.

We caution that our findings need not imply that an increase in litigation risk is necessarily the most efficient way to constrain managerial opportunism under all circumstances. For example, Lin et al. (2017) find that the threat of litigation can constrain risk-taking and innovation, which suggests that increased litigation risk imposes costs. Our results should be interpreted as indicating a partial benefit of litigation risk. When managers face short-term incentives to myopically inflate earnings, the prospect of ex post settling up via litigation effectively deters real earnings management. A second caveat to bear in mind is that the effects of a decline in litigation risk with the 1999 ruling may not necessarily have been permanent. As Crane and Koch (2018) note, alternative governance mechanisms such as higher institutional ownership possibly stepped in to discipline the expected increase in managerial opportunism and myopia in Ninth Circuit firms after the 1999 ruling. However, if any of these governance changes were unconditionally optimal, they could have taken place even when litigation risk was high, that is, prior to the ruling. An increase in REM, even one that is the strongest in the year immediately following the ruling, implies that litigation risk constrains myopic real actions that would be costlier to discipline via alternative governance mechanisms.

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Appendix A Variable Definitions

Variables	Definition
Ninth Circuit	Indicator equal to one if firms are located in Ninth Circuit States. Source: Compustat.
Post	Indicator equal to one for years 2000-2003, and zero for years 1995-1998. Source: Compustat
ROA	Operating income over lagged total asset. Source: Compustat
Total Assets	Total assets (in million). Source: Compustat
Firm Size	Log of total assets. Source: Compustat
Dividend	Dividend over total assets. Source: Compustat
CAPEX	Capital expenditures over total assets. Source: Compustat
Leverage	Short term debt plus long term debt, divided by total assets. Source: Compustat
Cash	Cash over total assets. Source: Compustat
Debt Issue	Long-term debt issuance minus long-term debt reduction, divided by total assets. Source: Compustat
Equity Issue	Sale of common stock, divided by shareholder equity. Source: Compustat
Acquisition	Number of acquisitions. Source: SDC
IO	Percent of shares outstanding held by institutional investors. Source: Thomson Reuters
IO_Monitor	Percentage of shares owned by dedicated investors and quasi-indexers divided by the percentage of shares owned by all institutional investors.
GDP Growth	State GDP growth rate. Source: Census.
Unemployment	County unemployment rate. Source: Census.
Income	County income per capita. Source: Census.
Population	Log of County population. Source: Census.
Gender	Percentage of female population at County level. Source: Census.
Ethnicity	Percentage of white population at County level. Source: Census.
Education	Percentage of people with at least tertiary education at County level. Source: Census.
Vote Democrat	Percentage of people voting for the Democratic candidate in the last presidential election. Source: Census.
AbnProd	Following Kothari et al. (2016), we estimate abnormal production cost as residuals from the following first-order autoregressive model incorporating fixed-effects: $Prod_{i,t} = \alpha_0 + \alpha_1 Prod_{i,t-1} + \alpha_2\, 1 / Assets_{i,t-1} + \alpha_3 Sales_{i,t} + \alpha_4 \Delta Sales_{i,t} + \alpha_5 \Delta Sales_{i,t-1} + \varepsilon_{i,t}$ Where $Prod_{i,t}$ is the sum of COGS and change in inventory during the year scaled by lagged total assets; $Prod_{i,t-1}$ is its lagged value; $Assets_{i,t-1}$ is lagged total assets; $Sales_{i,t}$ is sales during the year scaled by lagged total assets; $\Delta Sales_{i,t}$ is the sale growth scaled by lagged total assets; $\Delta Sales_{i,t-1}$ is its lagged value. To control for year-specific and firm-specific effects that induce model misspecification, we adapt the model proposed by Kothari et al. (2016) for estimating abnormal production cost. As described in Kothari et al. (2016): "First, every firm's production cost is differenced from the cross-sectional mean for that year. Second, for every firm, the annual deviation of production cost from the cross-sectional mean is differenced from the corresponding deviation in the previous year. The explanatory variables in the model are also differenced twice in the same manner. The model is estimated every year." The firm-year residual minus the mean value of the residual across all years for the corresponding firm yields abnormal production costs. Source: Compustat.

Appendix A Variable Definitions, Continued

|	
AbnDisx	Following Kothari et al. (2016), we estimate abnormal discretionary expenditures as residuals from the following first-order autoregressive model incorporating fixed-effects: $$DiscExp_{i,t} = \alpha_0 + \alpha_1 \, DiscExp_{i,t-1} + \alpha_2 \, 1/Assets_{i,t-1} + \alpha_3 \, Sales_{i,t} + \varepsilon_{i,t}.$$ Where $DiscExp_{i,t}$ is the sum of advertising expenses, R&D expenses and SG&A expenses, all scaled by lagged total assets; $DiscExp_{i,t-1}$ is its lagged value; $Assets_{i,t-1}$ is lagged total assets; $Sales_{i,t}$ is sales during the year scaled by lagged total assets. Please see notes on *AbnProd* for a description of how the model is estimated. Following Kothari et al. (2016), "the firm-year residual minus the mean value of the residual across all years for the corresponding firm, times minus one, yields abnormal discretionary expense or *AbnDisx* for that firm-year. Higher values of *AbnDisx* represent greater cuts in discretionary expenses and more earnings management." Source: Compustat.
RM	*AbnDisx + AbnProd*
AbnAcc	Following Kothari et al. (2016), we estimate abnormal discretionary accruals with a fixed-effect first-order autoregressive model: $$TA_{i,t} = \alpha_0 + \alpha_1 \, TA_{i,t-1} + \alpha_2 \, 1/Assets_{i,t-1} + \alpha_3 \Delta Rev_{i,t} + \alpha_4 PPE_{i,t} + \alpha_5 CFO_{i,t-1} + \alpha_6 CFO_{i,t} + \alpha_7 CFO_{i,t+1} + \varepsilon_{i,t}$$ Where $TA_{i,t}$ is total accruals of firm i in year t, scaled by average total assets; $TA_{i,t-1}$ is its lagged value; $\Delta Rev_{i,t}$ is the annual change in revenues scaled by average total assets; $PPE_{i,t}$ is property, plant, and equipment scaled by average total assets; CFO is operating cash flow, scaled by average total assets. Please see notes on *AbnProd* for a description of how the model is estimated. Source: Compustat.
D(t=-1)	An indicator equal to one for year 1998, and zero otherwise. Source: Compustat.
D(t=-2)	An indicator equal to one for year 1997, and zero otherwise. Source: Compustat.
D(t=-3)	An indicator equal to one for year 1996, and zero otherwise. Source: Compustat.
D(t=1)	An indicator equal to one for year 2000, and zero otherwise. Source: Compustat.
D(t=2)	An indicator equal to one for year 2001, and zero otherwise. Source: Compustat.
D(t=3)	An indicator equal to one for year 2002, and zero otherwise. Source: Compustat.
D(t=4)	An indicator equal to one for year 2003, and zero otherwise. Source: Compustat.
OptTone_MDA	An indicator equal to one if abnormal tone of the Management and Discussion Section (MD&A) of the 10-Ks is positive, and zero otherwise. Tone is measured as the difference between the count of positive and negative words scaled by the total number of words following the Loughran and McDonald (2011) methodology. Abnormal tone is measured following Huang, Teoh and Zhang (2014) as a residual from a regression of tone on earnings, returns, size, book-to-market, volatility of returns and earnings, firm age, number of business and geographic segments, the incidence of losses, change in earnings, analyst forecast of earnings and analyst forecast error. Source: MD&A Tone data from Bochkay and Levine (2017), generously provided by Khrystyna Bochkay at U. of Miami, Compustat, CRSP, IBES.
OptTone_EPR	An indicator takes the value of one if abnormal tone of earnings announcement press releases is positive, and zero otherwise. Abnormal tone is measured following Huang, Teoh and Zhang (2014) following the same procedure as in *OptTone_MDA*. Source: Earnings press-release tone data from Huang, Teoh and Zhang (2014) generously provided by Siew Hong Teoh at U. of California, Irvine, Compustat, CRSP, IBES.
Optimistic Forecast	An indicator equal to one if the last annual management forecast before fiscal year end beats median analyst consensus computed over the past 90 days. Source: First Call.
Optimistic Disclosure	An indicator equal to one if abnormal tone in the MD&A or the earnings press release was positive, or the manager issued an optimistic forecast prior to the fiscal year-end, and zero otherwise.

Appendix A Variable Definitions, Continued

Narrow Beat	An indicator equal to one if actual EPS meets or beats earnings target by less than 2 cents, and zero otherwise. We define earnings target using analyst consensus forecasts within first 90 days since the last earnings announcement. For firms without analyst coverage, we define earnings target using earnings from last year. Source: IBES.
Large Beat	An indicator equal to one if actual EPS meets or beats earnings target by at least 2 cents, and zero otherwise. We define earnings target using analyst consensus forecasts within first 90 days since the last earnings announcement. For firms without analyst coverage, we define earnings target using earnings from last year. Source: IBES.
Narrow Miss	An indicator equal to one if actual EPS misses earnings target by less than 2 cents, and zero otherwise. We define earnings target using analyst consensus forecasts within first 90 days since the last earnings announcement. For firms without analyst coverage, we define earnings target using earnings from last year. Source: IBES.
Insider Net Sell	Insider sales minus insider purchases if insider sales are greater than insider purchases and zero otherwise. Insider sales (purchases) are computed as the percentage of shares sold (purchased) by executives. Insider executives exclude directors and large owners (that is, those with >10% block-holdings), and include officers of the firm such as CEOs, CFOs, COOs, Senior VPs, and VPs. We follow Cohen, Malloy and Pomorski (2012) and exclude routine transactions in calculating insider sales and purchases. Source: Thomson Reuters.
E-index	E-Index is based on six provisions, four of which constitute limitations on shareholders' voting power and the remaining two are measures against hostile takeovers. Source: IRRC.
LitRisk	LitRisk is the estimated litigation probability from Kim and Skinner (2012) model. Source: Compustat.
I(AbnDisx_ESC), I(AbnProd_ESC), I(RM_ESC)	Indicator variable for year-to-year escalation in REM. Firms are partitioned every year into three equal-sized groups (terciles) based on the corresponding REM metric. We define an indicator variable equal to 1 if a firm moves from tercile 1 of REM last year to tercile 2 or 3 in the current year; or moves from tercile 2 of last year to tercile 3 in the current year; or belonged to tercile 3 last year and remains in tercile 3 in the current year. Source: Compustat
Post(UD)	An indicator equal to one for all years after a state passes the UD law, and zero otherwise. Source: Compustat.
UD	An indicator variable for a "UD state"; that is, equal to one if a state eventually passes UD law for a firm in that state, and zero otherwise. Source: Compustat.

Figure 1 Parallel Trends: RM and AbnAcc

Figure 1 plots the changes in RM (AbnAcc) in year t relative to the year t-4. X-axis represents event year where t=0 is the year of the Ninth Circuit Ruling. We plot residual RM (AbnAcc) from the regression of RM (AbnAcc) on all control variables (other than *Post*Ninth Circuit*) in Equation (1). The sample period is from 1995 to 2003, excluding 1999, the year of the Ninth Circuit ruling. We exclude the financial and utility industries (sic 4000-4999 and sic 6000-6999). We exclude penny stocks (share price less than one dollar) and firms with missing state of headquarter location. Only firms with at least one year of data in both the pre- and post-event periods are included in the sample. *, ** and *** denote two-tailed significance level at 10%, 5% and 1% respectively for t-test of difference in means between treated and control firms in year t.

Panel A Parallel Trend-RM
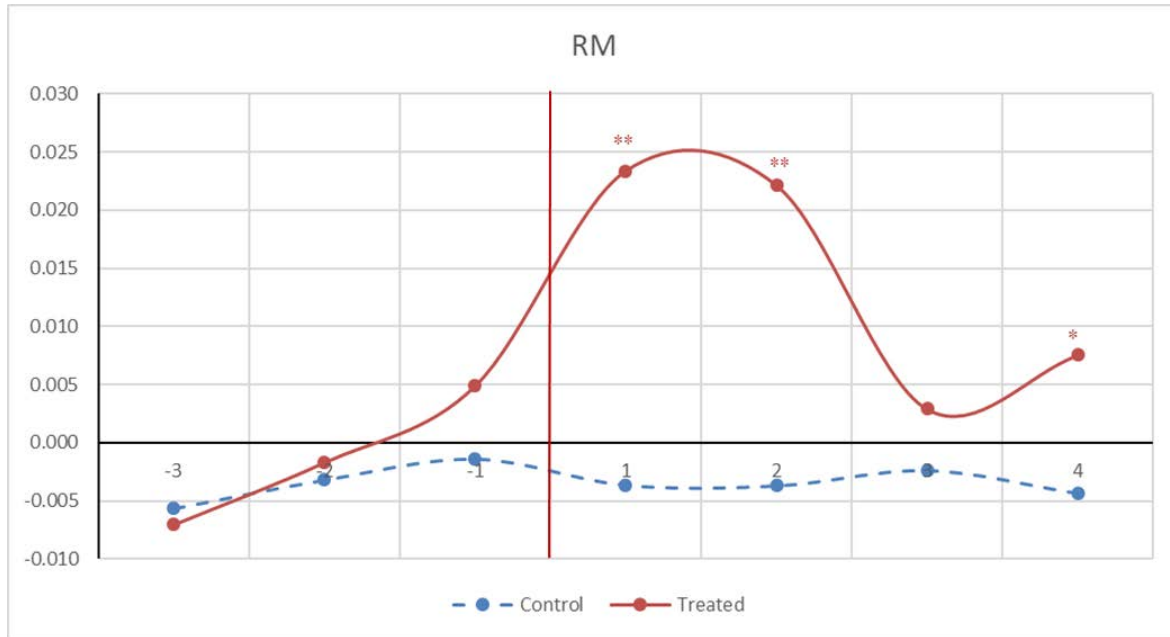
Panel B Parallel Trend-AbnAcc

Table 1 Descriptive Statistics

The sample period is from 1995 to 2003, excluding 1999, the year of the Ninth Circuit ruling. We exclude the financial and utility industries (sic 4000-4999 and sic 6000-6999). We exclude penny stocks (share price less than one dollar) and firms with missing state of headquarter location. Only firms with at least one year of data in both the pre- and post-event periods are included in the sample. All variables are defined in Appendix A.

	N	Mean	Median	Std	P25	P75
AbnDisx	15225	0.004	0.027	0.142	-0.030	0.065
AbnProd	14958	0.001	0.014	0.137	-0.038	0.059
RM	14215	0.004	0.031	0.197	-0.044	0.091
Ninth Circuit	15225	0.169	0.000	0.375	0.000	0.000
ROA	15225	0.099	0.133	0.286	0.060	0.205
Total Assets(Million)	15225	1275.5	199.8	3154.2	49.2	823.3
Dividend	15225	0.007	0.000	0.017	0.000	0.008
CAPEX	15225	0.062	0.042	0.066	0.022	0.076
Leverage	15225	0.236	0.195	0.243	0.027	0.357
Cash	15225	0.164	0.071	0.209	0.020	0.229
Debt Issue	15225	0.012	0.000	0.095	-0.017	0.023
Equity Issue	15225	0.038	0.000	1.101	-0.010	0.017
Acquisition	15225	0.035	0.000	0.184	0.000	0.000
IO	15225	0.370	0.347	0.281	0.099	0.610
AbnAcc	15225	0.000	0.004	0.104	-0.039	0.045
GDP Growth	15225	4.387	3.125	4.562	-0.059	7.850
Unemployment	15225	0.029	0.029	0.004	0.027	0.033
Income	15225	16.886	14.020	13.012	6.758	21.906
Population	15225	2.933	2.970	0.821	2.378	3.633
Gender	15225	0.504	0.506	0.008	0.499	0.510
Ethnicity	15225	0.845	0.871	0.086	0.775	0.927
Education	15225	0.217	0.219	0.036	0.194	0.237
Vote Democrat	15225	0.444	0.444	0.069	0.414	0.478

Table 2 – Univariate Tests
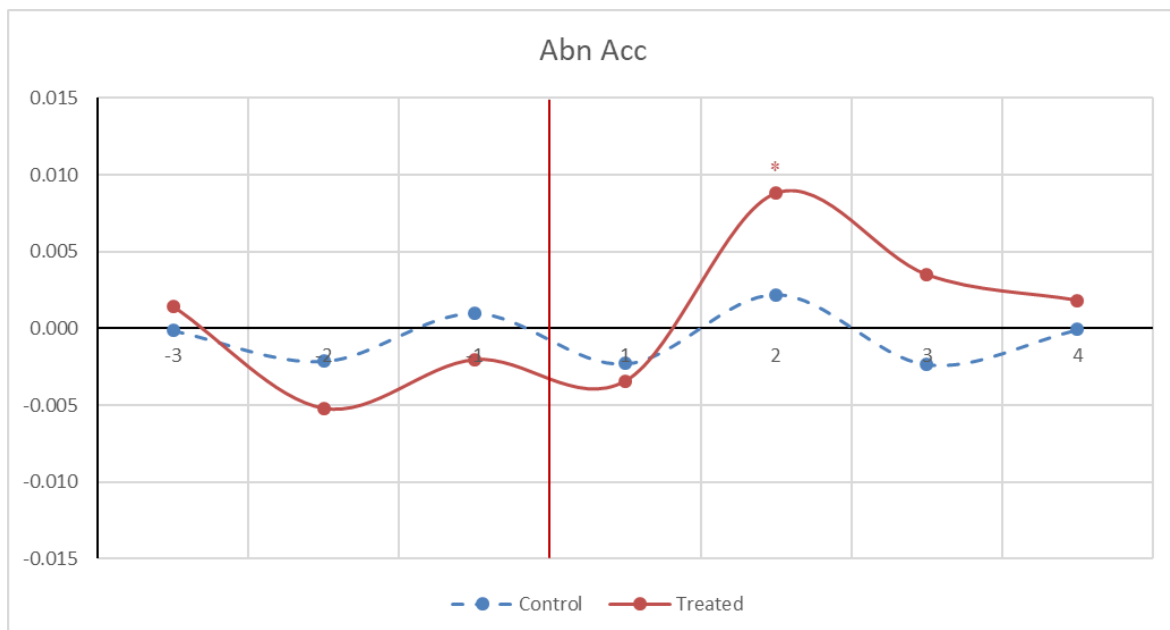
The sample period is from 1995 to 2003, excluding 1999, the year of the Ninth Circuit ruling. We exclude the financial and utility industries (sic 4000-4999 and sic 6000-6999). We exclude penny stocks (share price less than one dollar) and firms with missing state of headquarter location. Only firms with at least one year of data in both the pre- and post-event periods are included in the sample. This table reports the univariate comparison between firms located in Ninth Circuit States and those in other circuit states. All variables are defined in Appendix A.

	Panel A Ninth Circuit States			**Panel B Other Circuit States**			**Panel C Diff-in-Diff**	
	Before	After	p-value	Before	After	p-value	diff-in-diff	p-value
AbnDisx	-0.004	0.010	0.032	0.025	-0.016	0.000	0.027	0.000
AbnProd	-0.006	0.014	0.002	-0.003	0.003	0.005	0.013	0.000
RM	-0.001	0.007	0.368	0.020	-0.012	0.000	0.040	0.000

Table 3 Real Earnings Management (REM) Changes

Table 3 examines changes in REM following the Ninth Circuit court ruling. The sample period is from 1995 to 2003, excluding 1999, the year of the Ninth Circuit ruling. We exclude the financial and utility industries (sic 4000-4999 and sic 6000-6999). We exclude penny stocks (share price less than one dollar) and firms with missing state of headquarter location. Only firms with at least one year of data in both the pre- and post-event periods are included in the sample. All variables are defined in Appendix A. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote two-tailed significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at state of location level.

	(1) AbnDisx	(2) AbnProd	(3) RM
Post*Ninth Circuit	0.016	0.013	0.023
	(3.97)***	(2.03)**	(3.66)***
ROA	0.158	-0.155	-0.001
	(5.29)***	(-7.03)***	(-0.04)
Firm Size	0.013	0.009	0.022
	(2.48)**	(1.33)	(2.45)**
Dividend	0.043	0.205	0.218
	(0.38)	(1.57)	(1.08)
CAPEX	0.050	0.093	0.117
	(1.34)	(2.50)**	(2.69)***
Leverage	0.056	-0.037	0.010
	(2.85)***	(-2.65)**	(0.35)
Cash	0.067	-0.014	0.020
	(2.66)**	(-0.76)	(0.60)
Debt Issue	-0.150	0.093	-0.032
	(-6.75)***	(5.63)***	(-1.25)
Equity Issue	-0.004	0.001	-0.002
	(-1.16)	(0.55)	(-0.41)
Acquisition	0.005	0.012	0.010
	(0.86)	(1.25)	(0.84)
IO	-0.018	-0.016	-0.038
	(-1.29)	(-0.95)	(-1.57)
AbnAcc	0.058	0.106	0.176
	(2.11)**	(3.14)***	(3.89)***
GDP Growth	-0.000	0.001	0.001
	(-0.09)	(0.71)	(0.67)
Unemployment	-0.191	1.201	0.621
	(-0.19)	(0.70)	(0.30)
Income	0.001	-0.001	0.000
	(1.61)	(-1.19)	(0.24)
Population	-0.002	-0.010	-0.013
	(-0.10)	(-0.50)	(-0.77)
Gender	-1.207	0.469	-1.803
	(-1.18)	(0.43)	(-1.14)
Ethnicity	-0.236	0.299	-0.128
	(-1.91)*	(2.54)**	(-0.69)
Education	0.635	-0.505	0.605
	(2.21)**	(-1.60)	(1.03)
Vote Democrat	-0.053	-0.097	-0.049
	(-0.72)	(-1.20)	(-0.46)
Observations	15,225	14,958	14,215
R-squared	0.420	0.312	0.405
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Table 4 Real Earnings Management (REM) Changes: Parallel Trends Analysis

Table 4 examines changes in REM in in year t relative to the year of the Ninth Circuit court ruling. The sample period is from 1995 to 2003, excluding 1999, the year of the Ninth Circuit ruling. We exclude the financial and utility industries (sic 4000-4999 and sic 6000-6999). We exclude penny stocks (share price less than one dollar) and firms with missing state of headquarter location. Only firms with at least one year of data in both the pre- and post-event periods are included in the sample. All regressions contain the same set of control variables as in Table 3. All variables are defined in Appendix A. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote two-tailed significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at state of location level.

	(1) AbnDisx	(2) AbnProd	(3) RM
D(t=-3)*Ninth Circuit	-0.009	0.016	0.018
	(-0.89)	(1.38)	(1.60)
D(t=-2)*Ninth Circuit	0.008	0.004	0.020
	(0.68)	(0.46)	(1.19)
D(t=-1)*Ninth Circuit	0.011	0.018	0.035
	(0.83)	(1.40)	(1.20)
D(t=1)*Ninth Circuit	0.026	0.029	0.050
	(2.53)**	(2.54)**	(2.50)**
D(t=2)*Ninth Circuit	0.045	0.014	0.057
	(2.86)***	(1.24)	(2.77)***
D(t=3)*Ninth Circuit	0.009	0.005	0.031
	(0.92)	(0.50)	(1.77)*
D(t=4)*Ninth Circuit	-0.000	0.030	0.036
	(-0.03)	(1.70)*	(2.53)**
Controls	Yes	Yes	Yes
Observations	15,225	14,958	14,215
R-squared	0.427	0.313	0.407
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Table 5 Real Earnings Management (REM) Changes and Propensity Score Matching

Panel A gauges matching quality of the dependent and independent variables for the propensity score matched treatment and control samples. Panel B provides univariate comparison of REM for both the pre- and the post-ruling periods. Panel C estimates Eq. (1) using this propensity score matched sample. The sample period is from 1995 to 2003, excluding 1999, the year of the Ninth Circuit ruling. We exclude the financial and utility industries (sic 4000-4999 and sic 6000-6999). We exclude penny stocks (share price less than one dollar) and firms with missing state of headquarter location. Only firms with at least one year of data in both the pre- and post-event periods are included in the sample. All regressions contain the same set of control variables as in Table 3. All variables are defined in Appendix A. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote two-tailed significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at state of location level.

Panel A Matching Quality			
	Control	Treated	p-value
AbnDisx	0.002	0.025	0.000
AbnProd	-0.004	0.019	0.000
RM	-0.005	0.041	0.000
PSM Score	0.199	0.199	0.987
ROA	0.084	0.097	0.203
Firm Size	4.949	5.078	0.058
Dividend	0.005	0.005	0.910
CAPEX	0.067	0.068	0.944
Leverage	0.208	0.213	0.574
Cash	0.222	0.214	0.348
Debt Issue	0.016	0.016	0.852
Equity Issue	0.030	0.063	0.518
Acquisition	0.045	0.043	0.798
IO	0.330	0.341	0.254
AbnAcc	-0.002	-0.003	0.646

Panel B Univariate Comparison			
	Pre-Ruling Period		
	Control	Treated	p-value
Abndisx	0.015	0.012	0.669
Abnprod	-0.008	-0.004	0.539
RM	0.004	0.005	0.926
	Post-Ruling Period		
	Control	Treated	p-value
Abndisx	-0.023	0.050	0.000
Abnprod	0.004	0.065	0.000
RM	-0.022	0.111	0.000

Panel C Multivariate Regression			
	(1)	(2)	(3)
	AbnDisx	*AbnProd*	*RM*
*Post*Ninth Circuit*	0.030	0.025	0.056
	(2.44)**	(1.93)*	(2.58)**
Controls	Yes	Yes	Yes
Observations	3,276	3,276	3,276
R-squared	0.728	0.684	0.704
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Table 6 Real Earnings Management (REM) and Optimistic/Misleading Disclosure

Table 6 examines cross-sectional variation in changes in REM following the Ninth Circuit court ruling with optimistic disclosures. Panel A and B examine the abnormal optimistic tone of MD&A section of 10-K and of the earnings press release, respectively. Panel C focuses on optimistic management forecasts. Panel D focuses on a composite measure of optimistic disclosure. The sample period is from 1995 to 2003, excluding 1999, the year of the Ninth Circuit ruling. We exclude the financial and utility industries (sic 4000-4999 and sic 6000-6999). We exclude penny stocks (share price less than one dollar) and firms with missing state of headquarter location. Only firms with at least one year of data in both the pre- and post-event periods are included in the sample. All regressions contain the same set of control variables as in Table 3. All variables are defined in Appendix A. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote two-tailed significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at state of location level.

Panel A Optimistic Tone in the MD&A			
	(1)	(2)	(3)
	AbnDisx	AbnProd	RM
Post*Ninth Circuit	0.039	0.021	0.019
	(1.62)	(1.54)	(0.99)
Post*Ninth Circuit*OptTone_MDA	0.019	0.054	0.038
	(0.59)	(3.06)***	(1.73)*
Post*OptTone_MDA	-0.009	-0.014	-0.026
	(-1.13)	(-1.36)	(-2.11)**
Ninth Circuit*OptTone_MDA	-0.008	-0.039	-0.052
	(-0.37)	(-2.66)**	(-2.23)**
OptTone_MDA	0.010	0.010	0.023
	(1.57)	(1.39)	(2.50)**
Controls	Yes	Yes	Yes
Observations	4,803	4,733	4,459
R-squared	0.522	0.469	0.498
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Panel B Optimistic Tone in the Earnings Press Release			
	(1)	(2)	(3)
	AbnDisx	AbnProd	RM
Post*Ninth Circuit	-0.021	-0.069	-0.049
	(-0.66)	(-3.02)***	(-0.92)
Post*Ninth Circuit*OptTone_EPR	0.120	0.131	0.189
	(2.34)**	(3.18)***	(2.42)**
Post*OptTone_EPR	-0.010	0.009	-0.003
	(-0.50)	(0.28)	(-0.08)
Ninth Circuit*OptTone_EPR	-0.115	-0.110	-0.164
	(-2.50)**	(-2.85)***	(-2.24)**
OptTone_EPR	0.008	-0.016	-0.008
	(0.46)	(-0.51)	(-0.21)
Controls	Yes	Yes	Yes
Observations	3,954	3,901	3,717
R-squared	0.707	0.621	0.700
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Table 6 Real Earnings Management (REM) and Optimistic/Misleading Disclosure, Ctd.

Panel C Optimistic Forecast			
	(1)	(2)	(3)
	AbnDisx	*AbnProd*	*RM*
Post*Ninth Circuit	0.013	0.013	0.020
	(3.28)***	(1.75)*	(3.10)***
Post*Ninth Circuit*Optimistic Forecast	0.065	0.035	0.099
	(1.71)*	(1.64)	(3.24)***
Post*Optimistic Forecast	0.008	0.008	0.012
	(1.08)	(0.86)	(0.96)
Ninth Circuit*Optimistic Forecast	0.011	-0.017	-0.014
	(0.30)	(-0.78)	(-0.67)
Optimistic Forecast	-0.011	-0.001	-0.009
	(-1.91)*	(-0.14)	(-0.93)
Controls	Yes	Yes	Yes
Observations	15,225	14,958	14,215
R-squared	0.426	0.312	0.407
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Panel D Optimistic Disclosure			
	(1)	(2)	(3)
	AbnDisx	*AbnProd*	*RM*
Post*Ninth Circuit	0.007	0.003	0.007
	(1.54)	(0.37)	(0.97)
Post*Ninth Circuit*Optimistic Disclosure	0.036	0.032	0.061
	(4.63)***	(2.97)***	(4.86)***
Post*Optimistic Disclosure	-0.000	-0.004	-0.011
	(-0.09)	(-0.60)	(-1.54)
Ninth Circuit*Optimistic Disclosure	-0.027	-0.009	-0.044
	(-4.46)***	(-1.09)	(-3.94)***
Optimistic Disclosure	0.001	-0.006	0.002
	(0.29)	(-1.03)	(0.38)
Controls	Yes	Yes	Yes
Observations	15,225	14,958	14,215
R-squared	0.426	0.312	0.407
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Table 7 Real Earnings Management (REM) and Short-Term Incentives

Table 7 examines cross-sectional variation in changes in REM following the Ninth Circuit court ruling with short-term incentives to overstate earnings. Panel A studies the incentives to meet or beat earnings target while Panel B studies the incentives arising from insider selling. The sample period is from 1995 to 2003, excluding 1999, the year of the Ninth Circuit ruling. We exclude the financial and utility industries (sic 4000-4999 and sic 6000-6999). We exclude penny stocks (share price less than one dollar) and firms with missing state of headquarter location. Only firms with at least one year of data in both the pre- and post-event periods are included in the sample. All regressions contain the same set of control variables as in Table 3. All variables are defined in Appendix A. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote two-tailed significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at state of location level.

	Panel A REM and Meet Beat		
	(1)	(2)	(3)
	AbnDisx	*AbnProd*	*RM*
*Post*Ninth Circuit*	0.005	0.002	0.005
	(1.03)	(0.25)	(0.54)
*Post*Ninth Circuit*Narrow Beat*	0.024	0.028	0.094
	(1.85)*	(1.75)*	(3.24)***
*Post*Ninth Circuit*Large Beat*	0.019	0.020	0.028
	(3.80)***	(2.29)**	(2.89)***
*Post*Ninth Circuit*Narrow Miss*	-0.033	0.011	-0.042
	(-2.38)**	(0.26)	(-1.92)*
*Post*Narrow Beat*	-0.007	-0.014	-0.024
	(-0.91)	(-1.38)	(-1.78)*
*Ninth Circuit*Narrow Beat*	0.018	0.002	-0.012
	(1.84)*	(0.14)	(-0.67)
*Post*Large Beat*	-0.002	0.004	0.004
	(-0.37)	(0.86)	(0.50)
*Ninth Circuit*Large Beat*	0.013	-0.007	-0.004
	(1.64)	(-1.36)	(-0.36)
*Post*Narrow Miss*	-0.002	0.001	-0.007
	(-0.14)	(0.08)	(-0.47)
*Ninth Circuit*Narrow Miss*	0.010	0.018	0.011
	(0.77)	(1.55)	(0.73)
Narrow Beat	0.011	-0.002	0.008
	(2.11)**	(-0.27)	(1.19)
Large Beat	-0.001	-0.019	-0.018
	(-0.41)	(-4.09)***	(-2.85)***
Narrow Miss	0.005	-0.014	-0.005
	(0.99)	(-1.73)*	(-0.49)
Controls	Yes	Yes	Yes
Observations	15,225	14,958	14,215
R-squared	0.427	0.315	0.409
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Table 7 Real Earnings Management (REM) and Short-Term Incentives, Ctd.

	(1) AbnDisx	(2) AbnProd	(3) RM
Panel B REM and Insider Selling			
*Post*Ninth Circuit*	0.011	0.012	0.016
	(2.77)***	(1.65)	(2.33)**
*Post*Ninth Circuit*Insider Net Sell*	0.041	0.020	0.070
	(3.38)***	(2.10)**	(5.17)***
*Post*Insider Net Sell*	-0.001	0.010	-0.006
	(-0.19)	(1.79)*	(-0.53)
*Ninth Circuit*Insider Net Sell*	-0.010	0.002	-0.014
	(-1.43)	(0.19)	(-1.77)*
Insider Net Sell	-0.010	-0.001	-0.006
	(-3.60)***	(-0.14)	(-1.39)
Controls	Yes	Yes	Yes
Observations	15,225	14,958	14,215
R-squared	0.427	0.313	0.408
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Table 8 Real Earnings Management (REM) Changes and Corporate Governance

Table 8 examines cross-sectional variation in changes in REM following the Ninth Circuit court ruling with corporate governance attributes. Panel A studies the role of managerial entrenchment while Panel B studies the role of institutional ownership. The sample period is from 1995 to 2003, excluding 1999, the year of the Ninth Circuit ruling. We exclude the financial and utility industries (sic 4000-4999 and sic 6000-6999). We exclude penny stocks (share price less than one dollar) and firms with missing state of headquarter location. Only firms with at least one year of data in both the pre- and post-event periods are included in the sample. All regressions contain the same set of control variables as in Table 3. All variables are defined in Appendix A. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote two-tailed significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at state of location level.

	Panel A Managerial Entrenchment		
	(1)	(2)	(3)
	AbnDisx	AbnProd	RM
Post*Ninth Circuit	-0.010	-0.031	-0.041
	(-1.17)	(-1.23)	(-1.53)
Post*Ninth Circuit*E-Index	0.009	0.012	0.020
	(3.20)***	(2.08)**	(2.32)**
Post*E-Index	0.000	-0.003	-0.001
	(0.31)	(-1.40)	(-0.61)
Ninth Circuit*E-Index	-0.009	0.007	0.005
	(-2.59)**	(0.96)	(0.56)
E-Index	0.003	0.005	0.007
	(0.87)	(1.89)*	(1.38)
Controls	Yes	Yes	Yes
Observations	4,701	4,631	4,538
R-squared	0.485	0.308	0.433
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

	Panel B Institutional Ownership					
	InstOwn = IO			**InstOwn = IO_Monitor**		
	(1)	(2)	(3)	(4)	(5)	(6)
	AbnDisx	AbnProd	RM	AbnDisx	AbnProd	RM
Post*Ninth Circuit*InstOwn	0.021	0.038	0.054	0.063	0.066	0.102
	(2.02)**	(2.95)***	(3.73)***	(4.04)***	(2.16)**	(5.24)***
Post*InstOwn	-0.004	-0.066	-0.074	-0.066	-0.076	-0.110
	(-0.13)	(-2.68)***	(-1.83)*	(-3.04)***	(-2.13)**	(-4.19)***
Ninth Circuit* InstOwn	0.026	0.005	0.024	0.006	-0.010	-0.010
	(2.22)**	(0.49)	(1.50)	(0.54)	(-0.87)	(-0.64)
InstOwn	-0.043	0.032	-0.003	0.003	0.020	-0.015
	(-1.06)	(0.60)	(-0.03)	(0.19)	(0.92)	(-0.65)
Post*Ninth Circuit*InstOwn	-0.027	-0.017	-0.044	0.036	0.004	0.052
	(-2.01)**	(-1.39)	(-2.33)**	(2.88)***	(0.39)	(3.30)***
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	15,225	14,958	14,215	15,225	14,958	14,215
R-squared	0.421	0.312	0.405	0.428	0.313	0.408
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Table 9 Real Earnings Management (REM) and Accrual Earnings Management

Table 9 examines cross-sectional variation in changes in REM following the Ninth Circuit court ruling with accrual-based earnings management (*AbnAcc*). The sample period is from 1995 to 2003, excluding 1999, the year of the Ninth Circuit ruling. We exclude the financial and utility industries (sic 4000-4999 and sic 6000-6999). We exclude penny stocks (share price less than one dollar) and firms with missing state of headquarter location. Only firms with at least one year of data in both the pre- and post-event periods are included in the sample. All regressions contain the same set of control variables as in Table 3. All variables are defined in Appendix A. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote two-tailed significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at state of location level.

	(1) *AbnDisx*	(2) *AbnProd*	(3) *RM*
*Post*Ninth Circuit*	0.015	0.014	0.023
	(3.97)***	(1.80)*	(3.33)***
*Post*Ninth Circuit*AbnAcc*	-0.175	-0.258	-0.374
	(-1.71)*	(-1.96)*	(-2.48)**
*Post*AbnAcc*	-0.069	-0.008	-0.058
	(-0.83)	(-0.14)	(-0.63)
*Ninth Circuit*AbnAcc*	0.116	0.148	0.200
	(1.50)	(1.57)	(1.49)
AbnAcc	0.089	0.108	0.203
	(1.66)	(1.71)*	(2.90)***
Controls	Yes	Yes	Yes
Observations	15,225	14,958	14,215
R-squared	0.428	0.313	0.408
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Table 10 Real Earnings Management (REM) Changes and Litigation Risk

Table 10 examines cross-sectional variation in changes in REM following the Ninth Circuit court ruling with firm-specific litigation risk measured in the year before the ruling. The sample period is from 1995 to 2003, excluding 1999, the year of the Ninth Circuit ruling. We exclude the financial and utility industries (sic 4000-4999 and sic 6000-6999). We exclude penny stocks (share price less than one dollar) and firms with missing state of headquarter location. Only firms with at least one year of data in both the pre- and post-event periods are included in the sample. All regressions contain the same set of control variables as in Table 3. All variables are defined in Appendix A. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote two-tailed significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at state of location level.

	(1) AbnDisx	(2) AbnProd	(3) RM
Post*Ninth Circuit	0.009	0.009	0.024
	(1.51)	(0.95)	(2.15)**
Post*Ninth Circuit*LitRisk	0.030	0.038	0.044
	(1.72)*	(1.68)*	(1.12)
Post*LitRisk	-0.019	0.012	0.002
	(-1.60)	(0.80)	(0.10)
Ninth Circuit*LitRisk	-0.020	0.038	0.011
	(-0.93)	(1.64)	(0.32)
LitRisk	0.060	-0.019	0.036
	(4.97)***	(-1.40)	(2.28)**
Controls	Yes	Yes	Yes
Observations	13,244	12,939	12,421
R-squared	0.449	0.306	0.406
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

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