# Disaggregated Earnings Guidance and Proprietary Disclosure Costs

by

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DISSERTATION ABSTRACT

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**Doctor of Philosophy in Accounting**

**Title: Disaggregated Earnings Guidance and Proprietary Disclosure Costs**

This paper examines whether proprietary disclosure cost concerns affect managers' decisions to disaggregate earnings guidance. I address this question using state court rejections of the Inevitable Disclosure Doctrine (IDD), which affect these concerns through increased employee mobility. I find a decrease in both the likelihood of issuing disaggregated earnings guidance (DEG) and the number of disaggregated items among firms headquartered in states that reject the IDD relative to unaffected firms. These results are consistent with managers viewing DEG as complementary to information leaked through employee mobility. Cross-sectional tests provide limited and inconsistent evidence that this effect is concentrated among firms with higher proprietary costs, suggesting that traditional proxies may not fully capture the relevant sources of proprietary information. Overall, I provide novel evidence on the link between proprietary cost concerns and managers' disaggregation decisions in earnings guidance.

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## Chapter 1. Introduction

A substantial literature in accounting examines the role of proprietary costs in shaping firms' voluntary disclosure decisions, particularly in the context of short-term earnings guidance. While some studies document that proprietary concerns limit disclosure, the overall evidence remains mixed, with several papers finding little association between common proxies for proprietary costs and firms' decisions to issue earnings guidance (see Leuz and Wysocki (2016) for a review). One explanation for this mixed evidence is that aggregate earnings guidance often accelerates the release of information that would soon be publicly available, limiting its ability to reveal new, actionable insights to competitors. More broadly, this mixed evidence may reflect challenges in measuring proprietary costs and identifying disclosure choices that meaningfully expose firms to competitive harm (Lang and Sul, 2014). Recent work, however, suggests that even short-term earnings forecasts can convey managers' private information about long-term performance, implying that such disclosures may still entail proprietary costs (Heinle et al., 2025). This interpretation, however, relies on viewing earnings guidance primarily through the lens of aggregate forecasts. In practice, many firms provide disaggregated earnings guidance (DEG), offering detailed forecasts of specific line items such as revenues, margins, or other operational metrics. Unlike aggregate guidance, these disclosures can reveal forward-looking, strategic information that may not be otherwise observable, potentially exposing firms to proprietary costs that are not captured in prior studies.

Since 2003, the frequency of DEG among firms has significantly risen, with the average number of disaggregate items issued annually increasing from just over six to more than ten by 2023. Among firms issuing both AEG and DEG, the average firm discloses 12.6 DEG items each year.[1] Industry distinctions are marked; averages for firms in one-digit SIC industries in 2023 range from four to over fourteen DEG items per year. Despite these trends, the determinants of DEG remain underexplored.

This paper investigates whether proprietary disclosure costs influence the degree of disaggregation in earnings guidance. The effect of proprietary costs on managers' decisions to disaggregate guidance is not straightforward. Firms may view the proprietary information

[1] Although I require firms in my sample to issue AEG, it is important to note that a firm may issue earnings items guidance such as sales, or gross margin (i.e. DEG), without providing AEG. Appendix C & D provide examples of IBM and AT&T guidance. IBM issues an AEG measure, while AT&T provides several line-item estimates and an EPS growth estimate, thus AEG and DEG.

contained in disaggregated earnings guidance (DEG) as either a substitute for, or a complement to, other information available to competitors. If the information revealed through DEG overlaps with what competitors can already infer from other sources, firms may treat DEG as a substitute disclosure, reducing the marginal cost of disclosure and increasing the incentive to provide more detailed guidance. In contrast, if DEG reveals incremental, strategically valuable information—such as forward-looking operational or investment details—it may enhance competitors' ability to exploit that information, increasing proprietary costs and leading firms to withhold disaggregated guidance. Thus, the decision to disaggregate earnings guidance reflects a tradeoff between reducing information asymmetry for investors and limiting the exposure of proprietary information to competitors. This tradeoff operates at the level of disclosure granularity, rather than the decision to disclose itself.

This tension in DEG disclosure—balancing the benefits of providing additional detail to market participants against the risks of empowering competitors—parallels another critical channel for proprietary information leakage: employee mobility. As employees transition between firms, they often carry with them valuable proprietary insights, raising questions about how firms manage and perceive the interplay between these two potential sources of information flow. This "employee information leakage" can either act as a substitute for or a complement to DEG. [2] Prior research by Li, Lin and Zhang (2018) indicates that reduced employee mobility is associated with lower levels of mandatory disclosure, suggesting that firms might view employee leakage and DEG as substitutes.[3] However, if former employees working for competitors find DEG advantageous in a competitive landscape, then DEG may complement leakage by filling gaps in their insider knowledge.

To test these competing hypotheses, I exploit the staggered rejection of the Inevitable Disclosure Doctrine (IDD) as a quasi-exogenous shock to employee mobility, which influences proprietary disclosure costs. The IDD serves as a legal safeguard that restricts employees, particularly those with access to sensitive information, from accepting positions with competitor firms when their new roles would "inevitably" lead to disclosing proprietary knowledge from

[2] In this paper I use proprietary information leakage, employee information leakage, and their derivatives interchangeably.

[3] Regulation S-K requires firms to disclose the identity and sales of any customer that accounts for more than 10% and the loss of this customer would have a material adverse effect on the firm's performance. In practice, many firms disclose the existence of important customers but conceal the identity of the customer.

their previous employer. Prior to IDD rejection, employees with access to sensitive information faced constraints in seeking employment with competitors (Png and Samila [2015]; Klasa et al. [2018]). IDD rejection lifted these restrictions, increasing both outside employment opportunities and proprietary information leakage as employees move more freely to competitor firms.

This shift has implications for managerial disclosure decisions, as firms may adjust their DEG strategies in response to the increased risk of proprietary knowledge transferring to competitors. By leveraging the staggered timing of IDD rejections across U.S. states, this study explores whether this regulatory change influences firms' propensity to issue DEG, ultimately offering insights into how employee mobility and information protection concerns interact in shaping corporate disclosure practices.

I hypothesize that the effect of the IDD rejections on DEG may hinge on whether departing employees' proprietary information serves as a substitute or a complement to DEG. As employees move to competitor firms, they often carry with them a deep understanding of proprietary strategies, including operational plans, budgets, forecasts, and other sensitive information from their former employer. If this employee knowledge overlaps significantly with the proprietary information conveyed in DEG, the two may act as substitutes. Alternatively, proprietary information leakage could complement DEG if former employees lack specific updates on key product or investment decisions that happen after their departure. Thus, if employee leakage serves as a substitute for DEG, increased mobility might lower proprietary costs and encourage more DEG issuance, consistent with Li, Lin and Zhang (2018). Conversely, if employee mobility complements DEG, increased mobility could heighten proprietary costs, pushing firms to limit DEG to mitigate competitive risks.

To capture the extent of disaggregation in earnings guidance, I construct two measures of DEG: an indicator for DEG presence and a granularity measure reflecting the number of disaggregate items being forecasted, *ln(#DEG)*. Using a stacked difference-in-differences approach, I find that firms experience an incremental decrease in both the likelihood and granularity of DEG after IDD rejection compared to unaffected firms. These results are robust to pre-treatment entropy balancing designed to improve covariate balance across treated and control firms. Although these results are inconsistent with DEG serving as a substitute for employee information leakage, they are consistent with managers viewing DEG as complementary to information leaked through employee mobility.

Next, I explore whether the decrease in DEG is consistent with the complementary proprietary costs hypothesis in cross sectional variation. I use four competition measures as proxies for proprietary costs: Price/Cost Margin (PCM), Text-based Network Industry Classifications of Herfindahl-Hirschman Index (HHI), Hoberg and Phillips' (2016) measure of product similarity, and a composite measure of all three (Karuna [2007], Hoberg and Phillips [2016]). Firms facing higher proprietary costs are expected to be more cautious in revealing information that could be exploited by competitors. I find limited evidence that the reduction in DEG following IDD rejection is concentrated among these firms. While some specifications suggest that firms with higher proprietary costs consolidate their guidance to a greater extent, the results are not consistently strong across measures. I further examine whether the reduction in DEG is concentrated among firms with observable intellectual property by partitioning firms based on patent ownership. I find that patent-owning firms are less likely to issue disaggregated earnings guidance following IDD rejection, consistent with proprietary concerns. However, this effect does not extend to the level of disaggregation and is not systematically stronger than the response observed across the broader sample. This pattern suggests that while traditional measures of intellectual property capture some proprietary considerations, they do not fully explain the reduction in DEG.

This study makes several contributions to the literature. First, it advances the literature on disaggregated earnings guidance (DEG) by demonstrating that proprietary costs operate at the level of disclosure granularity, shaping how much detail firms choose to provide. Prior research finds limited evidence that proprietary costs influence DEG (e.g., Lansford, Lev, and Tucker 2013), instead attributing disaggregation decisions to forecasting difficulty and earnings-return relations. By contrast, I show that an exogenous increase in proprietary costs—through heightened employee mobility following IDD rejection—leads firms to reduce disaggregated guidance. These findings suggest that firms view DEG as containing proprietary information, consistent with the proprietary cost hypothesis.

Second, this study contributes to the literature on employee mobility and disclosure. Prior work suggests that employee mobility can substitute for certain forms of disclosure (e.g., Li, Lin, and Zhang 2018). In contrast, I provide evidence consistent with employee mobility increasing the proprietary costs of disclosure: firms reduce disaggregated earnings guidance following IDD rejection. Cross-sectional tests provide limited and inconsistent evidence that this response is

concentrated among firms with higher traditional proxies for proprietary costs, suggesting that DEG may reflect strategic proprietary information not fully captured by standard measures. This highlights a distinct channel through which proprietary costs operate, beyond traditional measures of intellectual property or product market competition.

The paper proceeds as follows: Section 2 reviews the IDD's institutional background, related literature, and discusses hypothesis development, Section 3 presents data, variable construction, and research design, Section 4 discusses empirical results, Section 5 offers alternative tests for robustness, and Section 6 provides concluding remarks.

## Chapter 2. Institutional Background, Related Literature and Hypothesis Development

### Section 1: The Inevitable Disclosure Doctrine

In the United States, trade secrets and employment law are predominately governed by state laws, with the Uniform Trade Secrets Act (USTA) providing a framework for defining and protecting trade secrets. The UTSA defines a trade secret as any information that (i) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by other persons who can obtain economic value from its disclosure or use, and (ii) is the subject of efforts that are reasonable under the circumstances to maintain secrecy. Misappropriation of a trade secret occurs when trade secrets are improperly acquired or disclosed without the owner's consent by someone who has a duty to maintain confidentiality. The treatment of trade secrets varies considerably by state courts, and the USTA allows the courts to issue injunctions in any state in the event of "actual or threatened misappropriation."

The Inevitable Disclosure Doctrine (IDD), rooted in the UTSA, expands the concept of threatened misappropriation by allowing firms to restrict employees from taking roles where they might "inevitably" disclose trade secrets to a competitor. Unlike traditional trade secret protections that focus on evidence of actual misappropriation or misconduct, the IDD enables legal action based on the perceived risk of disclosure. For example, if an employee transitions to a competitor in a role with comparable responsibilities and access to similar confidential information, the previous employer can argue that the disclosure of trade secrets is inevitable. This claim allows firms to seek injunctions to limit the employee's responsibilities or, in some cases, prevent their employment entirely.

The landmark PepsiCo, Inc. v. Redmond (1995) case marked a significant moment for the IDD. PepsiCo argued that Redmond's new position at Quaker Oats would lead to the inevitable disclosure of its trade secrets. The 7th circuit federal appellate court ruled in favor of PepsiCo, issuing an injunction and setting a precedent for IDD enforcement.[4] Since then, the adoption of the IDD has varied widely across states. Some states, such as Illinois, fully recognize

[4] In 1995, PepsiCo and Quaker Oats were headquartered in New York and Illinois, respectively. A district court of Illinois issued a preliminary injunction prohibiting Redmond's employment at Quaker Oats, based on the IDD. Illinois adopted the IDD in 1989. The United States Court of Appeals for the Seventh Circuit (Illinois, Wisconsin and Indiana jurisdiction) upheld the injunction, ruling that Redmond's knowledge of PepsiCo's strategic plans would inevitably influence his work at Quaker Oats, and PepsiCo's trade secrets were at significant risk of being disclosed.

the doctrine, while others, including California, have rejected it. For instance, in Whyte v. Schlage Lock Co. (2002), California courts ruled that the IDD could not justify an injunction without evidence of actual or imminent misappropriation. As of now, 26 states have considered the IDD, with 21 adopting and 16 rejecting it.[5]

The presence or absence of the IDD significantly influences the legal landscape for employee mobility and trade secret protection.[6] States recognizing the IDD impose restrictions on employees in strategic roles, such as executives, who possess sensitive information. These restrictions can deter job transitions, limiting mobility for high-level personnel. (Png and Samila [2013]; Klasa et al. [2018]). Conversely, states rejecting the IDD impose a higher burden of proof on firms, requiring them to demonstrate actual misappropriation, thereby facilitating greater employee mobility. Consistent with IDD rejection increasing employee mobility, CEO compensation becomes less sensitive to firm performance following IDD rejection, which is consistent with firms operating in a more competitive labor market (Na, 2020).

As Verrrechia (1983) highlights, the equilibrium level of voluntary disclosure reflects management's tradeoff between the costs and benefits of disclosure. In this paper, I argue that state court rejection of the IDD represents an exogenous shock to employee mobility that shifts the marginal costs and benefits of disclosure.

## Section 2: Related Literature

Research demonstrates that proprietary disclosure costs are critical in shaping voluntary disclosure practices, particularly regarding earnings guidance. The research on the role of proprietary costs and employee mobility on disclosure activities has suggested a substitutive relationship. Using NDA enforcement level as a proxy for proprietary disclosure costs, Aobdia

[5] Five States, California, Maryland, New Hampshire, Virginia and Wisconsin, rejected the IDD before having adopted the IDD. Eleven states, Arkansas, Florida, Georgia, Massachusetts, Michigan, New Jersey, New York, North Carolina, Ohio, Texas and Washington have adopted and subsequently rejected the IDD. Thus, ten states, Connecticut, Delaware, Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Pennsylvania, and Utah have adopted IDD, and have not overturned the precedent setting case. See Appendix A for a comprehensive list of precedent setting dates.

[6] Nondisclosure agreements (NDAs) and covenants not to compete (CNCs) are commonly used in employment contracts and effectively limit employee mobility (Garmaise, 2011). However, as discussed in Klasa et al. (2018), there are three main differences between these mechanisms and the IDD. First, Garmaise (2011) notes that CNCs are regionally restricted, often to within a radius of 50 miles from the location of prior employment. The IDD, on the other hand, does not have geographic restrictions and can be enforced even if the new employer is headquartered in another state that has never considered the IDD. Second, the IDD allows a state court to prevent employment if it inevitably leads to a violation of an NDA. Whereas enforcement of an NDA typically provides restorative relief for violations that have already occurred. Third, the IDD does not require the presence of an NDA or CNC for the courts to issue an injunction on employment, providing broader protection to employers.

(2018) finds that when NDAs are more enforceable, firms are less likely to have a long-term guidance event. These results suggest that limiting employee mobility reduces proprietary information leakage through employee transfers, thus increasing the cost of disclosure. As information leakage is reduced through restricting employee mobility, competitor firms are no longer learning as much (or any at the extreme) through employee transfers. Thus, competitors become more reliant on public disclosure, increasing its proprietary cost. Li, Lin and Zhang (2018) utilize the IDD adoption as an exogenous shock to reduce employee mobility arguing their research design provides causal evidence on the proprietary cost of disclosure. They show when a state's court adopts the IDD, firms headquartered in that state reduce disclosure. More recently, Floros et al. (2024) examine SFAS No.131 as a plausibly exogenous shock increasing mandatory disclosure and find that firms respond by redacting material customer information, consistent with the substitutive nature of information sources. They further show that firms failing to preserve proprietary information by redacting customer information underperform those that did. All three studies suggest a substitutive relationship between information sources available to competitors, suggesting employee information leakage (employee mobility) and disclosure may act as substitutes. However, whether this relationship extends to the level of disaggregation in earnings guidance remains an open question. More broadly, this literature highlights challenges in measuring proprietary costs and identifying disclosure choices that meaningfully expose firms to competitive harm (Lang and Sul, 2014).

The role of disaggregation in earnings guidance has limited exploration in academic research with somewhat mixed results. While prior studies focus on the informational role of disaggregation for investors, recent evidence suggests that even short-term forecasts can convey longer-term private information (Heinle et al., 2025), raising the possibility that disaggregated guidance may expose firms to proprietary costs. Merkley, Bamber, and Christensen (2013) find evidence that disaggregation provides credibility to management forecasts as analysts are more sensitive to the news contained within the guidance when disaggregation is provided. Wasley and Wu (2006) examine cash flow forecasts as a specific type of disaggregation. They find that firms issue cash flow forecasts to signal good news in cash flows, meet investor demand for cash flows forecasts and pre-commit to a certain composition of earnings from cash flow versus accruals. They also show that firms issuing cash flow forecasts are more likely to issue forecasts that exceed analyst expectations and are more likely to meet-or-beat their own cash flow

forecast. Lansford, Lev and Tucker (2013) find evidence consistent with disaggregating firms being more likely to meet-or-beat analyst expectations. They find that analysts update forecasts faster and with greater magnitude for DEG, and these firms have a better chance of meeting or slightly beating expectations. They also show that DEG is more likely when earnings are less useful – low earnings-return correlation, high intangible assets, large magnitude of news – indicating high demand for earnings components. However, Pae, Song and Yi (2016) find that DEG does not increase the likelihood of meeting or beating analyst expectations as analysts rationally incorporate incentives to overstate downward guidance. These conflicting results warrant further investigation into the determinants of disaggregated earnings guidance.

Taken together, prior research provides mixed evidence on the role of proprietary costs in disclosure, reflecting both challenges in measuring proprietary costs and difficulty identifying disclosure choices that meaningfully expose firms to competitive harm. As a result, it remains unclear how proprietary costs influence not only whether firms disclose, but how much detail they choose to provide.

## Section 3: Hypothesis Development

As discussed above, employee mobility—shaped by the adoption or rejection of the Inevitable Disclosure Doctrine (IDD)—can influence disaggregated earnings guidance (DEG) through proprietary costs of disclosure, which affect the cost-benefit tradeoff of voluntary disclosure.

The rejection of the IDD influences DEG by altering firms' proprietary cost concerns. When employee mobility increases, firms face a tradeoff between the competitive risks of information leakage and the benefits of transparency. The relationship between employee knowledge and DEG—whether substitutive or complementary—determines the direction of this effect.

When employees transition to competitor firms, they often carry with them a deep understanding of their former employer's proprietary strategies, including operational plans, budgets, forecasts, and other sensitive information. If the information carried by employees overlaps substantially with the proprietary insights conveyed in DEG, these sources of competitive knowledge may act as substitutes, reducing the proprietary costs of disclosing detailed guidance. In such scenarios, firms may increase disaggregation without significantly increasing competitive risks.

However, the relationship between employee mobility and DEG may also be complementary. Former employees may possess knowledge of past projections but lack information about subsequent strategic updates. In this case, DEG disclosures may reveal incremental, strategically valuable information—such as updates to operational plans, cost structures, or product strategies—enabling competitors to anticipate and exploit vulnerabilities. This increases the proprietary costs of disclosure and may lead firms to reduce disaggregation.

These contrasting effects yield the following hypotheses:

***1a (Substitutive Proprietary Cost): The disaggregation of earnings guidance will increase for firms when courts in their states reject the Inevitable Disclosure Doctrine.***

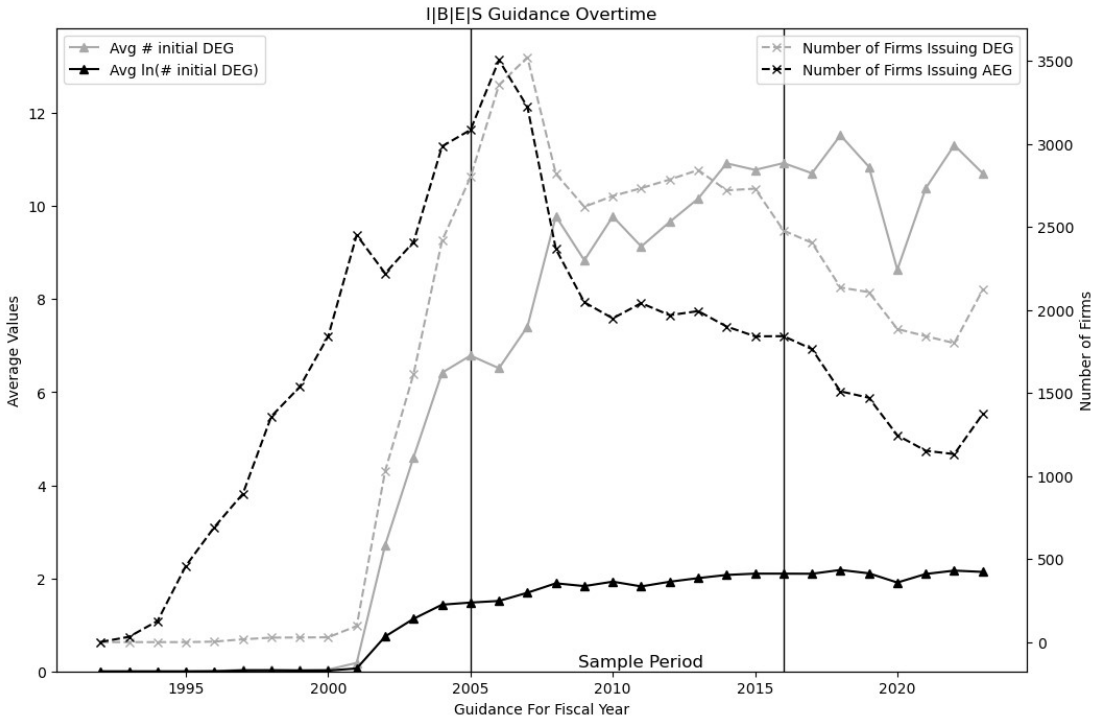
***1b (Complementary Proprietary Cost): The disaggregation of earnings guidance will decrease for firms when courts in their states reject the Inevitable Disclosure Doctrine.***

## Chapter 3. Sample, Variable Measurements, and Research Design

### Section 1: Sample Selection

My sample begins with all management forecasts contained in the I|B|E|S Guidance historical database for U.S. Firms. As shown in Figure 1, coverage starts in the early 1990s and peaks in 2006–2007, with nearly 3,500 firms issuing earnings guidance, including both aggregate (AEG) and disaggregated (DEG) forecasts. Following the 2007 expansion of I|B|E|S coverage to include 14 guidance measures, the average number of forecasts issued has generally increased.

**Figure 1**




To construct the sample, I merge the I|B|E|S Guidance data with Compustat and historical 10-K header data from Bill McDonald's website.[7] A critical feature of this study is the accurate identification of firms' headquarters locations, as Compustat only provides the most recent address, which may introduce measurement error, potentially biasing the construction of the IDD indicator and attenuating estimated effects. Klasa et al. (2018) report that approximately 9.3% of firms relocate headquarters, highlighting the importance of accounting for this source of measurement error. Using historical 10-K header data eliminates this bias by providing accurate, time-specific headquarters locations.

[7] https://sraf.nd.edu/sec-edgar-data/10-x-header-data/

## Section 2: The IDD Rejection Indicator

Since I|B|E|S began comprehensive guidance coverage in 2007, ten states have rejected or overturned the IDD during this period, with no states adopting it. Table 1 lists these events, while Appendix A provides a comprehensive history of precedent-setting IDD case years, compiled from Klasa et al. (2018) and Na (2020). Since New York first adopted the IDD in 1919, 26 states have considered the doctrine; 21 adopted it, and 11 subsequently overturned that adoption. Currently, ten states continue to recognize the IDD, while 16 have rejected it. Consistent with Na (2020), I code the IDD indicator variable as one for all firm-years in states after courts reject the IDD, regardless of whether the state previously adopted it, and zero otherwise.

**Table 1**
States with precedent-setting cases rejecting the Inevitable Disclosure Doctrine post-2007. This table is reproduced from Na (2020, Table 1) and Klasa et al. (2018, Table 1)

| | State | Adoption | Rejection |
|---|---|---|---|
| (1) | Arkansas (AR) | 1997 | 2009 |
| (2) | Georgia (GA) | 1998 | 2013 |
| (3) | Massachusetts (MA) | 1994 | 2012 |
| (4) | New Hampshire (NH) | | 2010 |
| (5) | New Jersey (NJ) | 1987 | 2012 |
| (6) | New York (NY) | 1919 | 2009 |
| (7) | North Carolina (NC) | 1976 | 2014 |
| (8) | Ohio (OH) | 2000 | 2008 |
| (9) | Washington (WA) | 1997 | 2012 |
| (10) | Wisconsin (WI) | | 2009 |

## Section 3: Measures of Earnings Guidance

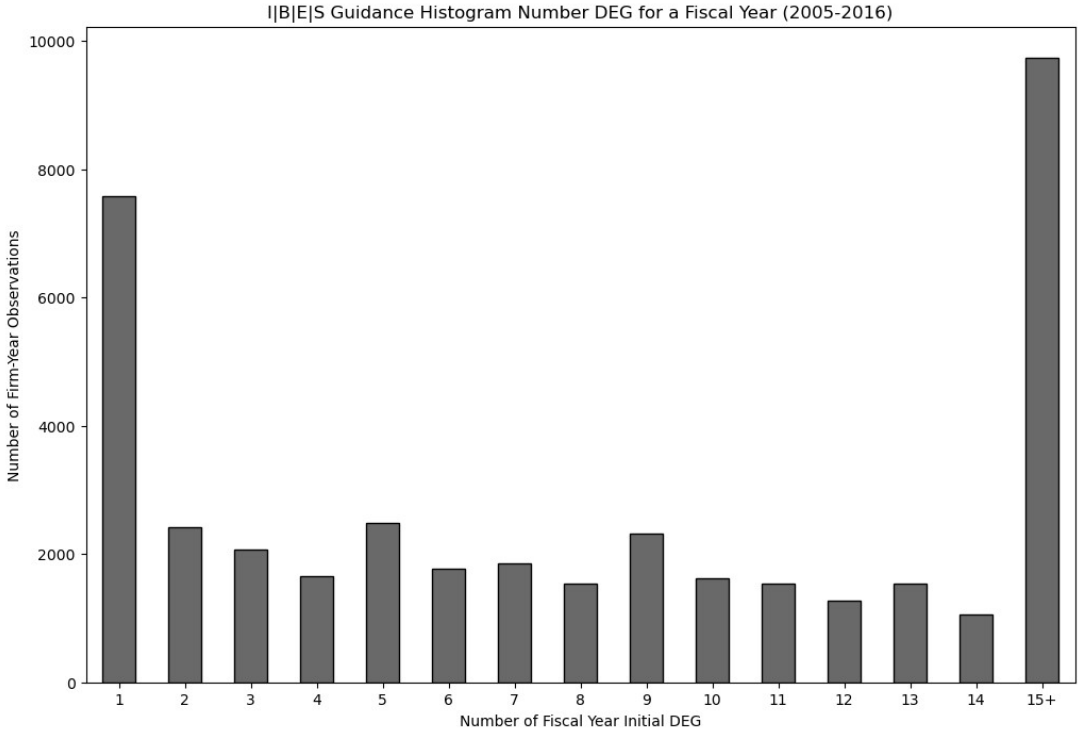
I focus on initial guidance rather than updates or deletions because initial guidance is the most likely to contain proprietary information. Prior studies suggest that guidance updates often serve as pre-releases of earnings news (Hirst, Koonce, and Venkataraman [2007]; Garcia Osma et al. [2023]). Consequently, updates generally provide minimal, if any, actionable proprietary information, given the imminent release of earnings. Although Aobdia (2018) suggests that proprietary information is primarily contained in long-term forecasts (1.5+ years), Heinle et al. (2025) show short-term forecasts contain long-term information. It is unclear whether a single annual forecast with DEG contains more proprietary information than the same information

conveyed through more frequent quarterly or monthly forecasts. With this consideration, I do not restrict the guidance sample by horizon type. Instead, I simply check for the existence of forward-looking initial guidance.

Among the guidance measures collected by I|B|E|S, I exclude capital expenditure forecasts because they are not a component of earnings. For the remaining measures, I classify guidance on earnings per share (street-EPS), fully reported earnings per share (GAAP-EPS), or net income for a fiscal year as aggregate earnings guidance (*AEG*) and assign an indicator variable equal to one. Similarly, if a firm issues guidance on other income statement measures (e.g., sales, gross margin), I classify it as disaggregated earnings guidance (*DEG*) and assign an indicator variable equal to one. I then count the number of disaggregated forecast items issued by each firm during a fiscal year and assign this value to *#DEG*.

Chen, Miao, and Shevlin (2015) show that the number of Compustat items can proxy for a firm's financial reporting quality. Analogously, I argue that a greater number of forecasts is likely to reflect a higher level of proprietary information. Figure 2 illustrates the distribution of firm-year observations by the number of initial DEG forecasts, revealing significant variation. To mitigate the impact of outliers, I take the natural logarithm of one plus *#DEG* and assign it to *ln(#DEG)*.

**Figure 2**



## Section 4: Research Design: Stacked Difference-in-Differences

A difference-in-differences (DiD) design is suitable to study the effect of the staggered rejection of the IDD on managers' disaggregation decisions in earnings forecasts (Klasa et al. [2018]; Li et al. [2018]; Na [2020]). However, recent econometric literature highlights limitations of staggered DiD research designs. Bias arises when treatment effects are heterogeneous, as comparisons between newly treated and previously treated observations can distort estimates (e.g., Borusyak, Jaravel, and Spiess [2024]; Athey and Imbens [2022]; Baker, Larcker, and Wang [2022]). To address these concerns, I follow Baker, Larcker, and Wang (2022) and adopt a stacked DiD approach. This method constructs cohorts for each year in which a state rejects the IDD, including observations within an event window from t−3 to t+2 around the rejection year (t). Each cohort contains treated firms and never-treated control firms, which are stacked in event time to evaluate the effect of IDD rejection on DEG. I estimate the following stacked DiD regression model:

$$DEG_{i,t,s} = \beta_1 PostIDDRej_{t,s} + \gamma X_{i,t,s} + \omega_i + \tau_t + \theta_c + \varepsilon_{i,t,s} \quad . \qquad (1)$$

The subscripts *i*, *t*, *s,* and *c* denote firm, year, state, and cohort, respectively. The dependent variable, *DEG,* represents one of two measures of disaggregation I constructed: an indicator variable for *DEG* and frequency measure, *ln(#DEG)*. *PostIDDRej* is an indicator variable equal to one for firm-years following the rejection of the IDD in the firm's state of headquarters. *X* is a vector of control variables, $\omega_i$ represents firm fixed effects, $\tau_t$ represents year fixed effects, and $\theta_c$ represents cohort fixed effects.

Following prior literature, I include controls for firm size (*Size*), return on assets (*ROA*), operating cash flows (*CFO*), market-to-book ratio (*MTB*), leverage (*Leverage*), EPS volatility (*EPS Volatility*), change in EPS (Δ *EPS*), and R&D expenditure (*R&D*). EPS volatility and changes in EPS control for the demand for earnings guidance and the difficulty in predicting earnings (Lansford, Lev, and Tucker, 2013). Firm size and market-to-book ratio proxy for the information environment, while return on assets and cash flows from operations capture firm performance (Shaikh, 2015). Leverage and R&D expenditure account for proprietary costs of disclosure (Klasa et al., 2018). Appendix B provides detailed variable definitions. Year and firm fixed effects control for market-wide factors and time-invariant firm differences, respectively. Cohort fixed effects address variation across rejection years and estimate the average treatment effect within each cohort, captured by $\beta_1$. Standard errors are clustered at the state level to

address autocorrelation, as the key independent variable, *PostIDDRej*, is at the state level (Imbens and Wooldridge [2009]; Klasa et al. [2018]).

Table 2 Panel A provides summary statistics for the six event cohorts in the sample. After removing observations without headquarters or necessary financial data and retaining only AEG issuers, the final sample comprises 7,249 firm-year observations from 2005 to 2016.[8] On average, firms issued 12.7 DEG items annually. Figure 3 shows variation across industries, with averages ranging from 4 to 14 items. Figure 4 highlights industry-level differences in DEG participation, with single-digit SIC classifications ranging from below 10 percent to over 40 percent.

**Table 2 Panel A**

Descriptive statistics of the main variables

| VARIABLES | N | mean | std | 25% | 50% | 75% |
|---|---|---|---|---|---|---|
| *DEG* | 7249 | 0.83 | 0.37 | 1 | 1 | 1 |
| *# of DEG items* | 7249 | 12.72 | 10.07 | 6.00 | 12.00 | 18.00 |
| *ln(#DEG)* | 7249 | 2.20 | 1.11 | 1.95 | 2.56 | 2.94 |
| *PostIDDRej* | 7249 | 0.20 | 0.40 | 0 | 0 | 0 |
| *Size* | 7249 | 7.44 | 1.73 | 6.29 | 7.44 | 8.54 |
| *ROA* | 7249 | 0.05 | 0.10 | 0.02 | 0.05 | 0.09 |
| *CFO* | 7249 | 0.11 | 0.09 | 0.07 | 0.10 | 0.15 |
| *MTB* | 7249 | 3.35 | 3.78 | 1.43 | 2.26 | 3.71 |
| *Leverage* | 7249 | 0.20 | 0.16 | 0.02 | 0.19 | 0.31 |
| *EPS Volatility* | 7249 | 0.61 | 1.00 | 0.11 | 0.27 | 0.63 |
| $\Delta$ *EPS* | 7249 | -0.13 | 2.76 | -0.42 | 0.02 | 0.26 |
| *R&D* | 7249 | 0.03 | 0.06 | 0.00 | 0.00 | 0.04 |

Table 2 Panel B compares pre-treatment characteristics of treatment and control firms. Treatment firms exhibit higher R&D spending but lower leverage. Treatment firms are also more likely to issue DEG and provide more items than control firms, consistent with the proprietary cost arguments discussed earlier. Table 3 presents the Pearson and Spearman correlations for the variables of interest and control variables. Both the likelihood and frequency of DEG are significantly positively (negatively) correlated with R&D (Leverage). Despite greater demand for management forecasts when earnings are unpredictable, DEG appears to have little correlation with EPS volatility or change.

[8] The first treatment year, 2008, Ohio rejected the IDD. While the last treatment year, 2014, North Carolina rejected the IDD. The main test pre-/post-treatment periods are t-3 and t+2, thus 2008-3 & 2014+2 yields the sample selection of 2005-2016.

**Table 2 Panel B**

Descriptive statistics comparing the pre-period main variables

| | Mean | | | Median | | |
|---|---|---|---|---|---|---|
| VARIABLES | Treatment | Control | Diff. | Treatment | Control | Diff. |
| *DEG* | 0.87 | 0.78 | 0.09* | 1 | 1 | 0.00* |
| *# of DEG items* | 14.35 | 11.11 | 3.24* | 13.00 | 10.00 | 3.00* |
| *ln(#DEG)* | 2.36 | 2.01 | 0.34* | 2.64 | 2.40 | 0.24* |
| *Size* | 7.31 | 7.23 | 0.08 | 7.26 | 7.24 | 0.02 |
| *ROA* | 0.04 | 0.05 | -0.01* | 0.05 | 0.05 | 0.00* |
| *CFO* | 0.11 | 0.11 | -0.00 | 0.11 | 0.10 | 0.00 |
| *MTB* | 3.17 | 3.04 | 0.12 | 2.25 | 2.06 | 0.19 |
| *Leverage* | 0.15 | 0.20 | -0.05* | 0.12 | 0.20 | -0.08* |
| *EPS Volatility* | 0.62 | 0.66 | -0.04 | 0.26 | 0.29 | -0.03 |
| *Δ EPS* | -0.18 | -0.14 | -0.04 | 0.00 | 0.01 | -0.01 |
| *R&D* | 0.05 | 0.03 | 0.02* | 0.02 | 0.00 | 0.02* |

** $p<0.05$*

**Figure 3**

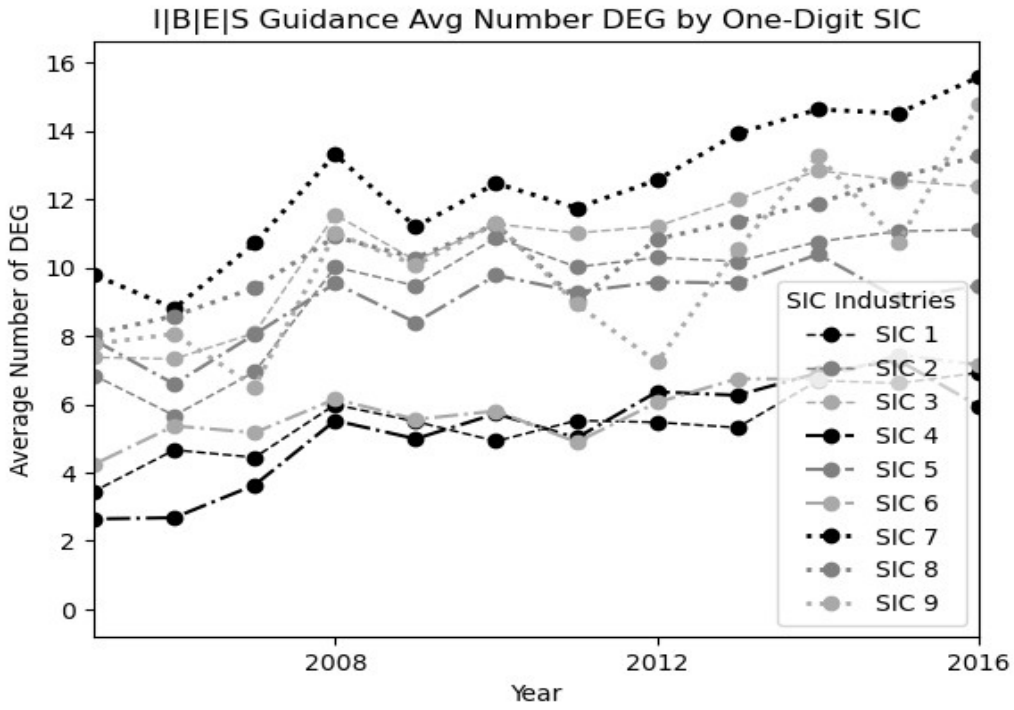


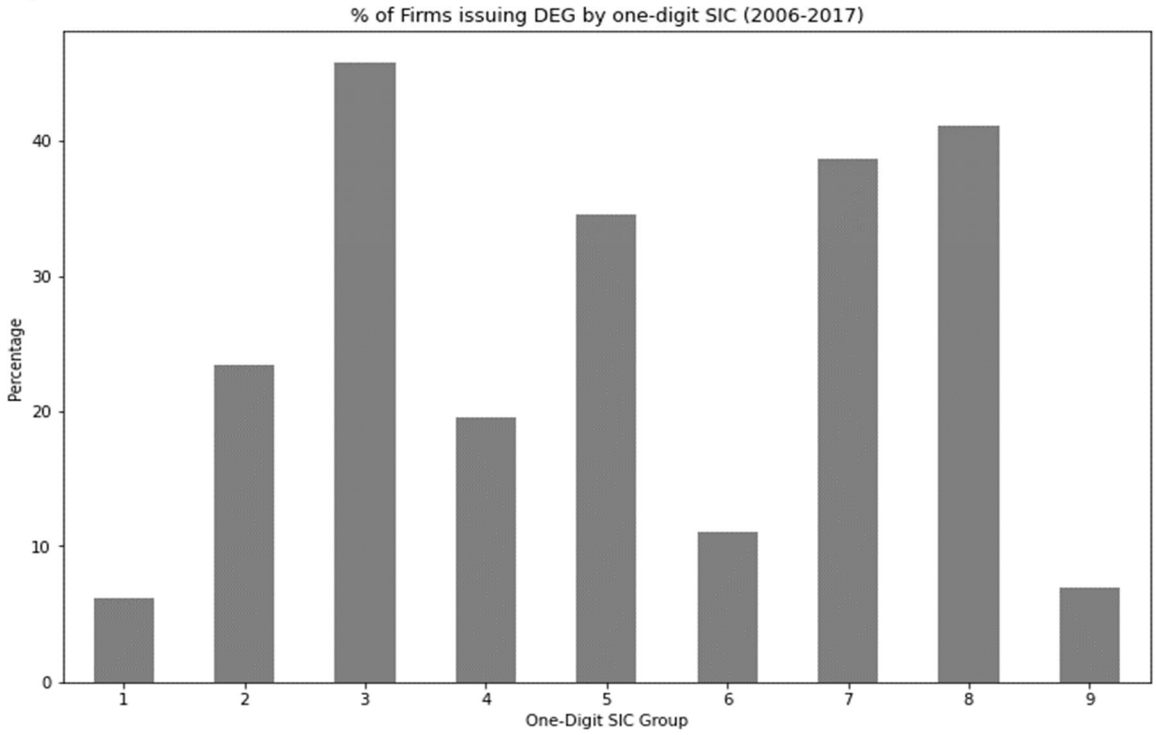
**Table 3**

Pearson (Spearman) Correlations Below (Above) Diagonal

| | VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (1) | *DEG* | 1 | **0.65** | **0.65** | **0.04** | **-0.11** | **0.04** | 0.02 | **0.06** | **-0.14** | 0.01 | -0.01 | **0.21** |
| (2) | *# of DEG items* | **0.57** | 1 | **1.00** | **0.09** | **0.07** | **0.09** | **0.11** | **0.16** | **-0.09** | **0.03** | 0.01 | **0.26** |
| (3) | *ln(#DEG)* | **0.89** | **0.85** | 1 | **0.09** | **0.07** | **0.09** | **0.11** | **0.16** | **-0.09** | **0.03** | 0.01 | **0.26** |
| (4) | *PostIDDRej* | **0.04** | **0.10** | **0.07** | 1 | 0.01 | -0.01 | 0.00 | 0.02 | **-0.07** | **-0.03** | 0.00 | **0.06** |
| (5) | *Size* | **-0.11** | **0.08** | 0.00 | 0.02 | 1 | **0.26** | **0.18** | **0.41** | **0.32** | **0.10** | **0.11** | **-0.06** |
| (6) | *ROA* | 0.02 | **0.05** | **0.05** | -0.01 | **0.26** | 1 | **0.66** | **0.52** | **-0.18** | **-0.14** | **0.39** | **0.05** |
| (7) | *CFO* | **0.02** | **0.08** | **0.07** | -0.01 | **0.18** | **0.67** | 1 | **0.44** | **-0.16** | **-0.07** | **0.17** | 0.01 |
| (8) | *MTB* | **0.03** | **0.08** | **0.07** | 0.01 | **0.22** | **0.29** | **0.31** | 1 | **0.04** | **-0.06** | **0.16** | **0.16** |
| (9) | *Leverage* | **-0.11** | **-0.06** | **-0.10** | **-0.06** | **0.27** | **-0.10** | **-0.12** | **0.11** | 1 | **0.14** | 0.00 | **-0.29** |
| (10) | *EPS Volatility* | 0.00 | 0.01 | 0.01 | **-0.03** | 0.02 | **-0.27** | **-0.09** | **-0.06** | **0.15** | 1 | **-0.17** | **-0.03** |
| (11) | *Δ EPS* | -0.01 | -0.02 | -0.01 | 0.00 | **0.04** | **0.15** | **0.05** | **0.03** | -0.02 | **-0.17** | 1 | **-0.04** |
| (12) | *R&D* | **0.15** | **0.18** | **0.18** | **0.09** | **-0.14** | **-0.18** | **-0.13** | **0.12** | **-0.30** | **-0.06** | 0.02 | 1 |

***BOLD p<0.05***

**Figure 4**


% of Firms issuing DEG by one-digit SIC (2006-2017)
Percentage
0
10
20
30
40
1
2
3
4
5
6
7
8
9
One-Digit SIC Group

## Chapter 4. Empirical Results

### Section 1: Effect of the IDD Rejection on Disaggregation in Earnings Guidance

Table 4 presents the stacked DiD regression results from estimating Equation (1) in the previous section. Column 1 reports the results using the indicator variable *DEG* as the dependent variable, while column 2 uses *ln(#DEG)*. In both columns, the coefficient on *PostIDDRej,* $\beta_1$, is negative and significant at the 1 percent level. The results in column 1 suggest that when state courts reject the IDD, firms reduce the likelihood of issuing DEG by 5.2 percent. The results in column 2 show firms reduce the number of DEG items by 13.1 percent.[9] Despite the lack of significant coefficients on control variables, the R-squared values for *DEG* and *ln(#DEG)* (0.653 and 0.737, respectively) suggest that a substantial portion of the variation in the dependent variables is explained by fixed effects rather than time-varying firm characteristics.

Overall, the results indicate that when state courts reject the IDD, firms in those states reduce the level of disaggregation in earnings guidance. These results do not support DEG serving as a substitute for employee information leakage (H1a). Rather, they are consistent with H1b, managers appear to treat DEG as complementary to information leaked through employee mobility.

### Section 2: Proprietary Cost of Disclosure

To provide evidence that the complementary proprietary cost hypothesis explains the observed reduction in disaggregation, I partition the treatment sample into groups based on high and low proprietary costs, measured at the median, and estimate the following stacked DiD regression:

$$DEG_{i,t,s} = \beta_1 Treat_HighCosts_{i,t,s} + \beta_2 Treat_LowCosts_{i,t,s} + \gamma X_{i,t,s} + \omega_i + \tau_t + \theta_c + \varepsilon_{i,t,s} \quad (2)$$

where *Treat_HighCosts* and *Treat_LowCosts* represent *PostIDDRej* treatment firms with high and low proprietary costs of disclosure, respectively. Following prior literature, I argue firms in more competitive industries are most sensitive to the loss of proprietary information through disclosure (e.g., Li, Lin and Zhang [2018]; Verrechia and Weber [2006]; Li [2010]). I use four measures of competition as proxies for proprietary costs: Price-Cost Margin, Text-Based

[9] The dependent variable, *ln(#DEG)*, takes the form of ln(1+y), the first derivative is Δy/(1+y), thus the economic magnitude is estimated as β*(1+ŷ)/ŷ. In this case -0.090*(1+2.20)/2.20 provides the economic magnitude.

**Table 4**

IDD Rejection and Disaggregated Earnings Guidance

This table reports results from stacked difference-in-differences models that estimate the impact of IDD rejection on the likelihood and level of disaggregated earnings guidance for firms that experienced a rejection post-2007 compared to firms that did not. *PostIDDRej* is an indicator variable equal to one if state *s* rejected the IDD before year *t*, and zero otherwise. In column (1) the dependent variable, *DEG*, is an indicator variable equal to one if firm *i* issued one or more DEG items in year *t*, and zero otherwise. In column (2) the dependent variable, *ln(#DEG)*, is the natural log of one plus the count of initial DEG items issued by a firm in year *t*. All variable definitions are available in Appendix B. Standard errors are clustered at the state level (t-statistics are in parentheses). *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

| | (1) | (2) |
|---|---|---|
| VARIABLES | DEG | ln(#DEG) |
| *PostIDDRej* | -0.052*** | -0.090*** |
| | (-4.632) | (-3.294) |
| *Size* | 0.007 | 0.122*** |
| | (0.547) | (2.976) |
| *ROA* | -0.048 | 0.107 |
| | (-0.698) | (0.479) |
| *CFO* | 0.061 | 0.051 |
| | (0.694) | (0.225) |
| *MTB* | -0.000 | 0.003 |
| | (-0.037) | (0.515) |
| *Leverage* | 0.001 | 0.142 |
| | (0.014) | (0.831) |
| *EPS Volatility* | -0.002 | 0.008 |
| | (-0.460) | (0.718) |
| Δ *EPS* | 0.001 | 0.000 |
| | (0.585) | (0.021) |
| *R&D* | 0.019 | 0.427 |
| | (0.113) | (0.797) |
| N | 18,711 | 18,711 |
| R-squared | 0.653 | 0.737 |
| YearFE | Yes | Yes |
| FirmFE | Yes | Yes |
| CohortFE | Yes | Yes |
| Cluster | State | State |

Network Three-digit Industry Classification (TNIC3) measure of Herfindahl-Hirschman Index, Product Similarity, and a composite of the three measures.

Karuna (2007) argues that industries with low price-cost margins are more competitive. This follows economic intuition that the closer (further) an industry is to perfect competition, the more (less) price reflects the marginal cost. Therefore, firms within lower price-cost margin industries face greater competition from rivals and greater proprietary costs of disclosure relative to high price-cost margin firms. Price-cost margin is calculated at the single-digit SIC level as

the ratio of industry sales to industry operating costs.[10] Treatment firms in industries above (below) the median price-cost margin are labeled *Treat_HighPCM* (*Treat_LowPCM*).

Second, I use the Herfindahl-Hirschman Index (HHI) based on text-based industries developed by Hoberg and Phillips (2016). This industry classification is based on product descriptions from 10-K filings to classify industries, reflecting annual changes in product offerings, as opposed to static SIC codes. The HHI is the sum of the squares of market shares within an industry. As such, firms with larger market shares (and thus less competition) are weighted more and higher numbers are associated with less competition. For firms with HHI scores below (above) the median, I label these firms *Treat_LowHHI* (*Treat_HighHHI*).

Third, I use product similarity to capture how similar a firm's products are to competitors' products: high similarity suggests that a firm's products are easily replaceable by another firm's products. Thus, as firms' products are less distinguishable between firms, competition is greater. Firms with above (below) the median in similarity scores are labeled *Treat_HighSim* (*Treat_LowSim*). This measure also comes from Hoberg and Phillips (2016).[11] Consistent with my previous test, I create a composite measure *Treat_HighCosts* (*Treat_LowCosts*) that indicates a sum of 2 or 3 (0 or 1) of the indicators for high proprietary costs (*Treat_LowPCM*, *Treat_HighSim*, and *Treat_LowHHI*).

Table 5 presents the results. If DEG serves as a complement to employee leakage, as in hypothesis 1b, I expect firms most sensitive to proprietary costs (i.e. firms in the most competitive industries) to reduce disaggregation more than firms less sensitive to proprietary cost of disclosure. In columns 1, 3, 5, and 7, the coefficients on high proprietary costs firms (*Treat_LowPCM*, *Treat_HighSim*, *Treat_LowHHI*, and *Treat_HighCosts*) are of larger magnitude than low proprietary cost firms. Columns 2, 4, 6, and 8 present the results with *ln(#DEG)* as the dependent variable and are consistent with high proprietary cost firms reducing the number of DEG items more than low proprietary cost firms. However, only one specification, Column 2, is significant at the 10 percent level (p-value = 0.052) that the difference in disaggregation responses between high- and low-proprietary-cost firms is statistically significant.

[10] Collected from Compustat Segments, industry sales is calculated at the single-digit SIC code as the sum of all primary segment sales (*sales*) in year *t*. Industry operating costs is similarly calculated as the sum of all primary segment depreciation and amortization expense (*dps*), costs of goods sold (*cogss*), and SG&A expense (*xsgas*).
[11] https://hobergphillips.tuck.dartmouth.edu/.

**Table 5**

Proprietary Disclosure Costs and Disaggregated Earnings Guidance

This table reports results from stacked DiD regressions of *DEG* and *ln(#DEG)* on indicator *PostIDDRej* partitioned at the median level of proprietary disclosure costs in the year prior to IDD rejection. *Treat_HighPCM* (*Treat_LowPCM*) is an indicator variable set equal to one for treatment firms whose single-digit SIC industry price-cost margin is above (below) the median, and zero otherwise. *Treat_HighSim* (*Treat_LowSim*) is an indicator variable set equal to one for treatment firms whose product similarity score is above (below) the median, and zero otherwise. *Treat_HighHHI*(*Treat_LowHHI*) is an indicator variable set equal to one for treatment firms whose TNIC3 HHI is above (below) the median, and zero otherwise. *Treat_HighCosts* (*Treat_LowCosts*) is a partitioning variable of the sum of the indicators *Treat_LowPCM*, *Treat_HighSim*, and *Treat_LowHHI* set equal to one for firms whose sum is 2 or 3 (0 or 1), and zero otherwise. The p-value is the significance of a F-test that coefficients are different from each other. All variable definitions are available in Appendix B. Standard errors are clustered at the state level (t-statistics are in parentheses). *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| VARIABLES | *DEG* | *ln(#DEG)* | *DEG* | *ln(#DEG)* | *DEG* | *ln(#DEG)* | *DEG* | *ln(#DEG)* |
| *Treat_HighPCM* | -0.045*** | -0.029 | | | | | | |
| | (-3.098) | (-0.639) | | | | | | |
| *Treat_LowPCM* | -0.071*** | -0.171*** | | | | | | |
| | (-3.964) | (-3.598) | | | | | | |
| *Treat_HighSim* | | | -0.061*** | -0.138*** | | | | |
| | | | (-3.779) | (-3.691) | | | | |
| *Treat_LowSim* | | | -0.058*** | -0.072 | | | | |
| | | | (-3.131) | (-1.232) | | | | |
| *Treat_HighHHI* | | | | | -0.041** | -0.050 | | |
| | | | | | (-2.466) | (-0.924) | | |
| *Treat_LowHHI* | | | | | -0.078*** | -0.160*** | | |
| | | | | | (-4.291) | (-3.929) | | |
| *Treat_HighCosts* | | | | | | | -0.067*** | -0.147*** |
| | | | | | | | (-4.388) | (-3.569) |
| *Treat_LowCosts* | | | | | | | -0.041** | -0.047 |
| | | | | | | | (-2.414) | (-0.800) |
| p-value | 0.228 | 0.052 | 0.925 | 0.399 | 0.141 | 0.143 | 0.291 | 0.258 |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| N | 18,711 | 18,711 | 18,667 | 18,667 | 18,667 | 18,667 | 18,667 | 18,667 |
| R-squared | 0.653 | 0.737 | 0.652 | 0.737 | 0.652 | 0.737 | 0.652 | 0.737 |
| Firm, Year & Cohort FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cluster | State | State | State | State | State | State | State | State |

Overall, these results provide limited and inconsistent support for Hypothesis 1b, suggesting that DEG serves as a complement to employee information leakage. Firms in competitive industries, where the proprietary costs of disclosure are highest, appear to reduce disaggregation to a greater extent, although these differences are not consistently statistically significant. This finding supports the hypothesis that increased employee mobility heightens proprietary risks of voluntary disclosure, prompting firms to respond strategically by reducing disaggregated earnings guidance.

Given the limited support from industry-based proxies, I next examine whether the reduction in DEG is concentrated among firms with observable intellectual property. I obtain patent data from Noah Stoffman's website (Kogan et al., 2017).[12] Patent ownership is measured using firm-year patent data, where PatentOwner is an indicator equal to one if a firm has at least one granted patent in the previous 10 years, and zero otherwise. Table 6 presents the results. Consistent with this intuition, I find that patent-owning firms are less likely to issue disaggregated earnings guidance following IDD rejection, with the coefficient on PatentOwner × PostIDDRej negative and statistically significant at the 1 percent level when DEG is the dependent variable. This suggests that patent owning firms are 4.4% less likely to issue DEG after IDD rejections. However, this effect does not extend to the level of disaggregation, as the coefficient is not statistically significant when ln(#DEG) is used as the dependent variable. Taken together, these results suggest that while traditional proxies for proprietary costs capture some aspects of firms' disclosure decisions, they do not fully explain the reduction in DEG.

[12] https://www.stoffprof.com/code/

**Table 6**

Patent Ownership and Disaggregated Earnings Guidance

This table reports results from stacked difference-in-differences models that estimate the impact of IDD rejection on the likelihood and level of disaggregated earnings guidance for firms that experienced a rejection post-2007 compared to firms that did not. PostIDDRej is an indicator variable equal to one if state s rejected the IDD before year t, and zero otherwise. PatentOwner is an indicator variable equal to one if firm i has at least one granted patent in year t, and zero otherwise. PatentOwner × PostIDDRej captures the differential effect of IDD rejection for patent-owning firms. In column (1), the dependent variable, DEG, is an indicator variable equal to one if firm i issued one or more DEG items in year t, and zero otherwise. In column (2), the dependent variable, ln(#DEG), is the natural log of one plus the count of initial DEG items issued by a firm in year t. Size is the natural log of one plus the market value of equity at the beginning of year t. ROA (CFO) is calculated as earnings before income and extraordinary items (cash flows from operations) scaled by beginning year assets. MTB is calculated as the market value of equity scaled by the book value of equity at the beginning of year t. Leverage is total long-term liabilities scaled by assets at the beginning of year t. EPS Volatility is the rolling three-year standard deviation of EPS for the three years prior to year t. ΔEPS is calculated as EPS in year t minus EPS in year t−1, scaled by EPS in year t−1. R&D is R&D expense scaled by assets at the beginning of year t. All variable construction is provided in Appendix B. Standard errors are clustered at the state level (t-statistics are in parentheses). *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

| | (1) | (2) |
|---|---|---|
| VARIABLES | *DEG* | *ln(#DEG)* |
| *PostIDDRej*PatentOwner* | -0.044*** | -0.069 |
| | (-2.802) | (-1.562) |
| *Size* | 0.007 | 0.121*** |
| | (0.538) | (2.976) |
| *ROA* | -0.048 | 0.107 |
| | (-0.692) | (0.481) |
| *CFO* | 0.061 | 0.051 |
| | (0.696) | (0.225) |
| *MTB* | -0.000 | 0.003 |
| | (-0.037) | (0.514) |
| *Leverage* | 0.000 | 0.141 |
| | (0.002) | (0.822) |
| *EPS Volatility* | -0.002 | 0.008 |
| | (-0.465) | (0.718) |
| Δ *EPS* | 0.001 | 0.000 |
| | (0.587) | (0.022) |
| *R&D* | 0.018 | 0.427 |
| | (0.108) | (0.796) |
| N | 18,711 | 18,711 |
| R-squared | 0.652 | 0.737 |
| YearFE | Yes | Yes |
| FirmFE | Yes | Yes |
| CohortFE | Yes | Yes |
| Cluster | State | State |

## Chapter 5. Additional Tests

To provide assurance that the results presented above are not driven by variable measurement or research design choices, I re-estimate my main test (Eq. 1) with several alternative specifications. First, although I provide justification for my choices to include street-EPS, GAAP-EPS, and net income forecasts as aggregate earnings guidance, prior literature has typically focused on the issuance of street-EPS. Table 7, columns 1 and 2 provide the results from this specification, consistent with my original design. Although slightly less significant, the inclusion of GAAP-EPS and net income as measures of disaggregation rather than aggregate earnings guidance does not change the inferences.

Second, rather than relying on initial guidance only, I re-estimate Eq. 1 to include all guidance, and then to include unique forecast items only. For these tests, I use only *ln(#DEG)*. I include all guidance because updates could potentially contain proprietary information about competitors' market beliefs rather than simply a pre-release of earnings. Table 7, column 3 shows that the main results are robust to the inclusion of updates. I then limit the observations to include unique items only; multiple forecasts of the same item may largely contain the same proprietary information.[13] If this were the case, the reduction in DEG following IDD rejection may not reflect a reduction in proprietary content if firms simply reduce the frequency of forecasts rather than the breadth of information disclosed. However, the results from this test in Table 7, column 4 indicate that firms not only reduce the likelihood and frequency of DEG, but they also, in fact, reduce the number of unique DEG items they provide.

Third, the choice to examine 3 years around rejection of the IDD as the pre- and post-treatment periods is somewhat arbitrary, as is the decision to include the treatment year in the post-treatment period.[14] This choice reflects expansion of I|B|E|S Guidance coverage in 2007 and the first rejection of the IDD after that occurring in 2008 (Ohio). I examine whether my main results are sensitive to this choice and report the results in Table 8. Following my main test to include the treatment year in the post-treatment period, Panel A, columns 1 and 2 (3 and 4)

[13] For example, a firm could forecast sales for the fiscal-year, or they could issue sales guidance for Q1, Q2, Q3 and Q4. As the quarterly guidance aggregates to the annual guidance, it is unclear that the greater frequency of quarterly sales forecasts contains more proprietary information than the fiscal-year forecast.

[14] I chose to include the treatment year in the post-treatment period because, if anything, it would bias *against* finding my results. For the majority of firms, the IDD rejection likely occurred somewhere within their fiscal year, thus firms likely received partial treatment in the treatment year. The larger magnitude of coefficients on *PostIDDRej* for the excluded treatment years (Table 8, Panel B) are consistent with this notion.

**Table 7**

Alternative measures of disaggregation.

This table reports results from stacked DiD regressions using alternative measure of DEG and ln(#DEG). In columns (1) and (2), AEG only includes EPS, and GPS and NET become measures of DEG. Column (3) reports results for all guidance events, including updates. Column (4) reports results using unique forecast items. All variable definitions are available in Appendix B. Standard errors are clustered at the state level (t-statistics are in parentheses). *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

| | *AEG = EPS only (GPS & NI = DEG)* | | All Guidance | Unique Guidance |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| VARIABLES | *DEG* | *ln(#DEG)* | *ln(#DEG)* | *ln(#DEG)* |
| *PostIDDRej* | -0.043*** | -0.072* | -0.074** | -0.058*** |
| | (-2.677) | (-1.856) | (-2.262) | (-3.498) |
| *Size* | 0.011 | 0.132*** | 0.139*** | 0.012 |
| | (0.777) | (2.842) | (4.165) | (0.638) |
| *ROA* | -0.079 | -0.063 | 0.176 | -0.112 |
| | (-0.789) | (-0.218) | (0.757) | (-1.002) |
| *CFO* | 0.104 | 0.160 | 0.000 | -0.000 |
| | (1.054) | (0.594) | (0.001) | (-0.001) |
| *MTB* | -0.001 | -0.001 | -0.002 | 0.002 |
| | (-0.355) | (-0.095) | (-0.368) | (0.759) |
| *Leverage* | -0.042 | -0.002 | 0.411** | 0.074 |
| | (-0.567) | (-0.011) | (2.065) | (0.598) |
| *EPS Volatility* | -0.001 | 0.004 | -0.002 | 0.003 |
| | (-0.281) | (0.261) | (-0.182) | (0.466) |
| Δ *EPS* | -0.001 | -0.004 | -0.002 | 0.001 |
| | (-0.297) | (-0.714) | (-0.383) | (0.261) |
| *R&D* | 0.021 | 0.562 | 0.155 | 0.227 |
| | (0.145) | (0.927) | (0.273) | (0.821) |
| Observations | 17,404 | 17,404 | 19,195 | 18,711 |
| R-squared | 0.570 | 0.699 | 0.719 | 0.702 |
| YearFE | Yes | Yes | Yes | Yes |
| FirmFE | Yes | Yes | Yes | Yes |
| CohortFE | Yes | Yes | Yes | Yes |
| Cluster | State | State | State | State |

report results adjusting the pre/post-period windows from 3-years to 2-years (4-years). Panel B, columns 1 through 6 re-estimate Eq. 1, this time excluding the treatment year from both the pre-period and post-treatment period, for 2-, 3-, and 4-year windows. Regardless of specification, the coefficients on *PostIDDRej* remains significantly negative. The results from these additional

**Table 8**

Alternative stacked DiD specifications**.**

This table reports results from alternative stacked DiD regression of the IDD rejection on DEG and ln(#DEG). Panel A maintains the assumption of including the treatment year in the post-treatment period from the main test but varies the pre-/post-period windows from 3 years to 2 and 4 years. Panel B removes the treatment year from the post treatment period and repeats the tests in Table 4 and Panel A of this table, for 2, 3 and 4-year pre/post-treatment periods. All variable definitions are available in Appendix B. Standard errors are clustered at the state level (t-statistics are in parentheses). *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

Panel A: Alternative windows including treatment year in post-treatment

| | Including Treatment Year | | | |
|---|---|---|---|---|
| Pre-/Post-Period | 2-year | | 4-year | |
| | (1) | (2) | (3) | (4) |
| VARIABLES | *DEG* | *ln(#DEG)* | *DEG* | *ln(#DEG)* |
| *PostIDDRej* | -0.063*** | -0.098*** | -0.052*** | -0.092*** |
| | (-6.247) | (-3.603) | (-4.399) | (-3.513) |
| *Size* | 0.004 | 0.121*** | 0.009 | 0.123*** |
| | (0.303) | (2.881) | (0.719) | (3.014) |
| *ROA* | -0.060 | 0.104 | -0.048 | 0.108 |
| | (-0.828) | (0.456) | (-0.741) | (0.516) |
| *CFO* | 0.087 | 0.112 | 0.065 | 0.039 |
| | (0.997) | (0.461) | (0.780) | (0.185) |
| *MTB* | 0.000 | 0.005 | -0.000 | 0.002 |
| | (0.156) | (0.873) | (-0.004) | (0.329) |
| *Leverage* | 0.007 | 0.178 | 0.000 | 0.141 |
| | (0.094) | (0.871) | (0.000) | (0.887) |
| *EPS Volatility* | 0.000 | 0.013 | -0.002 | 0.008 |
| | (0.026) | (0.952) | (-0.416) | (0.696) |
| Δ *EPS* | 0.001 | -0.000 | 0.001 | -0.000 |
| | (0.539) | (-0.072) | (0.450) | (-0.071) |
| *R&D* | -0.060 | 0.108 | 0.048 | 0.660 |
| | (-0.295) | (0.152) | (0.356) | (1.462) |
| Observations | 13,212 | 13,212 | 24,200 | 24,200 |
| R-squared | 0.662 | 0.746 | 0.644 | 0.729 |
| YearFE | Yes | Yes | Yes | Yes |
| FirmFE | Yes | Yes | Yes | Yes |
| CohortFE | Yes | Yes | Yes | Yes |
| Cluster | State | State | State | State |

**Table 8**

| Panel B: Alternative windows excluding treatment year in post-treatment | | | | | | |
|---|---|---|---|---|---|---|
| | Excluding Treatment Year | | | | | |
| Pre-/Post-Period | 2-year | | 3-year | | 4-year | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| VARIABLES | *DEG* | *ln(#DEG)* | *DEG* | *ln(#DEG)* | *DEG* | *ln(#DEG)* |
| *PostIDDRej* | -0.077*** | -0.149*** | -0.064*** | -0.128*** | -0.062*** | -0.118*** |
| | (-6.172) | (-4.860) | (-4.831) | (-4.069) | (-4.370) | (-3.535) |
| *Size* | 0.009 | 0.120*** | 0.010 | 0.121*** | 0.012 | 0.125*** |
| | (0.653) | (2.752) | (0.746) | (2.766) | (0.975) | (3.001) |
| *ROA* | -0.046 | 0.154 | -0.045 | 0.162 | -0.046 | 0.133 |
| | (-0.632) | (0.645) | (-0.655) | (0.714) | (-0.730) | (0.656) |
| *CFO* | 0.071 | 0.125 | 0.048 | 0.034 | 0.044 | -0.005 |
| | (0.804) | (0.521) | (0.555) | (0.153) | (0.555) | (-0.024) |
| *MTB* | -0.000 | 0.002 | -0.000 | 0.000 | -0.000 | -0.001 |
| | (-0.123) | (0.336) | (-0.068) | (0.047) | (-0.183) | (-0.221) |
| *Leverage* | 0.003 | 0.158 | -0.009 | 0.131 | -0.008 | 0.129 |
| | (0.047) | (0.921) | (-0.121) | (0.825) | (-0.129) | (0.899) |
| *EPS Volatility* | -0.004 | 0.004 | -0.003 | 0.008 | -0.003 | 0.005 |
| | (-0.989) | (0.298) | (-0.701) | (0.657) | (-0.769) | (0.393) |
| Δ *EPS* | 0.000 | -0.002 | 0.000 | -0.001 | 0.000 | -0.001 |
| | (0.196) | (-0.448) | (0.228) | (-0.181) | (0.313) | (-0.189) |
| *R&D* | 0.005 | 0.563 | 0.064 | 0.838* | 0.072 | 0.908** |
| | (0.025) | (0.974) | (0.468) | (1.776) | (0.593) | (2.156) |
| Observations | 12,988 | 12,988 | 18,408 | 18,408 | 23,739 | 23,739 |
| R-squared | 0.647 | 0.736 | 0.641 | 0.731 | 0.630 | 0.720 |
| YearFE | Yes | Yes | Yes | Yes | Yes | Yes |
| FirmFE | Yes | Yes | Yes | Yes | Yes | Yes |
| CohortFE | Yes | Yes | Yes | Yes | Yes | Yes |
| Cluster | State | State | State | State | State | State |

tests support the robustness of the results to alternative specifications and research design choices.

Finally, to alleviate concerns regarding pre-treatment differences in firm characteristics between treated and control firms, I employ entropy balancing. Specifically, I reweight control observations to match the first moment (mean) of the baseline control variables in the pre-treatment period, ensuring covariate balance across treated and control samples (Hainmueller

**Table 9**

Entropy Balancing

This table reports results from stacked DiD regressions of DEG and ln(#DEG) on PostIDDRej using entropy balancing. Control observations are reweighted to match the first moment (mean) of the baseline control variables in the pre-treatment period, ensuring covariate balance between treated and control firms. PostIDDRej is an indicator variable equal to one if state s rejected the IDD before year t, and zero otherwise. In column (1), the dependent variable, DEG, is an indicator variable equal to one if firm i issued one or more DEG items in year t, and zero otherwise. In column (2), the dependent variable, ln(#DEG), is the natural log of one plus the count of initial DEG items issued by a firm in year t. All variable definitions are available in Appendix B. Standard errors are clustered at the state level (t-statistics are in parentheses). *, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

| | (1) | (2) |
|---|---|---|
| VARIABLES | *DEG* | *ln(#DEG)* |
| *PostIDDRej* | -0.058*** | -0.160** |
| | (-2.862) | (-2.473) |
| *Size* | -0.002 | 0.071 |
| | (-0.094) | (1.112) |
| *ROA* | -0.062 | -0.093 |
| | (-0.378) | (-0.258) |
| *CFO* | -0.119 | -0.301 |
| | (-1.378) | (-1.015) |
| *MTB* | -0.000 | 0.001 |
| | (-0.004) | (0.039) |
| *Leverage* | -0.107 | -0.020 |
| | (-1.065) | (-0.068) |
| *EPS Volatility* | 0.002 | 0.004 |
| | (0.263) | (0.164) |
| Δ *EPS* | 0.001 | 0.002 |
| | (0.531) | (0.222) |
| *R&D* | 0.110 | 0.046 |
| | (0.424) | (0.051) |
| N | 5,134 | 5,134 |
| R-squared | 0.715 | 0.790 |
| YearFE | Yes | Yes |
| FirmFE | Yes | Yes |
| CohortFE | Yes | Yes |
| Cluster | State | State |

[2012]; McMullin and Schonberger [2020]). Table 9 presents the results. The coefficient on PostIDDRej remains negative and statistically significant, and the magnitude is comparable to the baseline specification, indicating that the main results are robust to this alternative research design.

## Chapter 6. Conclusion

This study examines the effect of state court rejection of the Inevitable Disclosure Doctrine (IDD) on firms' disaggregated earnings guidance (DEG). Using a stacked difference-in-differences (DiD) design, I find that firms headquartered in states rejecting the IDD reduce both the likelihood of issuing DEG and the frequency of disaggregated items. Additional tests suggest that firms also reduce the number of unique items they offer after rejection of the IDD. These results are consistent with Hypothesis 1b, suggesting that DEG is complementary to employee information leakage.

Further analysis provides limited and inconsistent evidence that the reduction in DEG is concentrated among firms with higher proprietary costs of disclosure, characterized by intense competition, and patent ownership. The measures of proprietary disclosure costs utilized in this study are imperfect proxies and are often criticized for producing conflicting results in the literature. Additionally, the economic implications of these measures are often ambiguous and may not fully capture the relevant variation in proprietary costs.[15] Although the direction of the coefficient magnitudes is consistent with the proprietary cost hypothesis, the cross sectional results do not provide consistent statistical evidence to fully explain the main findings.

Overall, this paper contributes to the literature on disclosure and labor market dynamics by providing evidence that external legal and competitive environments influence firms' disclosure decisions. The study extends prior literature suggesting that sources of competitor information often serve as substitutes, providing some support for the view that proprietary information leakage through employee job transfers and disaggregated earnings guidance serves as complementary information sources for competitors. Specifically, when firms face greater proprietary leakage from employee transfers following IDD rejection, which increases employee mobility, managers reduce voluntary disclosure through disaggregated earnings guidance.

[15] It is unclear if higher competition is associated with greater or lower proprietary disclosure costs, as firms in the most competitive industries may possess the same information

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**Appendix A: Precedent setting IDD case-dates by state**

| | State | Adoption | Rejection |
|---|---|---|---|
| (1) | Arkansas (AR) | 1997 | 2009 |
| (2) | California (CA) | | 2002 |
| (3) | Connecticut (CT) | 1996 | |
| (4) | Delaware (DE) | 1964 | |
| (5) | Florida (FL) | 1960 | 2001 |
| (6) | Georgia (GA) | 1998 | 2013 |
| (7) | Illinois (IL) | 1989 | |
| (8) | Indiana (IN) | 1995 | |
| (9) | Iowa (IA) | 1996 | |
| (10) | Kansas (KS) | 2006 | |
| (11) | Maryland (MD) | | 2004 |
| (12) | Massachusetts (MA) | 1994 | 2012 |
| (13) | Michigan (MI) | 1966 | 2002 |
| (14) | Minnesota (MN) | 1986 | |
| (15) | Missouri (MO) | 2000 | |
| (16) | New Hampshire (NH) | | 2010 |
| (17) | New Jersey (NJ) | 1987 | 2012 |
| (18) | New York (NY) | 1919 | 2009 |
| (19) | North Carolina (NC) | 1976 | 2014 |
| (20) | Ohio (OH) | 2000 | 2008 |
| (21) | Pennsylvania (PA) | 1982 | |
| (22) | Texas (TX) | 1993 | 2003 |
| (23) | Utah (UT) | 1998 | |
| (24) | Virginia (VA) | | 1999 |
| (25) | Washington (WA) | 1997 | 2012 |
| (26) | Wisconsin (WI) | | 2009 |

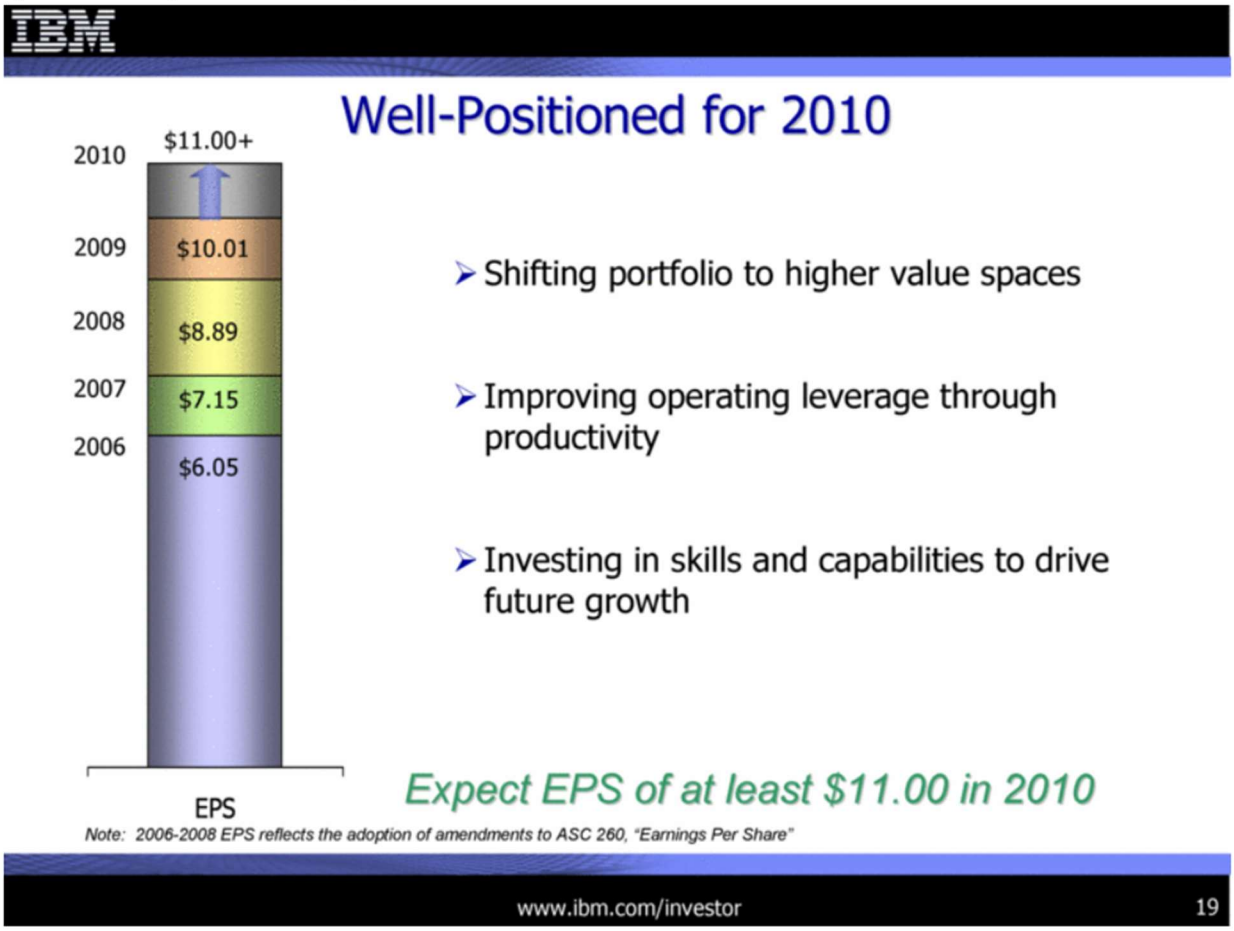
**Appendix B: Variable Definitions**

| | |
|---|---|
| *AEG* | Indicator variable set equal to 1 if a US firm issues initial street-earnings (EPS), fully-reported earnings (GPS) or Net Income (NET) guidance in a fiscal-year t, and zero otherwise |
| *DEG* | Indicator Variable set equal to 1 if a manager provides guidance other than AEG (i.e. EPS, GPS or NET) in a fiscal-year t, and zero otherwise |
| *#DEG* | A count of the total number of initial DEG income statement item forecasts given in a fiscal-year t |
| *ln(#DEG)* | The natural log of (1 + *#DEG*) |
| *PostIDDRej* | Indicator Variable set equal to 1 for states after courts in that state reject the IDD, and zero otherwise. Table 1 provides a list of rejection events in this study. Appendix A provides a comprehensive list of precedent setting dates for the IDD. |
| *Size* | Natural log of Market Value of Equity (calculated as the share price at the fiscal-year end multiplied by common shares outstanding) at the beginning of fiscal-year t (*PRCC_F*CSHO)* |
| *MTB* | MVE at beginning of year t scaled by book value of equity at the beginning of fiscal-year t (*PRECC_F*CSHO/CEQ*) |
| *Leverage* | Total long-term liabilities scaled by total assets at the beginning of fiscal-year t (*DLTT/AT)* |
| *ROA* | Income before extraordinary items scaled by assets at the beginning of year t (*IB/AT)* |
| *CFO* | Operating Cash flow scaled by total assets at the beginning of year t (*OANCF/AT*) |
| Δ *EPS* | The change in EPS before extraordinary items (*EPSXP*) from year $t_{-1}$ to year t |
| *EPS Volatility* | The standard deviation of EPS before extraordinary items (*EPSXP*) for years $t_{-1}$, $t_{-2}$ and $t_{-3}$ |
| *R&D* | Research and Development expense scaled by total assets at the beginning of year t. Missing Values are assumed to be zero. (*RDX/AT)* |
| *HighSim (LowSim)* | A treatment sample partitioning variable indicating whether the firm's product similarity (*Sim*) in year t is above (*HighSim*) or below (*LowSim*) the median product similarity of treatment firms in the year before the IDD was rejected in their state. |

| | |
|---|---|
| *LowHHI (HighHHI)* | A treatment sample partitioning variable indicating whether the firm's text-based network three-digit industry classification Herfindahl-Hirschman Index (*HHI*) of competition in year t is above (*HighHHI*) or below (*LowHHI*) the median *HHI* of treatment firms in the year before the IDD was rejected in their state. |
| *LowPCM (HIGHPCM)* | A treatment sample partitioning variable indicating whether the firm's single-digit SIC industry price-cost margin (*PCM*) in year t is above (*HighPCM*) or below (*LowPCM*) the median *PCM* of treatment firms in the year before the IDD was rejected in their state. |
| *HighCosts (LowCosts)* | A composite measure of high proprietary costs. Measured as the sum of the indicator variables *HighSim, LowHHI*, and *LowPCM*. Firm-year observations with a sum of 2 or 3 are coded *HighCosts*, firms with values of 0 or 1 coded *LowCosts* |
| *PatentOwner* | Indicator Variable set equal to 1 if a firm was issued at least one patent in the last 10-years, and zero otherwise |

## Appendix C – IBM

Obtained from 2009 Q4/Full-Year 8-k earnings release
https://www.sec.gov/Archives/edgar/data/92380/000009238024000145/er-9302024xerdoc.htm




## Appendix D – AT&T forecast

Obtained from Ex-99.1 in 2015 Q4/Full-year 8-k earnings release
https://www.sec.gov/Archives/edgar/data/50863/000005086324000147/q324_earningsrelease.htm

**Outlook**

AT&T provided long-term guidance following its acquisition of DIRECTV, and there is no change to that guidance. Specifically, in 2016, the company expects:

- Double-digit consolidated revenue growth
- Adjusted EPS growth[2] in the mid-single digit range or better
- Stable consolidated margins with ramp in Mexico investment
- Capital spending in the $22 billion range
- Free cash flow growth with a dividend payout ratio[3] in the 70s%