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Opaque Financial Reporting due to Unemployment Concerns

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This paper examines the link between rank-and-file employees' unemployment concerns and financial reporting opacity. Following Agrawal and Matsa (JFE, 2013), we use exogenous variations in state unemployment insurance benefits to capture changes to unemployment concerns. We find that when unemployment concerns are lower, there is less opaque financial reporting. This relation is stronger when workers face higher unemployment risk, labor union participation is high, and executives have higher equity incentives. Using Tobin's Q to capture firm value, we also find that the economic rationale to engage in opaque financial reporting reduces when unemployment benefits are high. Our findings suggest that labor market policies have a significant, likely unintended, positive externality on corporate reporting.

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1. Introduction

In this study, we examine how unemployment concerns of rank and file workers affect financial reporting opacity.[1] Unemployment imposes significant economic, physiological, and psychological costs on workers (e.g., Diamond, 1982; Harris and Holmstrom, 1982; Lazear, 2003; Mortensen, 1986; Wanberg, 2012). Workers are likely to be less concerned about unemployment if they are provided with reliefs such as unemployment insurance (UI) benefits, in the event that they are laid off. Prior theories and empirical evidence that link labor conditions to financial reporting choices typically focus on how employment considerations of senior executives (e.g., bonus contracts and equity incentives) affect these choices (e.g., Healy, 1985; Fischer and Verrecchia, 2000; Kirschenheiter and Melumad, 2002; Cheng and Warfield, 2005; Goldman and Slezak, 2006). In contrast, there is very little evidence on how unemployment concerns of broader groups of rank and file employees impact these reporting choices. Filling this gap can lead to a more holistic understanding of how labor conditions, and in particular labor frictions such as unemployment, affect financial reporting outcomes.

Financial reporting opacity is an outcome of managers' discretionary behavior with respect to firms' financial reporting decisions. While prior research has suggested opacity to be associated with outcomes such as higher stock price crash risk (Hutton et al., 2009) and cost of capital (e.g. Botosan, 1997; Francis et al., 2004, 2005), even shareholder value maximizing managers may engage in such behavior because they find it the best option in equilibrium (e.g., Shivakumar, 2000).

We expect unemployment concerns of rank and file employees to result in more opaque financial reports because managers have incentives to engage in discretionary reporting to project the firm as a "safe" employer and reduce associated costs. It is well established in the

[1] For parsimony, henceforth, we will use the term "opacity" to refer to financial reporting opacity.

labor economics literature that unemployment risk is costly to firms because employees concerned about the adverse effects of unemployment require firms to provide a wage premium ("compensating wage differential") for this risk exposure. The outcome is an increase in the firm's compensation expenses (Abowd and Ashenfelter, 1981; Li, 1986). This compensating wage differential is not trivial. For example, Agrawal and Matsa (2013) conservatively estimate that when there are no UI benefits, the cost of compensating wage differentials is over 150 basis points of firm value for a BBB-rated firm. Therefore managers have incentives to engage in discretionary reporting activities so that their firms appear less risky to their current as well as prospective employees, which, in turn, reduces compensating wage differentials and other related costs (Dou et al., 2014). We expect this behavior to result in more opaque financial reports.[2]

Following Agrawal and Matsa (2013), we use exogenous inter-state cross-sectional and intra-state time-series variations in United States UI benefits to identify changes in unemployment concerns (that is, more generous the benefits, lower the concerns) to investigate whether firms' opacity is affected by these concerns. Similar to Agrawal and Matsa (2013), we argue that this approach enables us to identify the impact of shocks to concerns about unemployment on corporate financial reports because legally mandated increases in UI payments by states reduce the costs workers face when unemployed.[3] To measure financial reporting opacity, we rely on Hutton et al.'s (2009) opacity measure (computed as the sum of absolute annual abnormal accruals).

Using data on state-level UI benefits from 1991 to 2012, we find evidence that greater unemployment concerns (as indicated by lower UI benefits) increase opacity. Following Agrawal

[2] It is also possible that unemployment concerns create incentives for rank and file employees to engage in misreporting activities at the local level, which, in turn results in more opaque consolidated financial statements because these statements use information aggregated at local levels. However, an empirical investigation of this possibility is difficult.

[3] Agrawal and Matsa (2013) show that increases in state UI benefits are associated with greater state UI payouts.

and Matsa (2013), when we exclude firms that likely have a more geographically dispersed workforce, the results become even stronger. For firms with a more geographically dispersed workforce, we are more likely to measure eligible state UI benefits with some error because we assign these benefits to the state where the firm is headquartered, whereas the UI benefits are typically assessed at the state in which the employee performs her work.

To further our understanding of the effects of unemployment concerns on opacity, we run several cross-sectional analyses. The first set of analyses is based on the idea that expected unemployment income is a function of both unemployment risk and UI benefits. In particular, workers have higher unemployment concerns when unemployment risk is high and UI benefits are low. Capturing unemployment risk in terms of firms' bankruptcy risk, operating cash flow levels, and difficulty of being reemployed in the event of an involuntary layoff we show that lower UI benefits increase opacity even more when employees likely face higher unemployment risk.

Second, we examine how the relation between UI and opacity is affected by the labor union participation rates. Both theoretical and empirical studies suggest that unemployment concerns are especially costly for unionized firms due to union influence in imposing higher compensating wage differentials (Moore, 1995; Viscusi, 1980). If so, the benefits of generous UI programs should be greater for firms operating in highly unionized environments. Consistent with this prediction, we find a stronger relation between UI benefits and opacity for firms domiciled in states with high labor union power. Third, we find the effect of unemployment concerns on opacity to be greater for the subsample of firms whose top executives have high equity incentives. As noted earlier, workers will demand a higher wage premium when they are concerned about unemployment and unemployment benefits are low. This wage premium leads

to higher employment costs that reduce the value of the firm. Hence, to maximize the value of their equity, top executives have greater incentives to be opaque in their financial reporting and reduce the wage premium.

In additional analyses, we show that the negative relation between UI benefits and opacity remains significant after controlling for future UI benefits. In contrast, there is no significant relation between future UI and opacity. These results mitigate concerns about reverse causality. We also consider potential nonlinearity between UI benefits and opacity. In particular, we conjecture that UI is likely to have a more salient effect on financial reporting decisions when there has been a recent increase in UI because of the attention that these increases attract. Our findings support this conjecture as we observe the effect of UI on reducing opacity to be higher when there is a recent increase in the insurance. We also show that the results are robust to the use of Dechow and Dichev's (2002) accruals quality measure (computed as the standard deviation of annual abnormal accruals) and a modified opacity measure that links measurement window of opacity to the occurrence of UI benefit changes.[4]

Our analyses are based on the premise that opacity due to unemployment fears is driven by managers' attempts to minimize firm value reducing compensating wage differential costs. Therefore, as generous UI benefits alleviate workers' unemployment concerns, the rationale to engage in opaque reporting diminishes. In our final analysis we directly investigate this conjecture by examining whether and how UI benefits impact the relation between firm value and opacity. We capture firm value in terms of Tobin's Q. As conjectured throughout the paper, we the find role of opacity in maximizing firm value to diminish when UI benefits are high. This

[4] The accruals quality measure is similar in spirit to Hutton's et al. (2009) opacity measure in that both rely on the patterns of abnormal accruals over time to determine the quality of financial reporting. A key difference, however, is that the accruals quality measure has greater data requirements (i.e., results in a lower sample size) because of the model that is used to compute abnormal accruals. It has been shown to be associated with lower market and liquidity risk as well as cost of capital (e.g., Francis et al. 2004, 2005; Ng, 2011).

result provides direct evidence for the ex-ante economic rationale for opaque financial reporting in the presence of unemployment concerns.

Our paper supports and extends the findings of Dou, Khan and Zou (2015). Using a similar setting, Dou et al. (2015) find that unemployment concerns induce firms to engage in long-run upward earnings management. Instead of focusing on the direction of earnings management, we hypothesize and provide evidence to indicate that discretionary reporting behavior induced by unemployment concerns results in more opaque financial statements.[5] Our cross sectional tests provide additional insights on conditions under which the conjectured behavior is exacerbated/moderated. Moreover, we show that, despite potential costs of opacity (e.g., Botosan, 1997; Francis et al., 2004, 2005; Hutton et al., 2009), the observed behavior is consistent with managers' attempts to minimize costs associated with workers' unemployment risk. In other words, we provide evidence that there is economic rationale to being opaque when unemployment concerns are higher in that such as action can enhance firm value. This highlights the fact that full transparency might not always be the best firm policy.

Our paper contributes to the literature in two key ways. First, even though the Financial Accounting Standards Board (FASB) recognizes employees as a primary group of financial statement users, few studies investigate whether financial reporting choices are influenced by broad labor considerations (e.g., Hamm, Jung, and Lee, 2013; Dou et al, 2015).[6] In contrast, a large body of literature documents how the remuneration of top executives (typically, CEOs and CFOs) influences firms' financial reporting quality (e.g., see, Healy and Wahlen, 1999; Kothari, 2001). Second, the extant literature on how corporate behavior is affected by UI investigates issues ranging from wage-setting (e.g., see, Abowd and Ashenfelter, 1981; Hamermesh and

[5] For instance, in response to unemployment concerns, instead of engaging in upward earnings management, firms may resort to income smoothing where income is managed upward in good periods and downward in bad periods.
[6] FASB Statement of Financial Accounting Concepts No. 8, OB2 and BC1.10

Wolfe, 1990; Li, 1986; Topel, 1984) to lay-off decisions (Topel, 1983), and corporate leverage decisions (Agrawal and Matsa, 2013). In this paper, we provide strong evidence, using established identification techniques, that the state UI benefits affect corporate financial reporting decisions as well. Hence, we add to a growing literature about the positive externalities of UI (e.g., Hsu, Matsa, and Melzer, 2014).

The remainder of this paper is organized as follows. Section two discusses the hypotheses. Section three describes the data and empirical design. Section four presents the results. Section five concludes.

2. Hypotheses Development

In the United States, the Federal-State UI Program is an important safety net that provides temporary income to eligible workers who are unemployed through no fault of their own.[7] Based on guidelines under federal law, each state administers a separate UI program. State laws determine the eligibility, amounts, and the duration of UI benefits. Most states fund their programs with taxation on employers, with three states requiring minimal employee contributions. The taxes imposed on the firms vary based on past experiences; firms that have had more worker unemployment claims in the past pay higher taxes.[8] Claims for UI benefits are paid by state governments, which are allowed to tap federal funds after they use up their resources or reach certain rates of aggregate unemployment. Benefits are typically based on a percentage of an individual's earnings over the most recent 52-week period and are limited to a

[7] http://workforcesecurity.doleta.gov/unemploy/uifactsheet.asp.
[8] See, for example, the determination of UI tax rates in Washington State: http://www.esd.wa.gov/newsandinformation/faq/tax-rate-update-6-10.php.

maximum amount stipulated by the state. Most states allow for a maximum of 26 weeks of benefits.[9]

Many factors can lead to variation in UI benefits across states and times. Key factors include underlying economic conditions (e.g., higher average wages) and political forces (e.g., bolstering of political support). The direct effect of the UI program is on unemployed workers. Gruber (1997) argues that the primary benefit of UI benefits is to smooth consumption during periods of unemployment. In particular, he argues that pooling unemployment risk through insurance leads to greater efficiency and provides evidence that consumption would fall significantly in the absence of UI. Other studies have found that UI is associated with workers' searches for new employment and the durations of their unemployment spells, labor productivity, savings, and stock market participation (e.g., Feldstein, 1978; Topel and Welch, 1980; Moffitt, 1985; Katz and Meyer, 1990; Meyer, 1995; Acemoglu and Shimer, 2000; Gormley, Liu, and Shou, 2010; Engen and Gruber, 2001; Meyer and Mok, 2007). Hsu et al. (2014) find that UI benefits help the unemployed avoid defaulting on their mortgage debt, and, as a result, banks extend credit and offer reduced interest rates to low income households.

For firms, UI programs have a direct and an indirect effect. The direct effect is the taxes that firms pay to fund the program. The indirect effect is via firms' consideration of the impact of UI benefits on their workers. Topel (1983) finds that firms are more willing to lay off workers when workers are more protected by UI. Agrawal and Matsa (2013) hypothesize that firms will choose financial policies that decrease the risk of distress and costly layoffs when their workers are less protected by UI programs, because workers will demand higher compensation for

[9] For a more detailed discussion of the institutional background of UI programs in the United States, see Agrawal and Matsa (2013).

potential job loss. Consistent with their hypothesis, they find that higher unemployment benefits lead to increased corporate leverage.

2.1 The Relation between UI and Opacity

Unemployment concerns potentially impact managerial decisions on financial reporting because both existing and prospective employees likely use firms' accounting information to assess unemployment risk. As higher risk of unemployment leads to higher compensating wage differentials, firms have incentives to present the prospects of its employees in a brighter manner.[10] These compensating wage differentials can be quite substantial. For example, employing conservative assumptions, Agrawal and Matsa (2013) estimate the cost of compensating wage differentials to be 154 basis points of firm value for a BBB rated firm when there are no UI benefits. Chemmanur et al. (2013) find that incremental labor costs associated with higher unemployment risk due to added leverage are large enough to offset tax shield benefits of debt.

In the United States, workers' concerns over future unemployment are partially mitigated by the presence of the UI benefits programs as these programs provide unemployment income for workers in the event that they are laid off. In other words, workers' unemployment concerns can be thought of as a function of both risk of unemployment and potential unemployment benefits.

Unemployment Concerns = f(Unemployment risk, UI benefits) *Eq. (1)*

[10] Unemployment concerns could also impact internal reporting activities of rank and file workers. Therefore, to the extent that these are reflected in consolidated financial reports, internal reporting decisions of rank and file employees could be another source for a link between unemployment concerns and corporate level financial outcomes. However, as a practical matter it is not possible to empirically discern the impact of internal reporting by rank and file employees on corporate level financial reports.

When expected UI benefits are higher, future unemployment concerns are less. Following Agrawal and Matsa (2013), we use exogenous changes in state level UI benefits to empirically capture exogenous changes in unemployment concerns. Consistent with exogenous changes to UI benefits influencing firms' reporting behavior, Dou et al. (2015) find that firms unwind their long run upward earnings management activities in response to increases in UI benefits. We note however that discretionary reporting behaviors induced by unemployment concerns need not be limited to upward earnings management activities. For example, unemployment concerns could also create income smoothing incentives where firms manage earnings downward during good times to create precautionary reserves that would be released during bad times so that the firm is projected as less risky (Graham, Harvey, and Rajgopal, 2005). Relatedly, Hamm et al. (2013) argue that when faced with strong labor unions, firms have incentives not only to manage earnings downwards to shelter from unions' rent seeking, but also to manage earnings upwards to avoid demands for higher compensating wage differentials due to higher risk of unemployment.

Regardless of whether workers' unemployment concerns induce upward earnings management or income smoothing incentives, the outcome would be more opaque financial reports. As more generous UI benefits reduce unemployment concerns and associated compensating wage differential costs, we would expect opacity to be negatively associated with UI benefits.

Hence, our primary hypothesis is as follows (alternative form):

Hypothesis H1: "Opacity is negatively associated with UI benefits."

Next we turn to a number of cross sectional tests that provide us with further insights on the relation between unemployment concerns and financial reporting.

2.2 The Effect of Unemployment Risk

As expressed in equation (1), unemployment concerns are a function of both risk of unemployment and UI benefits. As expected costs of unemployment are increasing in the risk of unemployment, the benefits of generous UI programs would be particularly high when the employees' exposure to unemployment risk is greater. For example, according to Agrawal and Matsa's (2013) estimates, the average reduction in compensating wage differential costs due to UI programs is only 1 basis point of firm value for AAA rated firms, but is as much as 269 basis points of firm value for much riskier B rated firms. Therefore, if UI reduces opacity induced by unemployment concerns, then this reduction should be more pronounced when unemployment risk is higher and UI benefits are particularly important. Accordingly, we posit that;

> *Hypothesis H2: "The negative association between opacity and UI benefits is stronger when unemployment risk is higher."*

2.3 The Effect of Trade Unions

Viscusi (1980) argues that since trade unions promote the welfare of inframarginal workers, the wage received per unit of risk should be greater in unionized contexts. In other words, the compensation wage differentials should be higher in unionized firms because more risk-averse employees enjoy greater power in unionized settings. Consistent with this prediction, Viscusi (1980) finds compensating wage premium for risk of workplace injuries to be substantially higher in unionized contexts. Extending this to employment risk in terms of variations in hours worked, Moore (1995) finds a significantly larger compensating wage differential for unionized firms. In fact, Moore (1995) estimates wages in unionized firms to be

about 19% higher than those of non-unionized firms and attributes more than 75% of this difference to compensating wage differentials for unemployment risk. Relatedly, Hamm, Jung, and Lee (2013) find that firms faced with strong labor unions are more likely to have stronger incentives to manage earnings to project themselves as less risky.

If concerns over unemployment risk are indeed more costly for unionized firms, then benefits of UI programs – including the effect of reducing opacity – should be greater for firms operating in highly unionized settings. Hence, our hypothesis is:

Hypothesis H3: "The negative association between opacity and the UI benefits is stronger for firms operating in more unionized environments."

2.4 The Effect of Executive Equity Incentives

When managerial equity incentives are high, managers' wealth is more closely tied to firm value (Hall and Liebman, 2000). Moreover, prior research on executive equity incentives suggests that executives have incentives to engage in discretionary reporting behavior when their equity portfolios make them less averse to firm risk (Armstrong, et al., 2013). Using both regression and matched sample designs, Armstrong et al. (2013) find that managers who are more sensitive to changes in equity risk (i.e. higher portfolio vega) are more likely to use discretionary accruals and have earnings restatements, after controlling for the effect of managers' sensitivity to changes in equity value (i.e. portfolio delta), which prior studies also find to be positively associated with misreporting.[11]

In our first hypothesis we argue that managers engage in discretionary reporting behavior to obfuscate unemployment risks so that compensating wage differential costs are minimized.

[11] See Armstrong et al. (2013) for a review of the extensive body of research examining the association between managers' sensitivity to stock price and misreporting.

Minimizing these costs should, in turn, translate into higher firm value. Therefore, if our conjectures are correct, then the propensity to engage in opaque financial reporting due to workers' unemployment concerns should be more pronounced when managers have high equity incentives. Hence, the role of UI benefits in reducing opacity should be greater when managers have higher equity incentives. Accordingly, our next hypothesis is:

Hypothesis H4: "The negative association between opacity and the UI benefits is stronger for firms managed by executives with greater equity incentives."

3. Data and Empirical Framework

Unlike most other countries, the level of UI benefits in the U.S. is determined at the state, as opposed to federal government level. Moreover, there are time series variations in UI benefits at the state level. As extensively discussed in Agrawal and Matsa (2013), these variations in UI benefits are quite exogenous to the firm. Accordingly, we use these cross-sectional (across states) and time-series (within state) variations in UI benefits to test our conjecture of a link between opacity and unemployment concerns.

3.1 Data

We obtain data on UI from the U.S. Department of Labor's annual issues of Significant Provisions of State Unemployment Insurance Laws and data on firm financials from Compustat.[12] We combine firm-level financial information with state-level UI data based on the state in which the firm's headquarter is located.[13] Following Hutton et al. (2009), we begin our sample period in 1991. Doing so allows us to estimate discretionary accruals using cash flow

[12] http://workforcesecurity.doleta.gov/unemploy/statelaws.asp#sigprouilaws

[13] This matching criterion creates some measurement error with respect to variable of interest if some of the firm's workers are located outside of the headquarter-state, since employees are covered by the UI laws of the state in which they are employed. Following Agrawal and Matsa (2013), we address this issue by reporting results excluding industries with a dispersed workforce in our main analysis and conducting several cross-sectional analyses.

method (Hribar and Collins, 2002). We exclude firms in financial services and utilities industries (SIC 6000-6999 and SIC 4900-4948). We also exclude firms with insufficient data to calculate our opacity measure and the control variables. This results in a final sample of 63,186 firm-years over the sample period from 1991 to 2012.

3.2 Measurement of UI Benefits

To analyze the impact of UI benefits on financial reporting, we use the maximum amount of unemployment insurance benefits (*UI*) allowed for each state in a given year, defined as the natural log of the maximum number of weeks that a state provides benefits to claimants (*Max Duration*), times the maximum weekly benefit amount (*Max Weekly Benefit*). This variable provides a proxy for the total UI benefits that a claimant can receive in a given year and has been shown to impact firms' financial policies (Agrawal and Matsa, 2013). Panel A of Table 1 presents summary statistics on the maximum duration, maximum weekly benefit, and total benefits for each of the fifty-one states in our sample. While there is little variation in the maximum number of weeks a worker can claim unemployment benefits for, the maximum amount of weekly benefits varies significantly, ranging from the lowest of $195.91 in Mississippi to $692.86 in Massachusetts. The maximum total benefit is also lowest in Mississippi ($5,093.64) and highest in Massachusetts ($20,785.91). Panel B of Table 1 shows the mean and median values of the maximum weekly benefit, maximum duration, and total benefits for each year in our sample period. Similar to Panel A, the maximum duration has remained quite steady over time, but the amount of benefits has almost doubled.

[Insert Table 1]

One might look at these weekly and total numbers and consider them to be small relative to at least what some workers were receiving as employment income prior to being laid off. From a utility (or economic importance) perspective, it is important to note that the utility of a dollar of employment income is likely to be lower than the utility of a dollar of unemployment income because of the diminishing marginal utility of income. A key reason is that the earlier and later dollars are likely to be spent on necessities and luxury items, respectively. UI provides an important economic lifeline to many who have lost their jobs. It is also important to note that involuntary unemployment tends to increase sharply during period of economic crisis when the wealth of many individuals falls significantly and there are few job opportunities. The marginal utility per dollar of income – in particular, unemployment income – is likely to be greater during these periods.

3.3 Measurement of Financial Reporting Opacity

Following Hutton et al. (2009), we measure *Opacity* as the sum of the absolute abnormal accruals from year *t-1* to year *t+1*, where abnormal accruals are estimated based on the cross-sectional modified Jones model (Jones, 1991; Dechow et al., 1995). Specifically, we estimate the following cross-sectional regression in each two-digit SIC industry for each fiscal year.[14]

$$\frac{\text{Total Accruals}_{i,t}}{\text{Assets}_{i,t-1}} = \beta_0 \frac{1}{Assets_{i,t-1}} + \beta_1 \frac{\Delta Sales_{i,t}}{Assets_{i,t-1}} + \beta_2 \frac{PPE_{i,t}}{Assets_{i,t-1}} + \varepsilon_{i,t} \qquad Eq.(2)$$

Abnormal accruals are then calculated based on the following equation, using the coefficient estimates from Eq. (2).

[14] We require at least twenty observations for each industry-year regression.

$$\text{Abnormal Accruals}_{i,t} = \frac{\text{Total Accruals}_{i,t}}{\text{Assets}_{i,t-1}} - \left(\widehat{\beta_0}\frac{1}{Assets_{i,t-1}} + \widehat{\beta_1}\frac{\Delta Sales_{i,t} - \Delta Receivables_{i,t}}{Assets_{i,t-1}} + \widehat{\beta_2}\frac{PPE_{i,t}}{Assets_{i,t-1}}\right) \quad Eq.(3)^{15}$$

Then,

$$Opacity_t = |\text{Abnormal Accruals}_{i,t-1}| + |\text{Abnormal Accruals}_{i,t}| + |\text{Abnormal Accruals}_{i,t+1}| \quad Eq.(4)$$

3.4 Impact of Unemployment Risk on Reporting Opacity

We employ the following OLS model to examine the relation between UI benefits and corporate reporting:

$$\begin{aligned} Opacity_t = {} & b_0 + b_1 UI_t + b_2 Cash\ Flow\ Volatility_t + b_3 Sales\ Volatility_t \\ & + b_4 Leverage_t + b_5 Log\ Sales_t + b_6 Market\ to\ Book_t + b_7 Return\ on\ Assets_t \\ & + b_8 Proportion\ of\ Fixed\ Assets_t + b_9 Zscore_t + b_{10} Unemployment\ Rate_t \\ & + b_{11} GDP\ Growth_t + Firm\ and\ Year\ Fixed\ Effects + e \qquad Eq.(5) \end{aligned}$$

Opacity, as defined previously is the dependent variable. Our main variable of interest, *UI*, is the natural log of maximum unemployment benefits available to claimants. We control for various firm level variables that could potentially influence firms' propensity to produce opaque financial statements. Hribar and Nichols (2007) show that it is important to control for operating volatility when one uses absolute discretionary accruals to test for earnings management as lack of fit in the discretionary accruals models increases the value of absolute discretionary accruals and can bias tests in favor of rejecting the null of no discretion in reported earnings. As such, we

[15] The inclusion of $\Delta\text{Receivables}_{i,t}$ modifies the Jones (1991) model to account for the change in sales that could be due to the aggressive recognition of questionable sales (Dechow, Sloan, and Sweeney, 1995). Results remain qualitatively the same when we simply use the residual in Eq. (2) to measure abnormal accruals.

control for both cash flow and sales volatility, where *Cash Flow Volatility* and *Sales Volatility* are the standard deviations of operating cash flows and revenue, respectively, deflated by assets over the current and prior four years. We also control for leverage because Agrawal and Matsa (2013) show that firms use more conservative financing policies when unemployment risk is high. *Leverage* is total debt divided by market value of equity. We also include variables that proxy for growth and performance, such as *Sales*, *Market to Book*, and *Return on Assets*, as they are likely to be determinants of earnings management. Following Agrawal and Matsa (2013), we also control for the probability of bankruptcy (*Z-score*) and the importance of firm collateral (*Proportion of Fixed Assets*). In addition, *Unemployment Rate* and *GDP Growth* are two state-level variables that capture local economic conditions that may affect firms' financial reporting decisions. We also include firm fixed effects to ensure that the hypothesized relation is driven by changes in UI over time, rather than by any time invariant firm characteristics, and year fixed effects to control aggregate macroeconomic conditions. We cluster standard errors by state to correct for potential correlations among firms within the same state.[16]

Table 2 reports summary statistics of the variables used in our analyses. Panel A provides descriptive statistics for the main variables. The mean of *Opacity* is 0.232 with a standard deviation of 0.249. For comparison, Hutton et al. (2009) report a mean of 0.243 and a standard deviation of 0.222 for their sample period from 1991 to 2005. The mean of UI is 9.083, equivalent to 8,804 dollars. Panel B provides Pearson (Spearman) correlation coefficients among the variables in the upper (lower) diagonal. As predicted, the correlation between *UI* and *Opacity* is negative and significant ($p<0.01$).

[16] Agrawal and Matsa (2013) argue that it is more appropriate to cluster at the state level because the variation in UI benefits is at the state level, and this controls for potential time-varying correlations in unobserved factors that affect different firms within the same state. They also argue that this also corrects for within-firm error term correlations over time, and as a result is more general than firm-level clustering.

[Insert Table 2]

4. Results

4.1 Test of H1: Relation between UI Benefits and Financial Reporting Opacity

Table 3 presents results for tests of our main hypothesis that reporting opacity is negatively associated with the level of state-level UI benefits. Column (1) includes all firm-years in the sample while column (2) reports results excluding industries with a dispersed workforce (i.e. retail, wholesale, and transport). In column (1), the negative coefficient on *UI* suggests that an increase in unemployment benefits reduces reporting opacity (β=-0.031, $p<0.05$). When we restrict our sample to industries with less-dispersed workers (Columns (2)), the results are even stronger (β=-0.044, $p<0.01$), further supporting our hypothesis.

[Insert Table 3]

We now examine whether the relation between UI benefits and opacity varies across multiple hypothesized dimensions, to provide further support for our hypothesis that higher unemployment risk leads to more opaque reporting.

4.2 Test of H2: Effect of Unemployment Risk

Hypothesis H2 predicts that the relation between UI and reporting opacity should be stronger when unemployment risk is higher. As illustrated in equation (1), unemployment concerns are a function of both unemployment risk and UI benefits. From the workers' perspective, unemployment risk represents both (1) risk of being involuntarily laid-off and (2)

risk of being unable to find another job quickly. While (1) is dictated by firm risk, (2) is dictated by broader labor market conditions.[17]

Clearly, employees' risk of unemployment increases with the bankruptcy risk of the firm because employees are laid off en masse in events of bankruptcy. Prior research also suggests that unemployment risk is higher for firms with difficulty in obtaining external funding, as firms respond to financial constraints induced negative shocks by laying-off employees (John, Lang, and Netter, 1992; Ofek, 1993). Ceteris paribus, firms with low operating cash flows have more difficulty raising external capital due to liquidity concerns. Therefore, to examine whether firms with higher unemployment risk are more likely to produce more opaque financial reports, we partition our sample on likelihood of bankruptcy and operating cash flows. Following prior research, we use modified Altman's z-score to proxy for bankruptcy risks.[18]

We use U.S. Department of Labor's UI claim data to capture unemployment risk associated with difficulty of being reemployed. An important feature of the Federal-State UI Program is that eligible UI claimants have to promptly contact their State UI agency after becoming unemployed. The U.S. Department of Labor consolidates the claims from the various states and produces a weekly nationwide jobless claims report that reflects the employment situation in the United States.[19] This report is important for macroeconomic analyses, and the financial markets rely on this report to make projections about government policies (Balduzzi, Elton, and Green, 2001). In this report, there is a breakdown of the claims filed within each state.

[17] Individual worker ability is a third factor that influences unemployment risk. However, this risk is unlikely to be compensated for via compensating wage differentials.

[18] The modified Altman's z-score is estimated using the following equation: $3.3\frac{\text{earnings before interest and taxes}}{\text{total assets}} + 1.0\frac{\text{sales}}{\text{total assets}} + 1.4\frac{\text{retained earnings}}{\text{total assets}} + 1.2\frac{\text{working capital}}{\text{total assets}}$

[19] These reports are disclosed to the public in the form of news releases and can be found at: http://www.dol.gov/ui/data.pdf.

For states with significant increases or decreases in the claims, there is a state supplied comment about the underlying reason for the significant changes. More UI claimants is an indicator of relatively higher reemployment risk for the workers in a state because a higher unemployed worker pool within the state reflects more competition in finding a job should a currently employed worker lose his/her job. Therefore, we use UI payment rates, defined as the number of individuals collecting unemployment benefits in a state scaled by state population, to capture the difficulty of becoming reemployed. We obtain data on unemployment collections and state populations from the Current Population Survey. Higher UI payment rates reflect greater difficulty of becoming reemployed in the event of unemployment.

We separately estimate Eq. (5) for firms with high and low z-scores, cash flows, and state level UI payment rates where firms are stratified at the median of the sample values. We report the results in Table 4. Consistent with our hypothesis that riskier firms are more likely to take into account UI benefits in their financial reporting decisions, we only find a significant and negative relation between *UI* and *Opacity* in the high bankruptcy risk ($p<0.01$), and low cash flow subsamples ($p<0.1$). Similarly, underscoring the role of reemployment risk, we find the significant negative relation between *UI* and *Opacity* to be present for firms domiciled in high UI payment rate states ($p<0.1$), but not for those in low UI payment rate states. In sum, results reported in Table 4 indicate that the role of UI benefits in reducing opacity is greater when unemployment risk is higher.

[Insert Table 4]

4.3 Test of H3: Effect of Trade Unions

To examine the effect of unionized labor on the relation between UI and opacity (H3), we use two proxies that likely capture the level of union intensity (both measured at state level). The first proxy is the percentage of employees who are union members. The second proxy is the percentage of employees covered by collective bargaining agreements based on figures reported. We obtain data on union membership from the *Unionstats* database maintained by Barry T. Hirsch and David A. Macpherson.[20] We separately estimate Eq. (5) for firms with high and low union membership and collective bargaining power and report the results in Table 5. Consistent with H3, we find a significant and negative relation between *UI* and *Opacity* only in the high union intensity subsamples in Table 5. The negative coefficients on *UI* (β=-0.038 and β=-0.035, $p<0.05$ and $p<0.05$) provide support for H3 and suggest that reduction in opacity due to availability of generous UI benefits is more prevalent in firms with highly unionized employees.

[Insert Table 5]

4.4 Test of H4: Effect of Top Executives' Equity Incentives

Since unemployment risk has a negative effect on firm value, managers with incentives tied to firm value are more likely to be concerned about the impact of unemployment costs on firm value and consequently on their own wealth. This suggests that the relation between UI benefits and reporting opacity should be stronger for firms managed by executives with high equity incentives. To test H4, we group firms based on the pay-performance sensitivity (delta) and risk-taking incentives (vega) of the firm's top five executives. Vega and delta are calculated following the procedures used in Core and Guay (2002). We then separately estimate Eq. (5) for firms with high and low managerial equity incentives and report the results in Table 6. Firms

[20] http://unionstats.gsu.edu/

with both vega and delta above (below) the sample median are classified as having high (low) equity incentives.[21] Consistent with our hypothesis, we only find a significant and negative relation between *UI* and *Opacity* in the high equity incentives sub-sample (β=-0.059, p<0.01).

[Insert Table 6]

4.5 Robustness Tests

4.5.1 Controlling for future UI Benefits

To provide further identification of the causal relation between UI benefits and reporting opacity, we perform a robustness analysis in this section and control for UI benefits in future years. If poor local economic conditions lead firms to engage in earnings management, and state governments increase UI payments due to political pressure, then we can expect a negative relation between *Opacity* and forward values of total UI benefits. Thus, we estimate the following regression:

$$\begin{aligned} Opacity_t = b_0 + \ & b_1 UI_t + b_2 UI_{t+1} + b_3 UI_{t+2} + b_4 Cash\ Flow\ Volatility_t + b_5 Sales\ Volatility_t \\ & + b_6 Leverage_t + b_7 Log\ Sales_t + b_8 Market\ to\ Book_t + b_9 Return\ on\ Assets_t \\ & + b_{10} Proportion\ of\ Fixed\ Assets_t + b_{11} Zscore_t + b_{12} Unemployment\ Rate_t \\ & + b_{13} GDP\ Growth_t + e \qquad Eq.\ (6) \end{aligned}$$

, where we include *UI* measured in year t+1 and year t+2 to Eq. (5). The results reported in Table 7 show that there is no relation between forward values of UI benefits and our opacity measure. $Log\ Max\ Total\ Benefit_t$ also remains negative and significant in both columns. Overall, this suggests that it is the UI benefits that affect opacity, and not vice versa.

[21] If a firm either has high vega and low delta or low delta and high vega, it is not included in the analyses. In other words, we are comparing firms with high vega and high delta against firms with low vega and low delta. Ex-ante, predictions for the mixed combinations are ambiguous.

[Insert Table 7]

4.5.2 Controlling for increases in UI

Next, we consider potential nonlinearity between UI benefits and opacity. In particular, we conjecture that that UI likely have a more salient effect of financial reporting decisions when there has been a recent increase in UI benefits because of the attention that these increases attracts. To examine the effect of recent increases in UI benefits on the relation between UI benefits and opacity, we create two subsamples, one consisting of firms in states with an increase in UI benefits from the prior year and one consisting of other firms. Since higher UI reduces unemployment costs for rank and file employees, an increase in UI benefits should lead to a stronger relation between *UI* and *Opacity*. Columns (1) and (2) of Table 8 present the results of the subsample with and without recent increases in UI, respectively. We find a negative and significant coefficient in column (1) but not in column (2) (β=-0.073 and β=-0.020, $p<0.1$ and $p=0.22$), consistent with a recency effect. This further confirms our hypothesis that increases in UI payment rates lead to lower reporting opacity.

[Insert Table 8]

4.5.3 Alternative Measures of Opacity

In this section, we use two alternative measures to capture opacity. The first is accruals quality (*AQ*), measured as the standard deviation of three firm-specific residuals from a cross-sectional regression of accruals on the prior, current, and future cash flow from operations, as well as the changes in revenue and PP&E (Dechow and Dichev, 2002; McNichols, 2002). Unlike our main opacity measure, which requires three years of data to compute, *AQ* requires five years

of data because it requires lead and lag cash flow from operations.[22] Specifically, to obtain *AQ*, we follow Francis et al. (2005) and estimate the following cross-sectional regression for each of the Fama and French (1997) 48 industry groups with at least 20 firms in fiscal year *t*.

$$TCA_{i,t} = \phi_i^0 + \phi_i^1 CFO_{i,t-1} + \phi_i^2 CFO_{i,t} + \phi_i^3 CFO_{i,t+1} + \phi_i^4 \Delta REV_{i,t} + \phi_i^5 PPE_{i,t} + v_{i,t} \qquad Eq.\ (7)$$

where $TCA_{i,t} = \Delta CA_{i,t} - \Delta CL_{i,t} - \Delta Cash_{i,t} + \Delta STDebt_{i,t} - Depn_{i,t}$ = total current accruals, $CFO_{i,t} = NIBE_{i,t} - TCA_{i,t}$ = cash flow from operations, $NIBE_{i,t}$ = net income before extraordinary items, $\Delta CA_{i,t}$ = change in current assets, $\Delta CL_{i,t}$ = change in current liabilities, $\Delta Cash_{i,t}$ = change in cash, $\Delta STDebt_{i,t}$ = change in debt in current liabilities, $Depn_{i,t}$ = depreciation and amortization expense, $\Delta REV_{i,t}$ = change in revenues, and $PPE_{i,t}$ = gross value of plant, property, and equipment. The annual cross-sectional regression produces firm-year residuals. For each firm in each fiscal year, the standard deviation of the residuals for fiscal years *t-1* to *t+1* is computed. Five years of data are required to obtain the residuals because of the inclusion of cash flow from operations at t-1 and t+1. As a result, the sample size is smaller when we use this measure of reporting opacity in our specifications (43,608 observations).

AQ_t = S.D.($\text{Residuals}_{i,t-1}$, $\text{Residuals}_{i,t,}$ and $\text{Residuals}_{i,t+1}$) *Eq.* (8)

In our main tests we follow Hutton et al. (2009) and capture opacity for year *t* as the absolute value of abnormal accruals for the three-year-period *t-1*, *t*, and *t+1*. Our second alternative measure of opacity relaxes the requirement of an arbitrary time window and measures opacity for year t as the mean of absolute abnormal accruals from t to t+n-1, where n is the number of years before UI benefits subsequently change (*Modified_Opacity*). *Modified_Opacity*

[22] The typical computation of *AQ* requires seven years of data because of the use of five years of abnormal accruals to compute *AQ*. To be consistent with how *Opacity* is measured, we use three years of abnormal accruals for this robustness analyses.

accommodates the notion that unemployment concern driven opacity levels may remain unchanged until a change in UI benefits occurs. The advantage of this alternative measure is that it better captures changes in reporting behavior directly due to changes in UI benefits.

Table 9 documents the results of repeating our analyses of H1 with *AQ* and *Modified_Opacity*. Note that the higher the *AQ* and *Modified_Opacity* measures, the lower the accruals quality. The results are consistent with those in Table 3. In column (1), the negative coefficients on *UI* suggest that an increase in unemployment benefits reduces *AQ* (β=-0.008, $p<0.01$). In column (3), the negative coefficients on *UI* suggest that an increase in unemployment benefits reduces *Modified_Opacity* (β=-0.014, $p<0.05$). When we restrict our sample to industries with less dispersed workers, the results are even stronger for both measures (β=-0.012 and -0.018, $p<0.01$ and 0.05, respectively), further supporting our main hypothesis. In untabulated analyses, we also repeat the tests of all the other hypotheses. The results are qualitatively similar to those documented earlier.

[Insert Table 9]

4.6.4 Effect of UI on the Relation between Opacity and Firm Value

All our hypotheses are based on the conjecture that one reason for financial reporting opacity is firms' attempts to present prospects of its employees in a brighter manner so that costly compensating wage differentials are minimized. UI benefits reduce the need for opacity due to lowering of these compensating wage differentials. All results reported so far are consistent with this notion. In this section, we directly investigate the veracity of this conjecture by examining the whether and how UI benefits impact the relation between opacity and firm value.

Notwithstanding unintended consequences such as greater crash risk (Hutton et al., 2009), if opacity is an outcome of managers' efforts to minimize negative firm value consequences of workers' unemployment concerns, we should observe a positive association between opacity and firm value when UI benefits are low. Moreover, if generous UI benefits weaken managers' economic rationale for opaque reporting we would expect the relation between opacity and firm value to be less positive when UI benefits are high. Accordingly, we empirically investigate these predictions by employing the following regression model where firm value, measured in terms of Tobin's Q, is regressed on both *UI* and *Opacity* along with their interaction term:

$$\begin{aligned} Tobin's\ Q_t = {} & b_0 + b_1 Opacity' \ High\ UI_t + b_2 Opacity_t + b_3 High\ UI_t + b_4 Cash\ Flow\ Volatility_t \\ & + b_5 Sales\ Volatility_t + b_6 Leverage_t + b_7 Log\ Sales_t + b_8 Return\ on\ Assets_t \\ & + b_9 Proportion\ of\ Fixed\ Assets_t + b_{10} Zscore_t + b_{11} Unemployment\ Rate_t \\ & + b_{12} GDP\ Growth_t + Firm\ and\ Year\ Fixed\ Effects + e \qquad Eq.\ (9) \end{aligned}$$

Table 10 presents the results of our estimation of equation (9). We present results for two alternative definitions of Tobin's Q that are widely used in the literature. In column (1), *Tobin's Q* is defined as market value of assets divided by the book value of assets. Market value of assets equals the book value of assets plus the market value of common stock less the sum of the book value of common stock and balance sheet deferred taxes. In column (2), *Tobin's Q* is defined as book value of liabilities plus the market value of common stock less the sum of the book value of common stock, balance sheet deferred taxes, preferred stocks, and investment tax credit, divided by the book value of assets.

The variable *High UI* takes the value of one if UI benefits are above the cross sectional median, and zero otherwise. The coefficient on the variable *Opacity* indicates the relation

between opacity and Tobin's Q when UI benefits are low. If firms engage in opaque financial reporting to minimize costly compensating wage differentials, we would expect the coefficient on *Opacity* to be positive. Moreover, if generous UI benefits reduce these costs and weaken the economic rationale for opacity, we would expect the coefficient on the interaction term *Opacity*×*High UI* to be negative.

As predicted, we find the coefficient on *Opacity* to be positive and significant in both columns A and B of Table 10 (β= 0.942 and 0.981, p<0.01 and <0.01, respectively), indicating that, when UI benefits are low, opacity is associated with managerial attempts to preserve firm value. Moreover, we find the coefficient on the interaction term *Opacity*×*High UI* to be significantly negative (β= -0.669 and -0.634, p<0.01 and <0.05, respectively). This suggests that firm-value-driven incentives for opaque financial reporting is lower when UI benefits are more generous and as a result costs of compensating wage differentials are likely lower. The results reported in Table 10 provide direct evidence on our conjecture that opacity due to unemployment concerns is driven by managers' attempts to maximize firm value by minimizing costly compensating wage differentials.

[Insert Table 10]

5. Conclusion

The labor economics theory on compensating wage differentials suggests that firms have incentives to reduce the actual and/or perceived unemployment risk of workers because, ex-ante, this would lower the cost of compensating the workers. Given that standard setters identify employees as a key user group of financial statements, it is important to examine whether the unemployment concerns of workers affect financial reporting opacity.

Using exogenous inter-state cross-sectional and intra-state time-series variations in US UI benefits to identify changes in unemployment concerns, we show that more generous state UI benefits, which reduce workers' concerns about unemployment risk, result in less opaque financial reporting by firms. This effect of UI benefits on financial reporting opacity is interesting because it is likely to be an unintended outcome of state-level labor policies. It is hard to imagine that policy makers, in their deliberations about UI policies, consider firm-level financial reporting consequences of their policy decisions. To add richness to our study about the effect of UI benefits on financial reporting opacity, we show that the relation is stronger when workers face higher unemployment risk, workers' labor union participation is high and top executives have high equity incentives. Consistent with our conjecture that opacity is an outcome of managers' attempts to minimize compensating wage differential costs, we show that opacity is positively related to firm value when UI benefits are low and that this relation weakens as UI benefits become more generous.

Reverse causality and endogeneity are serious concerns that preclude the researcher from making strong causal inferences in empirical studies in financial economics. While our study is not completely devoid of these concerns, we believe that our institutional setting and research design choices allay them to a great extent. First, since we capture UI benefits at the state level, it is unlikely that reverse causality explains our results as it is difficult to conjecture a situation where UI benefits at the state level are affected by financial reporting quality at the firm level. We further substantiate this conjecture by showing that opacity is not associated with future UI benefits.

Second, while it is conceptually plausible to conjecture broader economic factors affecting both UI benefits and the firms' accounting quality and thereby raising concerns over

omitted correlated variables, it appears that from a practical standpoint changes in UI benefits are driven more by political considerations rather than underlying economics. For example, in the state of Florida, maximum UI benefits remained constant over the period of 1998-2011 despite notable fluctuations of the economy whereas states such as Connecticut and Massachusetts increased their UI benefits almost annually during the same period. Lending support to this notion, Agrawal and Matsa (2013) report that in contrast to broader economic indicators, there are no regional trends in UI benefits. Moreover, in all our analyses, we control for state-level unemployment and GDP growth rates to capture state-wide economic conditions and employ year fixed effects to control for broad time series trends.[23] Third, as expected, we obtain stronger results by removing industries with more dispersed workforces from our analyses. Fourth, rendering support for a causal relation, we obtain expected results for all our cross sectional tests. Fifth, in line with broader conjectures of our paper, we show that opacity is positively associated with firm value when UI benefits are low and that this association is tempered by the presence of more generous UI benefits.

How firms' financial reporting outcomes are shaped by concerns of rank and file members of the workforce is an important, yet under-researched issue in the corporate disclosure literature. Meanwhile, both labor economists and regulators alike are likely interested in the broader, unintended effects of labor market interventions such as UI programs. In this light, we believe this paper to be of interest to a broad array of audiences. While our paper indicates a link between UI benefits and accruals-based financial reporting decisions, it is plausible that UI benefits influence other decisions related to disclosure such as real earnings management and earnings guidance. We leave the exploration of such issues to future research.

[23] We also employ firm fixed effects to ensure that results are not driven by time invariant firm factors.

References

Abowd, J. and O. Ashenfelter. 1981. Anticipated unemployment, temporary layoffs, and compensating wage differentials. In: Rosen, S. (Ed.), Studies in Labor Markets, University of Chicago Press, Chicago, IL, pp. 141-170.

Acemoglu, D., and R. Shimer. 2000. Productivity gains from unemployment insurance. *European Economic Review* 44: 1195-1224.

Agrawal, A. and D. Matsa. 2013. Labor unemployment risk and corporate financing decisions. *Journal of Financial Economics* 108: 449-470.

Armstrong, C., D. Larcker, G. Ormazabal, and D. Taylor. 2013. The relation between equity incentives and misreporting: The role of risk-taking incentives. *Journal of Financial Economics* 109: 327-350.

Balduzzi, P., E. Elton, and T. Green. 2001. Economic news and bond prices: Evidence from the U.S. treasury market. *Journal of Financial and Quantitative Analysis* 36: 523-543.

Botosan, C. 1997. Disclosure level and the cost of equity capital. *The Accounting Review* 72: 323-350.

Chemmanur, T., Y. Cheng, and T. Zhang. 2013. Human capital, capital structure, and employee pay: An empirical analysis. *Journal of Financial Economics* 110: 478-502.

Cheng, Q. and T. Warfield. 2005. Equity incentives and earnings management. *The Accounting Review* 80: 441-476.

Core, J. and W. Guay. 2002. Estimating the value of employee stock option portfolios and their sensitivities to price and volatility. *Journal of Accounting Research* 40: 613-630.

Dechow, P., R. Sloan, and A. Sweeney. 1995. Detecting earnings management. *The Accounting Review* 70: 193-225.

Dechow, P. and I. Dichev. 2002. The quality of accruals and earnings: The role of accruals estimation errors. *The Accounting Review* 77: 35-59.

Diamond, P. 1982. Aggregate demand management in search equilibrium. *Journal of Political Economy* 90: 881-894.

Dou, Y., M. Khan, and Y. Zou. 2015. Labor unemployment insurance and earnings management. *Journal of Accounting and Economics*, forthcoming.

Engen, E. and J. Gruber. 2001. Unemployment insurance and precautionary saving. *Journal of Monetary Economics* 47: 545-579.

Fischer, P. and R. Verrecchia. 2000. Reporting bias. *The Accounting Review* 75: 229-245.

Francis, J., R. LaFond, P. Olsson, and K. Schipper. 2004. Costs of equity and earnings attributes. *The Accounting Review* 79: 967-1010.

Francis, J., R. LaFond, P. Olsson, and K. Schipper. 2005. The market pricing of accruals quality. *Journal of Accounting and Economics* 39: 295-327.

Goldman, E. and S. Slezak. 2006. An equilibrium model of incentive contracts in the presence of information manipulation. *Journal of Financial Economics* 80: 603-626.

Gormley, D., H. Liu, and G. Zhou. 2010. Limited participation and consumption-saving puzzles: A simple explanation and the role of insurance. *Journal of Financial Economics* 96: 331-344.

Graham, J. R., C. R. Harvey, and S. Rajgopal. 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics* 40: 3-73.

Gruber, J. 1997. The consumption smoothing benefits of Unemployment Insurance. *American Economic Review* 87: 192-205.

Hall, B. and J. Liebman. 2000. The taxation of executive compensation. In: Poterba, J., (Ed.), Tax Policy and the Economy, vol. 14, MIT Press, Cambridge, MA, pp. 1-44.

Hamermesh, D. and J. Wolfe. 1990. Compensating wage differentials and the duration of wage loss. *Journal of Labor Economics* 9: 175-197.

Hamm, S., M. Jung, and W. Lee. 2013. Labor unions and income smoothing. Working paper, Ohio State University.

Harris, M. and B. Holmstrom. 1982. A theory of wage dynamics. *Review of Economic Studies* 49: 315-333.

Healy, P. M. 1985. The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics*, 7(1), 85-107.

Healy, P. and J. Wahlen. 1999. A review of the earnings management literature and its implications for standard setting. *Accounting Horizons* 13: 365-383.

Hribar, P., and D. W. Collins. 2002. Errors in estimating accruals: Implications for empirical research. *Journal of Accounting research*, 105-134.

Hribar, P. and C. Nichols. 2007. The use of unsigned earnings quality measures in tests of earnings management. *Journal of Accounting Research* 45: 1017-1053.

Hsu, J., D. Matsa, and B. Melzer. 2014. Positive externalities of social insurance: Unemployment insurance and consumer credit. Working paper, National Bureau of Economic Research.

Hutton, A., A. Marcus, and H. Tehranian. 2009. Opaque financial reports, R^2, and crash risk. *Journal of Financial Economics* 94: 67-86.

John, K., L. Lang, and J. Netter. 1992. The voluntary restructuring of larger firms in response to performance decline. *Journal of Finance* 47: 891-917.

Jones, J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29: 193-228.

Kirschenheiter, M. and N. Melumad. 2002. Can "big bath" and earnings smoothing co-exist as equilibrium financial reporting strategies? *Journal of Accounting Research* 40: 761-796.

Kothari, S. P. 2001. Capital markets research in accounting. *Journal of Accounting and Economics* 31: 105-231.

Lazear, E. 2003. Firm-specific human capital: A skill-weights approach. *Journal of Political Economy* 117: 914-940.

Li, E. 1986. Compensating differentials for cyclical and noncyclical unemployment: The interaction between investors' and employees' risk aversion. *Journal of Labor Economics* 4: 277-300.

McNichols, M. 2002. Discussion of the quality of accruals and earnings: The role of accrual estimation errors. *The Accounting Review* 77: 61-69.

Moore, M. 1995. Unions, employment risks, and market provision of employment risk differentials. *Journal of Risk and Uncertainty* 10: 57-70.

Mortensen, D. 1986. Job search and labor market analysis. In: Ashenfelter, O., Layard, R., Richard, P., Layard, G., Card, D., (Eds.), Handbook of Labor Economics, vol. 2, Elsevier, Amsterdam, pp. 849-919.

Ng, J. 2011. The effect of information quality on liquidity risk. *Journal of Accounting and Economics* 52: 126-143.

Ofek, E. 1993. Capital structure and firm response to poor performance: An empirical analysis. *Journal of Financial Economics* 34: 3-30.

Shivakumar, L. 2000. Do firms mislead investors by overstating earnings before seasoned equity offerings? *Journal of Accounting and Economics*, 29(3), 339-371.

Topel, R. 1983. On layoffs and unemployment insurance. *American Economic Review* 73: 541-559.

Topel, R. 1984. Equilibrium earnings, turnover, and unemployment: New evidence. *Journal of Labor Economics* 2: 500-522.

Viscusi, W. 1980. Union, labor market structure, and the welfare implications of the quality of work. *Journal of Labor Research* 1: 175-192.

Wanberg, C. 2012. The individual experience of unemployment. *Annual Review of Psychology* 63: 369-396.

Table 1 Panel A: Average Unemployment Insurance Benefits by State

State	Max Weekly Benefit	Max Duration	Unemployment Insurance	State	Max Weekly Benefit	Max Duration	Unemployment Insurance
Alabama	204.32	26.00	5312.27	Montana	295.77	26.73	7972.82
Alaska	332.36	26.00	8641.45	Nebraska	240.91	26.00	6263.64
Arizona	208.64	26.00	5424.55	Nevada	298.86	26.00	7770.45
Arkansas	330.73	25.95	8578.14	New Hampshire	310.14	26.00	8063.55
California	328.18	26.00	8532.73	New Jersey	450.82	26.00	11721.27
Colorado	361.77	26.00	9406.09	New Mexico	306.86	26.00	7978.45
Connecticut	474.00	26.00	12324.00	New York	360.45	26.00	9371.82
Delaware	304.32	26.00	7912.27	North Dakota	305.77	26.00	7950.09
District of Columbia	336.27	26.00	8743.09	North Carolina	378.09	26.00	9830.36
Florida	264.77	25.86	6846.59	Ohio	407.50	26.00	10595.00
Georgia	263.64	26.00	6854.55	Oklahoma	295.09	26.00	7672.36
Hawaii	410.23	26.00	10665.91	Oregon	378.82	26.00	9849.27
Idaho	291.09	26.00	7568.36	Pennsylvania	440.05	26.00	11441.18
Illinois	411.82	25.95	10682.32	Rhode Island	513.36	26.00	13347.45
Indiana	293.45	26.00	7629.82	South Dakota	229.09	26.00	5956.36
Iowa	343.55	26.00	8932.18	South Carolina	259.73	25.73	6664.00
Kansas	327.45	26.00	8513.82	Tennessee	246.36	26.00	6405.45
Kentucky	314.55	26.00	8178.18	Texas	313.23	26.00	8143.91
Louisiana	227.86	26.00	5924.45	Utah	339.55	26.00	8828.18
Maine	400.55	26.00	10414.18	Vermont	308.05	26.00	8009.18
Maryland	298.05	26.00	7749.18	Virginia	281.45	26.00	7317.82
Massachusetts	692.86	30.00	20785.91	Washington	436.18	28.55	12311.45
Michigan	325.05	25.73	8352.45	West Virginia	339.95	26.00	8838.82
Minnesota	423.59	26.00	11013.36	Wisconsin	307.23	26.00	7987.91
Mississippi	195.91	26.00	5093.64	Wyoming	297.05	26.00	7723.18
Missouri	238.64	25.73	6117.27				

Table 1 Panel B: Average Unemployment Insurance Benefits by Year

		Max Weekly Benefit		Max Duration		Unemployment Insurance	
Year	N	Mean	Median	Mean	Median	Mean	Median
1991	2740	247.51	228	26.26	26	6537.27	5928
1992	2725	258.87	231	26.25	26	6835.53	6006
1993	2884	270.06	250	26.26	26	7135.36	6500
1994	3060	277.56	250	26.27	26	7341.66	6500
1995	3258	282.36	265	26.27	26	7471.43	6890
1996	3510	286.32	263	26.27	26	7576.75	6838
1997	3676	294.94	272	26.29	26	7818.89	7072
1998	3564	305.00	281	26.29	26	8084.90	7306
1999	3557	316.90	290	26.30	26	8399.46	7540
2000	3459	322.76	297	26.29	26	8553.87	7722
2001	3207	348.89	300	26.31	26	9274.60	7800
2002	3165	380.18	330	26.33	26	10115.47	8580
2003	2972	395.95	370	26.33	26	10521.52	9620
2004	2829	406.45	410	26.32	26	10788.10	10660
2005	2686	422.96	426	26.24	26	11184.36	11076
2006	2589	429.04	442	26.24	26	11337.64	11492
2007	2458	445.45	450	26.25	26	11793.19	11700
2008	2397	456.36	450	26.26	26	12093.51	11700
2009	2243	468.40	450	26.25	26	12416.36	11700
2010	2148	473.90	450	26.25	26	12552.25	11700
2011	2069	476.67	450	26.24	26	12622.11	11700
2012	1990	486.45	450	25.89	26	12767.58	11700

Panel A (B) shows the distribution of maximum weekly benefit and maximum number of weeks allowed by state (year) for the sample period 1991-2012. UI is the average of the maximum unemployment benefit allowed, defined as the product of the maximum weekly benefit times the maximum number of weeks allowed.

Table 2 Panel A: Summary Statistics

Dependent Variables	N	Mean	Standard Deviation	25th Percentile	Median	75th Percentile
Opacity	63,186	0.232	0.249	0.101	0.171	0.288
UI Variable						
UI	63,186	9.083	0.353	8.799	9.054	9.308
Control Variables						
Cash Flow Volatility	63,186	0.095	0.161	0.034	0.058	0.103
Sales Volatility	63,186	0.223	0.233	0.087	0.155	0.273
Log Sales	63,186	5.143	2.213	3.673	5.158	6.655
Market to Book	63,186	3.588	24.181	1.175	1.969	3.397
Return on Assets	63,186	0.010	0.241	-0.012	0.067	0.121
Proportion of Fixed Assets	63,186	0.008	0.033	0.000	0.000	0.000
Leverage	63,186	0.447	0.968	0.007	0.131	0.438
Z-score	63,186	1.037	3.981	0.769	1.859	2.693
Unemployment Rate	63,186	5.947	1.907	4.629	5.444	6.846
GDP Growth	63,186	5.014	2.720	3.530	5.130	6.910

Table 2 Panel B: Correlation Matrix

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*
(1) Opacity	1.00	-0.02	0.25	0.20	-0.30	0.06	-0.32	-0.07	-0.04	-0.27	-0.02	0.01
(2) UI	-0.05	1.00	0.02	-0.07	0.08	0.00	-0.06	-0.19	-0.09	-0.10	0.10	-0.29
(3) Cash Flow Volatility	0.47	-0.02	1.00	0.24	-0.35	0.07	-0.43	-0.06	-0.08	-0.40	0.00	0.01
(4) Sales Volatility	0.28	-0.08	0.42	1.00	-0.14	0.03	-0.11	-0.05	0.01	-0.05	-0.05	0.05
(5) Log Sales	-0.39	0.10	-0.53	-0.19	1.00	-0.04	0.50	0.02	0.09	0.43	0.03	-0.08
(6) Market to Book	0.04	0.05	0.09	0.00	0.04	1.00	-0.10	-0.01	-0.03	-0.10	0.01	0.01
(7) Return on Assets	-0.28	-0.05	-0.36	-0.13	0.47	0.24	1.00	0.06	0.02	0.75	-0.01	0.02
(8) Proportion of Fixed Assets	-0.09	-0.22	-0.11	-0.06	0.03	-0.06	0.07	1.00	0.06	0.07	0.11	0.02
(9) Leverage	-0.13	-0.14	-0.25	-0.03	0.26	-0.37	-0.05	0.12	1.00	0.04	-0.05	-0.02
(10) Z-score	-0.23	-0.09	-0.28	0.01	0.43	-0.06	0.69	0.11	-0.02	1.00	-0.04	0.03
(11) Unemployment Rate	-0.02	0.07	-0.02	-0.04	0.02	-0.01	-0.03	0.18	-0.05	-0.03	1.00	-0.46
(12) GDP Growth	0.02	-0.30	0.05	0.04	-0.08	0.08	0.04	-0.01	0.01	0.01	-0.41	1.00

This table presents summary statistics of the variables used in the study. Panel A presents descriptive statistics and Panel B presents the Pearson (Spearman) correlations in the upper (lower) diagonal. *Opacity* is from Hutton et al. (2009) and is the sum of absolute discretionary accruals from years t-1 to t+1. *UI* is the log of maximum total benefits. *Cash Flow Volatility* is the standard deviation of operating cash flows. *Sales Volatility* is the standard deviation of sales. *Log Sales* is the log of sales. *Market to Book* is market value of equity divided by book value of equity. *Return on Assets* is earnings before extraordinary items scaled by lag total assets. *Proportion of Fixed Assets* is the PP&E scaled by total assets. *Leverage* is total debt scaled by market value of equity. *Z-score* is the modified Altman Z-score. *Unemployment Rate* is state-level unemployment rate. *GDP Growth* is state-level growth in GDP.

Table 3: Impact of Unemployment Insurance

	(1) *Opacity*	(2) *Opacity*
UI	**-0.031****	**-0.044*****
	(0.014)	**(0.013)**
Cash Flow Volatility	0.072***	0.074***
	(0.019)	(0.022)
Sales Volatility	0.079***	0.100***
	(0.012)	(0.013)
Log Sales	-0.006	-0.004
	(0.005)	(0.004)
Market to Book	0.000*	0.000*
	(0.000)	(0.000)
Return on Assets	-0.125***	-0.121***
	(0.023)	(0.022)
Proportion of Fixed Assets	-0.013	-0.008
	(0.027)	(0.033)
Leverage	-0.002	-0.000
	(0.002)	(0.002)
Z-score	0.002	0.001
	(0.001)	(0.001)
Unemployment Rate	0.001	0.001
	(0.002)	(0.002)
GDP Growth	0.000	0.000
	(0.001)	(0.001)
	Firm and Year Fixed Effects Included	
Observations	63,186	53,614
R-squared	0.405	0.404

This table presents regression results on reporting opacity. *Opacity* is from Hutton et al. (2009) and is the sum of absolute discretionary accruals from years t-1 to t+1. *UI* is the log of maximum total benefits. Control variables are defined in Table 2. Industries with a dispersed workforce are excluded in column (2). We report coefficient estimates and standard errors (in parentheses) based on robust standard errors clustered by state. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels (two-tailed), respectively.

Table 4: Role of Firm Risk

	Low Z-score	High Z-score	Low Cash Flows	High Cash Flows	High UI Payment Rates	Low UI Payment Rates
	(1)	(2)	(3)	(4)	(5)	(6)
	Opacity	*Opacity*	*Opacity*	*Opacity*	*Opacity*	*Opacity*
UI	**-0.049*** **	**-0.012**	**-0.035***	**-0.014**	**-0.080*** **	**0.015**
	(0.017)	**(0.020)**	**(0.019)**	**(0.023)**	**(0.015)**	**(0.026)**
Cash Flow Volatility	0.043**	0.204**	0.046**	0.195*	0.072**	0.058*
	(0.017)	(0.076)	(0.019)	(0.105)	(0.028)	(0.033)
Sales Volatility	0.091***	0.058***	0.066***	0.063***	0.072***	0.107***
	(0.018)	(0.016)	(0.013)	(0.016)	(0.010)	(0.024)
Log Sales	-0.001	-0.018***	-0.001	-0.015***	0.005	-0.008
	(0.006)	(0.004)	(0.005)	(0.005)	(0.004)	(0.008)
Market to Book	0.000	0.001**	0.000	0.000**	0.000***	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Return on Assets	-0.154***	0.023	-0.110***	-0.147**	-0.129**	-0.148***
	(0.022)	(0.031)	(0.026)	(0.059)	(0.049)	(0.024)
Proportion of Fixed Assets	0.080	-0.033	-0.004	-0.007	0.000	-0.027
	(0.066)	(0.031)	(0.059)	(0.025)	(0.000)	(0.346)
Leverage	-0.001	-0.002	-0.008***	0.001	0.003	-0.002
	(0.002)	(0.002)	(0.002)	(0.004)	(0.007)	(0.001)
Z-score	0.002	0.005*	0.001	0.002	0.001	0.004*
	(0.001)	(0.003)	(0.002)	(0.008)	(0.002)	(0.002)
Unemployment Rate	0.001	0.002	0.004	-0.000	-0.000	0.000
	(0.003)	(0.001)	(0.004)	(0.001)	(0.002)	(0.003)
GDP Growth	-0.000	0.001	0.001	0.000	-0.003	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
			Firm and Year Fixed Effects Included			
Observations	31,405	31,781	31,492	31,694	24,987	23,508
R-squared	0.495	0.338	0.542	0.270	0.230	0.534

This table presents regression results on firm risk. *Opacity* is from Hutton et al. (2009) and is the sum of absolute discretionary accruals from years t-1 to t+1. *UI* is the log of maximum total benefits. We split the sample into high and low z-score, cash flows, and UI payment rates based on the sample median of *Z-score*, *Operating Cash Flows*, and UI payment rates. UI payment is the number of UI claims scaled by state population. Control variables are defined in Table 2. We report coefficient estimates and standard errors (in parentheses) based on robust standard errors clustered by state. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels (two-tailed), respectively.

Table 5: Role of Labor Unions

	High Union Membership	Low Union Membership	High Collective Bargaining Power	Low Collective Bargaining Power
	(1)	(2)	(3)	(4)
	Opacity	*Opacity*	*Opacity*	*Opacity*
UI	**-0.038****	**-0.009**	**-0.035****	**-0.032**
	(0.016)	**(0.024)**	**(0.015)**	**(0.022)**
Cash Flow Volatility	0.079***	0.067*	0.072***	0.080*
	(0.019)	(0.035)	(0.017)	(0.040)
Sales Volatility	0.068***	0.085***	0.067***	0.083***
	(0.011)	(0.025)	(0.012)	(0.024)
Log Sales	0.000	-0.011	-0.002	-0.009
	(0.004)	(0.007)	(0.003)	(0.008)
Market to Book	0.000	0.000**	0.000	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)
Return on Assets	-0.098***	-0.140***	-0.083***	-0.170***
	(0.034)	(0.023)	(0.029)	(0.032)
Proportion of Fixed Assets	0.001	-0.033	0.006	-0.027
	(0.033)	(0.048)	(0.033)	(0.048)
Leverage	-0.003*	-0.002*	-0.003*	-0.003**
	(0.002)	(0.001)	(0.002)	(0.001)
Z-score	-0.002	0.003	-0.003*	0.005***
	(0.002)	(0.002)	(0.001)	(0.002)
Unemployment Rate	-0.000	0.002	-0.001	0.002
	(0.002)	(0.002)	(0.002)	(0.003)
GDP Growth	-0.001	0.001*	-0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
		Firm and Year Fixed Effects Included		
Observations	32,238	30,948	31,590	31,596
R-squared	0.361	0.513	0.348	0.518

This table presents regression results on union intensity. *Opacity* is from Hutton et al. (2009) and is the sum of absolute discretionary accruals from years t-1 to t+1. *UI* is the log of maximum total benefits. We split the sample into high and low union membership and collective bargaining power based on the sample median of union membership and employee bargaining power. Union membership is the percentage of employees that are union members. Collective bargaining power is the percentage of employees covered by collective bargaining agreements. Control variables are defined in Table 2. We report coefficient estimates and standard errors (in parentheses) based on robust standard errors clustered by state. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels (two-tailed), respectively.

Table 6: Role of Executive Equity Incentives

	High Equity Incentives	Low Equity Incentives
	(1)	(2)
	Opacity	*Opacity*
UI	**-0.059*** **	**-0.019**
	(0.021)	**(0.040)**
Cash Flow Volatility	0.456***	0.332***
	(0.123)	(0.070)
Sales Volatility	0.039**	0.063***
	(0.015)	(0.016)
Log Sales	0.001	-0.010**
	(0.010)	(0.005)
Market to Book	0.000**	0.001
	(0.000)	(0.001)
Return on Assets	-0.135	-0.170***
	(0.097)	(0.033)
Proportion of Fixed Assets	0.147	0.001
	(0.132)	(0.074)
Leverage	-0.004	0.000
	(0.010)	(0.003)
Z-score	-0.000	-0.001
	(0.001)	(0.005)
Unemployment Rate	-0.000	-0.003
	(0.002)	(0.002)
GDP Growth	-0.000	0.001
	(0.001)	(0.001)
	Firm and Year Fixed Effects Included	
Observations	7,764	13,908
R-squared	0.526	0.465

This table presents regression results on executive equity incentives. *Opacity* is from Hutton et al. (2009) and is the sum of absolute discretionary accruals from years t-1 to t+1. *UI* is the log of maximum total benefits. We split the sample into high and low equity incentives, where equity incentives is defined as the sensitivity to stock price (i.e. delta) and stock volatility (i.e. vega) for the firm's top five executives. The high equity incentives sample includes firm-years with vega and delta above the median. Firm-years with delta and vega below the sample median are classified as low equity incentives. Control variables are defined in Table 2. We report coefficient estimates and standard errors (in parentheses) based on robust standard errors clustered by state. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels (two-tailed), respectively.

Table 7: Controlling for Future Unemployment Insurance

	(1) *Opacity*	(2) *Opacity*
UI (t)	**-0.055****	**-0.063*****
	(0.021)	**(0.017)**
UI (t+1)	**0.029**	**0.023**
	(0.020)	**(0.022)**
UI (t+2)	**-0.005**	**-0.006**
	(0.009)	**(0.009)**
Cash Flow Volatility	0.073***	0.075***
	(0.018)	(0.022)
Sales Volatility	0.078***	0.098***
	(0.012)	(0.013)
Log Sales	-0.007	-0.004
	(0.005)	(0.004)
Market to Book	0.000	0.000
	(0.000)	(0.000)
Return on Assets	-0.122***	-0.118***
	(0.021)	(0.021)
Proportion of Fixed Assets	-0.010	-0.005
	(0.027)	(0.033)
Leverage	-0.002	-0.000
	(0.002)	(0.002)
Z-score	0.002	0.001
	(0.001)	(0.001)
Unemployment Rate	0.002	0.001
	(0.002)	(0.002)
GDP Growth	0.000	0.000
	(0.001)	(0.001)
	Firm and Year Fixed Effects Included	
Observations	61,196	51,880
R-squared	0.387	0.378

This table presents regression results controlling for future unemployment benefits. *Opacity* is from Hutton et al. (2009) and is the sum of absolute discretionary accruals from years t-1 to t+1. *UI* is the log of maximum total benefits. Industries with a dispersed workforce are excluded in column (2). Control variables are defined in Table 2. We report coefficient estimates and standard errors (in parentheses) based on robust standard errors clustered by state. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels (two-tailed), respectively.

Table 8: Impact of Recent Increases in Unemployment Insurance

	Increase	No Increase
	(1)	(2)
	Opacity	*Opacity*
UI	**-0.073***	**-0.020**
	(0.043)	**(0.016)**
Cash Flow Volatility	0.043*	0.129***
	(0.025)	(0.027)
Sales Volatility	0.070***	0.086***
	(0.013)	(0.021)
Log Sales	-0.009*	-0.007
	(0.005)	(0.006)
Market to Book	0.000	0.000
	(0.000)	(0.000)
Return on Assets	-0.112***	-0.122***
	(0.036)	(0.020)
Proportion of Fixed Assets	-0.002	-0.016
	(0.038)	(0.033)
Leverage	-0.001	-0.002
	(0.003)	(0.002)
Z-score	0.001	0.004**
	(0.003)	(0.001)
Unemployment Rate	-0.001	0.001
	(0.003)	(0.003)
GDP Growth	0.001	-0.000
	(0.001)	(0.001)
	Firm and Year Fixed Effects Included	
Observations	35,518	27,668
R-squared	0.365	0.518

This table presents regression results on changes in UI. *Opacity* is from Hutton et al. (2009) and is the sum of absolute discretionary accruals from years t-1 to t+1. *UI* is the log of maximum total benefits. We split the sample based on whether UI increased from the prior year. Control variables are defined in Table 2. We report coefficient estimates and standard errors (in parentheses) based on robust standard errors clustered by state. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels (two-tailed), respectively.

Table 9: Impact of Unemployment Insurance with Alternative Measures of Opacity

	(1) *AQ*	(2) *AQ*	(3) *Modified_Opacity*	(4) *Modified_Opacity*
UI	**-0.008*** **	**-0.012*** **	**-0.014** **	**-0.018** **
	(0.003)	**(0.003)**	**(0.007)**	**(0.007)**
Cash Flow Volatility	0.018**	0.018*	0.030**	0.031*
	(0.009)	(0.009)	(0.014)	(0.017)
Sales Volatility	0.020***	0.022***	0.032***	0.039***
	(0.002)	(0.003)	(0.006)	(0.008)
Log Sales	-0.001*	-0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)
Market to Book	0.000**	0.000**	0.000**	0.000**
	(0.000)	(0.000)	(0.000)	(0.000)
Return on Assets	-0.023***	-0.020***	-0.007	-0.005
	(0.004)	(0.004)	(0.017)	(0.019)
Proportion of Fixed Assets	0.016**	0.013	0.020	0.025*
	(0.007)	(0.009)	(0.012)	(0.015)
Leverage	0.001	0.001*	-0.001***	-0.001*
	(0.000)	(0.000)	(0.000)	(0.000)
Z-score	-0.000	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.002)	(0.002)
Unemployment Rate	0.000	0.000	-0.001	-0.002*
	(0.000)	(0.000)	(0.001)	(0.001)
GDP Growth	0.000**	0.000**	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
		Firm and Year Fixed Effects Included		
Observations	43,608	36,735	63,186	53,614
R-squared	0.501	0.500	0.762	0.760

This table presents regression results on alternative measures of opacity. *AQ* is from the Dechow-Dichev (2002) model and is the standard deviation of residuals from firm-specific regressions of working capital on past, present, and future cash flows from years t-1 to t+1. $Modified\_Opacity_t$ is the mean of absolute abnormal accruals from t to t+n-1, where t+n is the first year of increase in unemployment benefits. *UI* is the log of maximum total benefits. Control variables are defined in Table 2. Industries with a dispersed workforce are excluded in column (2) and (4). We report coefficient estimates and standard errors (in parentheses) based on robust standard errors clustered by state. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels (two-tailed), respectively.

Table 10: Impact of Unemployment Insurance on Firm Value

	(1) *Tobin's Q*	(2) *Tobin's Q*
Opacity* × *High UI	**-0.669*** **	**-0.634** **
	(0.254)	**(0.249)**
Opacity	0.942***	0.981***
	(0.178)	(0.180)
High UI	0.111	0.103
	(0.086)	(0.087)
Cash Flow Volatility	0.954***	0.912***
	(0.269)	(0.271)
Sales Volatility	0.267***	0.288***
	(0.086)	(0.082)
Log Sales	-0.203***	-0.166***
	(0.047)	(0.046)
Return on Assets	0.986***	0.875***
	(0.209)	(0.211)
Proportion of Fixed Assets	-0.645**	-0.639**
	(0.284)	(0.279)
Leverage	-0.168***	-0.105***
	(0.021)	(0.017)
Z-score	-0.047**	-0.057***
	(0.019)	(0.020)
Unemployment Rate	-0.011	-0.008
	(0.021)	(0.021)
GDP Growth	0.029***	0.029***
	(0.009)	(0.009)
	Firm and Year Fixed Effects Included	
Observations	60,555	60,555
R-squared	0.498	0.485

This table presents regression results on firm value. In column (1), *Tobin's Q* is defined as market value of assets divided by the book value of assets. Market value of assets equals the book value of assets plus the market value of common stock less the sum of the book value of common stock and balance sheet deferred taxes. In column (2), Tobin's Q is defined as book value of liabilities plus the market value of common stock less the sum of the book value of common stock, balance sheet deferred taxes, preferred stocks, and investment tax credit, divided by the book value of assets. *Opacity* is from Hutton et al. (2009) and is the sum of absolute discretionary accruals from years t-1 to t+1. *High UI* is an indicator variable for firm-years with above median *UI*, where *UI* is the log of maximum total benefits. Control variables are defined in Table 2. We report coefficient estimates and standard errors (in parentheses) based on robust standard errors clustered by state. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels (two-tailed), respectively.