Financial Reporting Quality and Wage Differentials: Evidence from Worker-level Data

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Disclaimer

• Any opinions and conclusions expressed herein are those of the author(s) and do not necessarily represent the views of the U.S. Census Bureau. This research was performed at a Federal Statistical Research Data Center under FSRDC Project Number FSRDC1668. All results have been reviewed to ensure that no confidential information is disclosed.
Background

• What is an academic accountant?
• What are the core accounting research areas?
• New Sub-field: Firm Information & Non-Investor Stakeholders
Who matters in our paper?

Financial Reporting Quality

and Wage Differentials: Evidence

from Worker-level Data

Firm Information

Stakeholder
Important Definition

Financial Reporting Quality

- Measure of financial statements’ (e.g. income state) value and reliability; spans a continuum

- High FRQ:
  - relevant, correct, complete, and unbiased

- Low FRQ:
  - biased, incomplete, possibly pure fabrication
Tesla Chief Accounting Officer Dave Morton resigns after just a month, stock closes down 6 percent

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**KEY POINTS**

- Tesla's chief accounting officer Dave Morton resigns after a month on the job.

- In a statement in Tesla's recent 8K filing, Morton says he left Tesla because of "the level of public attention placed on the company."

- News of Morton's quick departure follows CEO Elon Musk's bizarre weed-and-whiskey interview with Joe Rogan.
Motivation

Investors price protect in response to low FRQ.

Substantial income dispersion across workers:

• Lots of variation in wages that is firm specific (i.e., tied to firm characteristics)
• Financial reporting quality is an important firm characteristic
Research Question

How does financial reporting quality shape the rank-and-file worker labor market and wage structure?
Challenges

• How can we distinguish between information quality vs. firm performance?

• When measuring wages, how do we account for a worker’s innate ability?
Findings

• Low financial reporting quality is associated with a compensating wage differential—i.e., a risk premium—even after controlling for worker characteristics.

• Two channels:
  • performance pay (workers bear risks from noise in performance measurement)
  • turnover risk (workers bear the risk of unemployment)
Data

• We use the LEHD and Compustat to create a employer-employee matched panel.

• We use the LBD and Compustat to create a firm-link establishment level data set
Univariate Results

Low FRQ

High FRQ

Low FRQ: 10.88
10.74
10.66
10.64

High FRQ: 10.90
10.85
10.80
10.75
10.70
10.65
10.60
10.55
10.50
Employer-Employee Panel Research Design

\[
\ln(Wages_{i,t}) = \beta_{FRQ} \times \text{Financial Reporting Quality}_{f(i,t-1), t-1} \\
+ \beta_f \times X_{f(i,t-1), t-1} + \beta_i \times X_{i,t} + \theta_i + \psi_{f(i,t-1)} + \varepsilon_{i,t} 
\] (1)

- Adopted Abowd, Kramarz, and Margolis (1999)
- Time-varying worker and firm characteristics
- Worker fixed-effect and firm fixed-effect to capture unobserved time-invariant characteristics
- Connected set
Main Results

- Abnormal Accruals are indicative of “bad” FRQ
- Wages increase in as FRQ decreases

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>(1) ( \text{Ln}(Wages_t) )</th>
<th>(2) ( \text{Ln}(Wages_t) )</th>
<th>(3) ( \text{Ln}(Wages_t) )</th>
<th>(4) ( \text{Ln}(Wages_t) )</th>
<th>(5) ( \text{Ln}(Wages_t) )</th>
</tr>
</thead>
<tbody>
<tr>
<td>\text{Abnormal Accruals}_{t-1}</td>
<td>0.173** (0.068)</td>
<td>0.140*** (0.032)</td>
<td>0.024* (0.014)</td>
<td>0.041*** (0.006)</td>
<td>0.016*** (0.006)</td>
</tr>
<tr>
<td>Fixed Effects</td>
<td>Firm Ind. &amp; Year</td>
<td>Est. Ind. × Year × County</td>
<td>Est. Ind. × Year × County &amp; Firm</td>
<td>Est. Ind. × Year × County &amp; Individual</td>
<td>Est. Ind. × Year × County &amp; Individual</td>
</tr>
<tr>
<td>Observations</td>
<td>11,700,000</td>
<td>11,700,000</td>
<td>11,700,000</td>
<td>11,700,000</td>
<td>11,700,000</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.265</td>
<td>0.513</td>
<td>0.555</td>
<td>0.934</td>
<td>0.935</td>
</tr>
</tbody>
</table>
Limitations of AKM Model

• The AKM model is helpful for identification purposes.

• However, when using such dense fixed effects, you might be throwing out the baby with the bathwater. In other words, you are throwing out the variation that matters.

• Solution: Two-Stage Regression
  • Stage 1: Regress wages on firm FE, worker variables, and worker FE.
  • Stage 2: Regress saved Firm FE on firm characteristics measured as averages
Magnitude

• One standard deviation decline in FRQ translates into a 2.2% increase in annual wages for the typical worker.

• The total change in labor costs for the average firm is + $3M, approximately the cost to be audited.
**Panel B: Pay for Performance Industries and Wage Differentials**

<table>
<thead>
<tr>
<th>Dependent Variable: Ln(Wages)</th>
<th>(1) Pay for Performance Regression Estimates</th>
<th>(2) Pay for Performance Regression Estimates</th>
<th>(3) Pay for Performance Survey</th>
<th>(4) Pay for Performance Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Above Median P-P Beta</td>
<td>Below Median P-P Beta</td>
<td>Above Median P-P Estab.</td>
<td>Below Median P-P Estab.</td>
</tr>
<tr>
<td>Abnormal Accruals (_{t-1})</td>
<td>0.204*** (0.051)</td>
<td>0.143*** (0.038)</td>
<td>0.256*** (0.061)</td>
<td>0.083*** (0.030)</td>
</tr>
</tbody>
</table>

- Wages are higher when we observe more performance pay
Channel: Turnover

Panel A: Net Hiring

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>(1) Absolute All Empl. Net Hire$_t$</th>
<th>(2) Absolute Full-time Empl. Net Hires$_t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal Accruals$_{t-1}$</td>
<td>0.042***</td>
<td>0.048***</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td>(0.011)</td>
</tr>
</tbody>
</table>

- Low FRQ generates turnover
- Our contention is that workers price protect in response to turnover risk
Cross Sectional Variation

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>(1) Worker Education Levels</th>
<th>(2) Worker Education Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-college</td>
<td>College</td>
</tr>
<tr>
<td>$\text{Abnormal Accruals}_{t-1}$</td>
<td>0.117***</td>
<td>0.172***</td>
</tr>
<tr>
<td>Controls</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Fixed Effects</td>
<td>EI $\times$ Y $\times$ C</td>
<td>EI $\times$ Y $\times$ C</td>
</tr>
<tr>
<td>Observations</td>
<td>8,122,000</td>
<td>3,576,000</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.461</td>
<td>0.442</td>
</tr>
</tbody>
</table>

- College educated workers are more sensitive to FRQ than workers who do not have a college degree
After the Enron collapse, the auditor Arthur Andersen was perceived as unreliable. Therefore, information produced by AA clients was deemed also unreliable. We see an increase in wages at former AA clients in the years after the Enron scandal.
Conclusion

• Workers demand a wage premium when employed at firms with low financial reporting quality

• Workers perceive performance pay risk and unemployment risk

• When we evaluate the costs and benefits of regulation, our analysis is typically limited to only firms and workers. We are missing other key stakeholders, like workers.
Thoughts on RDC Data

- The power of RDC data is amplified significantly by using external data.
- Lots of financial data at the firm level to exploit
- LEHD: Use only a sample of PIK to avoid disclosure issues
- You can use corporate events to get interesting variation.
Thank You!

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