

When Employees Speak Up: The Role of Confidential Witnesses in Shareholder Litigation of Financial Disclosure Fraud

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Research Questions

We examine the use of employee confidential witnesses (ECWs) in securities lawsuits alleging financial disclosure fraud.

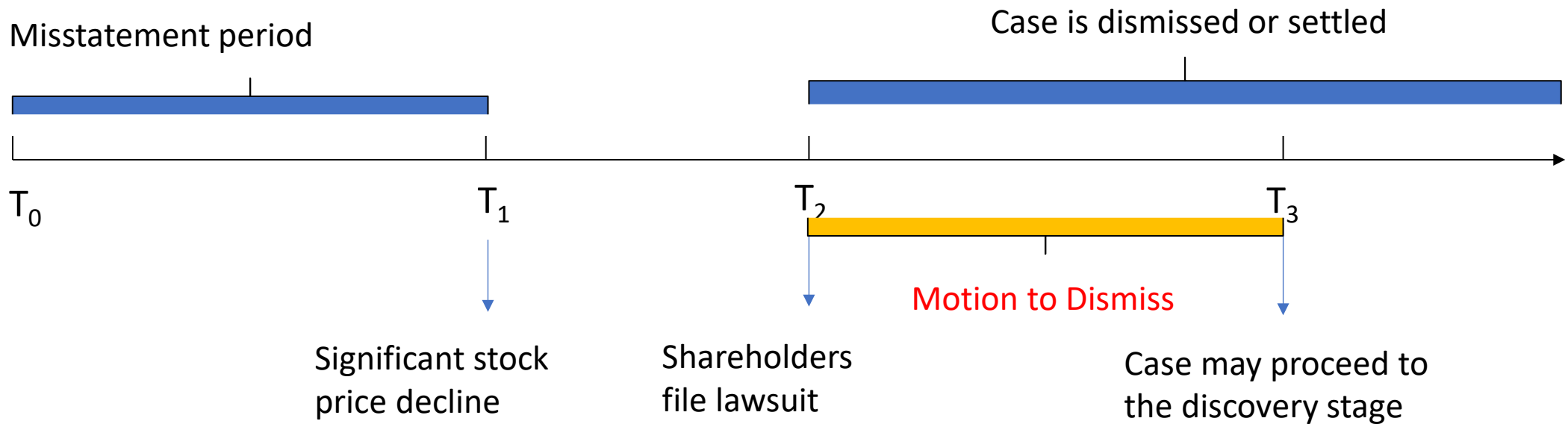
- (**Determinants**) What affects shareholders' use of ECWs?
- (**Consequences**) How does ECWs involvement related to the efficacy of shareholder litigation?

Background

Two mechanisms of keeping fraudulent financial disclosures at bay

- **Public enforcement** (e.g., actions by SEC, DOJ)
 - Investigation comes first.
 - Before filing, the agency may already have reviewed internal accounting records.
- **Private securities litigation** (aka securities class action, shareholder litigation)
 - Plaintiffs (i.e., shareholders) can only have access to internal and proprietary documents during the discovery stage.
 - However, under the Private Securities Litigation Reform Act (PSLRA), plaintiffs must present convincing evidence of management's intent to deceive before proceeding to discovery.
 - Reduce weak or abusive lawsuits.

Timeline of Private Securities Litigation



Motivation

- “Fraud” from the legal perspective:
 - Intent (scienter): managers knowingly or recklessly make statements that they believe otherwise.
 - Specifics of misstatements (particularity): What? How? When?
- **A seemingly closed loop**
 - Shareholders can obtain internal information to prove fraud in discovery, but they need to provide evidence of fraud before they are allowed to enter discovery.

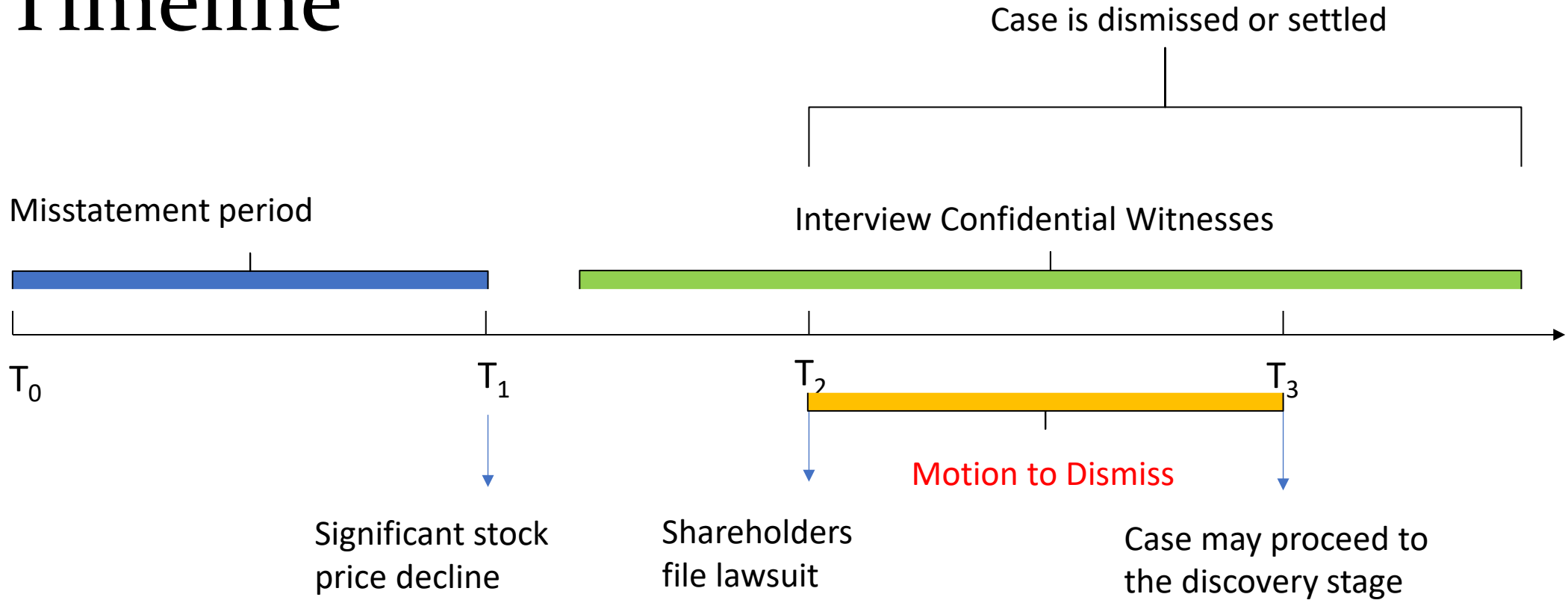


Motivation



- Do **employees** have the needed information to **break the loop**?
- If so, how do shareholders utilize this information source?

Timeline



Employee CWs vs. Whistleblowers

- Employee whistleblowers:
 - Expose misconduct.
- Employee confidential witnesses (ECWs):
 - Provide details that strengthen the legal complaint.
 - Provide information about which statement was misleading, why they were misleading, and how the misconduct was carried out. (particularity)
 - Provide evidence about *each and every defendant's knowledge*. (scienter)

Example of Employee CWs' Information

Johnson v. Tellabs, Inc. (2003)

- Allegation: Channel-stuffing (or over-inventorying)
 - Tellabs “over-inventoried its customers in order to falsely portray growing revenues and demand, and failed to disclose these facts to investors.”
 - Information provided by CWs:
 - Identify **specific customers** whom Tellabs allegedly over-inventoried: Telcobuy and Verizon.
 - Verizon's Chairman called Tellabs to **complain about the channel stuffing**.
 - Identify **the specific time periods** of the over-inventorying – the fourth quarter of 2000.
 - Defendants **worked directly with Tellabs' sales personnel** to effectuate the channel stuffing.
 - Tellabs engaged in these channel stuffing activities when **they did not even have an agreement** with the ultimate purchaser of the product.
- Court opinion: complaint is convincing “by particularizing the allegations and naming supporting confidential sources.”

What Do Employees Know?

- Some employees **have information about fraud**.
 - Employees are the most important fraud detectors after boards (Dyck et al., 2010).
 - Employee whistleblowers facilitate public enforcement actions (Call et al., 2018).
 - Employees reduce stock holdings during misstatement period (Gao and Jia, 2021).
 - Dodd-Frank Whistleblower Provision reduces fraud (Berger and Lee, 2022).
- Most employees, however, **do not have information**.
 - Employees learn from firms' public disclosures on earnings (deHaan et al., 2023; Hilary et al., 2023).
- Employees' statements could be **biased**, as they are often mistreated after fraud is revealed.
 - Revelation of fraud has severe negative consequences for employees (Choi and Gipper, 2024).

Involvement of Employee CWs

Determining Factors

- Plaintiffs' attorney's **cost-benefit considerations**
 - Public information about the misstatements.
 - Significant negative market events that suggest misstatements.
 - The availability of employees possessing misstatement-related information.
- **Employees' incentives** to speak up against their employers
 - New employees.
 - Employee satisfaction.

Determining Factors

Plaintiffs' attorney's cost-benefit considerations

The sufficiency of publicly available information about the underlying financial misstatements

- When public information adequately meets pleading standards, shareholders are less likely to incur additional costs to recruit Employee CWs.
- Shareholders' reliance on financial restatements and other public red flags of financial misstatements (Choi 2007).

H1a: The involvement of ECWs is negatively associated with public information of accounting irregularities.

Determining Factors

Plaintiffs' attorney's cost-benefit considerations

Significant negative market events that suggest potential misstatements

- Sophisticated market participants (e.g., short-sellers, analysts, and credit rating agencies) take negative actions against firms during misstatement periods (Joynt 2002, Desai et al. 2006, Karpoff and Lou 2010, Chen 2016, Huang et al. 2023).
- The signal in these negative market events reduces the cost of identifying specific employees who possess relevant information.

***H1b:** The involvement of ECWs is positively associated with the occurrence of significant negative market events.*

Determining Factors

Plaintiffs' attorney's cost-benefit considerations

The availability of employees possessing misstatement related information

- A larger employee base increases the probability that attorneys can find at least one worker who is willing to provide information of fraudulent activities while also lowering the search costs of finding such a witness.

H1c: The involvement of ECWs is positively associated with the population of employees possessing misstatement-related information.

Determining Factors

Employees' Incentives

- Costs: retaliation from employer is a real threat
 - Identity can be inferred even without a name.
 - Example:
“CW 9 was Director of Supply Chain and Global Order Fulfillment at Tellabs from 2004 to December 2011”
- Benefits:
 - CWs are **not** provided with financial incentives.
 - ?

Determining Factors

Employees' Incentives

The availability of new employees

- New hires are less susceptible to organizational conformity pressures and more likely to question supervisory decisions.
- New hires exhibit lower organizational loyalty.

H2a: The involvement of ECWs is positively associated with the population of new employees.

Determining Factors Employees' Incentives

Employee satisfaction

- Unsatisfaction with management leadership, compensation and welfare, and corporate culture leads to skepticism of management's ethics.
- Unsatisfied employees are more likely to view testifying against their employer as socially sanctioned and thus more willing to do so (Butler, Serra, and Spagnolo 2020).

***H2b:** The involvement of ECWs is negatively associated with employee satisfaction with their employers.*

Consequences of Using Employee CWs

Higher likelihood of settlement?

- Perhaps yes if employee CWs provide useful and credible information.
- Perhaps no if their information does not help or not considered reliable.
 - Lacking the link between employees' partial knowledge of the company and the overall financial condition.
 - Verification challenge.
 - Suspect of exaggeration.

H₃: The involvement of ECWs is positively associated with the likelihood of settlement in shareholder litigation.

Consequences of Using Employee CWs

Lengthier litigation?

- Information provided by ECWs is often soft (e.g., oral statements rather than documentary evidence).
- Courts may not immediately believe all of their claims, but may be willing to give plaintiffs more opportunities to gather more evidence and amend their complaints.

H₄: The involvement of ECWs is positively associated with the duration of shareholder litigation.

Proxies for Determining Factors

- **Public information about the misstatements**
 - Six events: (1) accounting restatements, (2) delayed SEC filings, (3) internal control weaknesses, (4) auditor changes, (5) top executive turnover, and (6) abnormal insider trading
- **Significant negative market events**
 - Severe negative actions taken by: (1) financial analysts, (2) credit rating agencies, and (3) short sellers
- **The availability of employees**
 - Labor intensity

Proxies for Determining Factors

- The availability of new employees
 - Workforce growth
- Employee satisfaction
 - Glassdoor ratings
 - Overall rating
 - Recommend status
 - Average ratings across five dimensions: (1) Culture & Values, (2) Work/Life Balance, (3) Senior Management, (4) Compensation and Benefits, and (5) Career Opportunities

Model Specification (Determinants)

$$\begin{aligned}
 ECW = & \beta_0 + \beta_1 \text{Public information of misstatements} \\
 & + \beta_2 \text{Significant negative market events} \\
 & + \beta_3 \text{Labor intensity} \\
 & + \beta_4 \text{Availability of new employees} \\
 & + \beta_5 \text{Employee satisfaction on employers} \\
 & + \sum \beta_i \text{Firm and misstatement characteristics} \\
 & + \text{Industry FE} + \text{Year FE} + \varepsilon_i,
 \end{aligned}
 \tag{1}$$

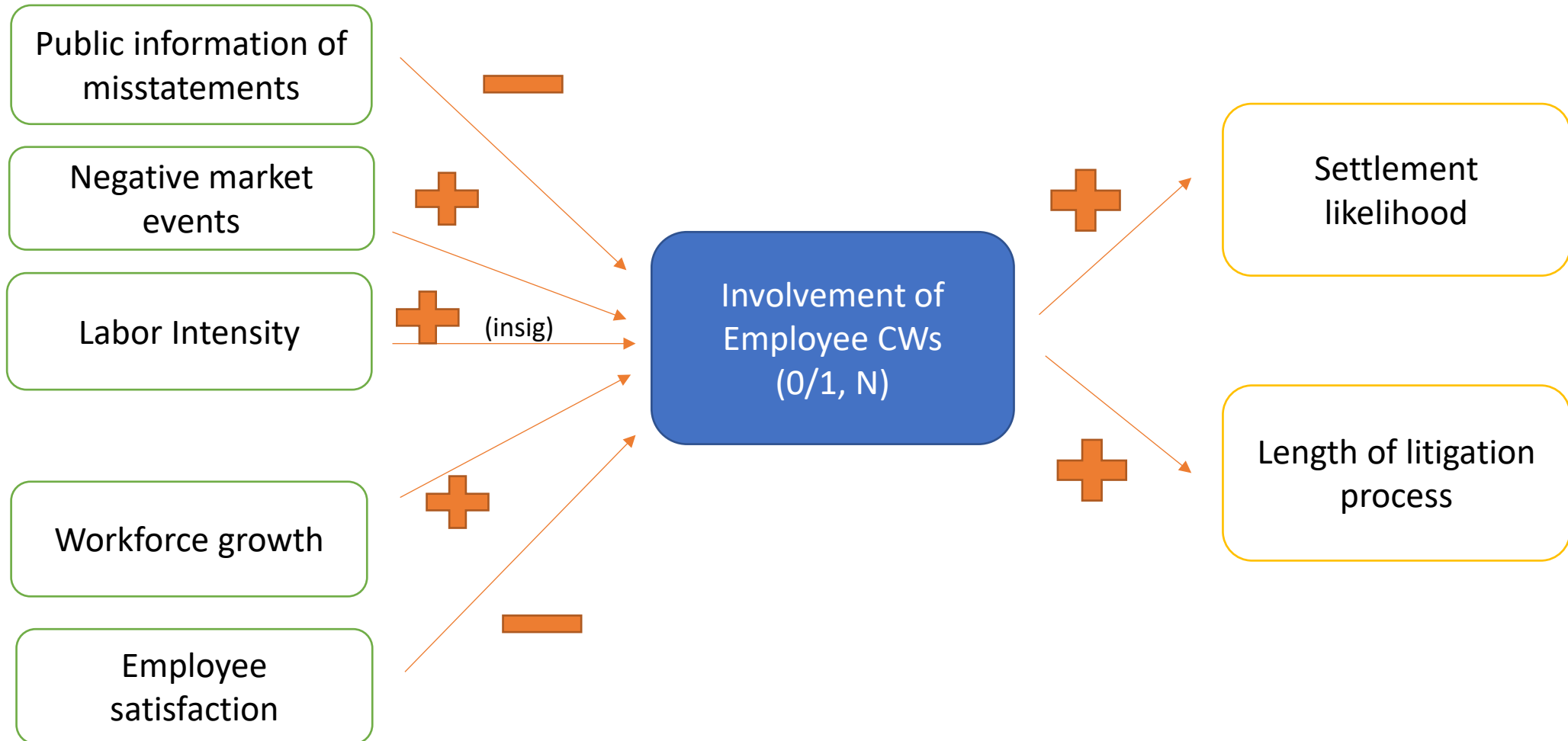
- *ECW*: the presence of ECW (*DECW*) or the count of ECW (*NECW*).
- **Firm and misstatement characteristics**: the most recent firm size ($\ln(AT)$), leverage (*Leverage*), market-to-book ratio (*MTB*), return on assets (*ROA*), institutional ownership (*InstOwn*), the length of class period (*Classlength*), potential investor loss during the misstatement period (*PIL*), abnormal market reactions surrounding class period ending dates (*CAR*), *FScore* based on Dechow et al. (2011), and the mentioning of whistleblowers in complaints (*Whistleblower*).

Model Specification (Consequences)

$$\begin{aligned} \textit{Consequence} = & \beta_0 + \beta_1 \textit{ECW} + \sum \beta_i \textit{Controls} + \textit{Industry FE} + \textit{Year FE} \\ & + \textit{Circuit FE} + \varepsilon_i, \end{aligned} \tag{2}$$

- *Consequence*: whether a lawsuit is settled (*Settle*) or duration of a lawsuit (*Duration*).

Preview of Empirical Results



Sample

- 1,447 securities class action lawsuits between 2002 and 2022
 - From Stanford Securities Class Action Clearinghouse
 - Exclude: non-Section 10(b), ongoing, before witnesses are allowed to be confidential, missing complaints, missing regression data
- Identifying lawsuits with employee CWs
 - Search keywords in complaint: e.g., **confidential witness/informant/resource, former employee**
 - Identify CWs who were employees: manual read
 - Employees of defendant firms or defendant firms' subsidiaries
 - Count number of employee CWs

Descriptive Statistics of Key Variables

	Full Sample			Settled	Dismissed	Diff (4)-(5)
	Mean (1)	Median (2)	Std (3)	Mean (4)	Mean (5)	(6)
<i>DECW</i>	0.448	0.000	0.497	0.528	0.380	0.148***
<i>NECW</i> (num)	2.648	0.000	4.422	3.299	2.095	1.205***
<i>NECW</i> (for cases with ECWs)	5.914	5.000	4.935	6.251	5.515	0.736**
<i>NECW</i> (in log)	0.776	0.000	0.959	0.938	0.637	0.301***
<i>Settle</i>	0.460	0.000	0.499	-	-	-
<i>Duration</i> (days)	1,042	925	662	1,397	741	656***
<i>Duration</i> (in log)	6.703	6.831	0.811	7.141	6.330	0.810***

- 45% suits have ECWs
- On average 5-6 ECWs per case

- More ECWs in settled cases
- Settled cases take 3-4 years to resolve

Determinants of ECWs Involvement

Dep Var =	<i>Prob (DECW=1)</i>	<i>NECW</i>
Public Information:		
<i>AcctEvent</i>	-0.156*** (-2.648)	-0.140** (-2.579)
<i>ExecTurnover</i>	-0.840*** (-2.931)	-0.478*** (-3.717)
<i>AbTrade</i>	-0.180*** (-2.777)	-0.151*** (-3.155)
Negative Events:		
<i>NegEvent</i>	0.119* (1.695)	0.083* (2.068)
Labor Intensity:		
<i>LaborIntense</i>	0.164 (1.557)	0.107 (1.618)
Workforce Growth:		
<i>%EmpChg</i>	0.266** (2.240)	0.201** (2.833)
Controls:		
#Cases	1,447	1,447
Filing Year FE	YES	YES
Industry FE	YES	YES
Pseudo R ²		
/Adj R ²	0.100	0.130

- More publicly available information, less likely to involve ECWs.

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Pseudo R ²		
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- More significant negative actions, more likely to involve ECWs.

Determinants of ECWs Involvement

Dep Var =	<i>Prob (DECW=1)</i>	<i>NECW</i>
Public Information:		
<i>AcctEvent</i>	-0.156*** (-2.648)	-0.140** (-2.579)
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Industry FE	YES	YES
Pseudo R ²		
/Adj R ²	0.100	0.130

- Higher labor intensity, more likely to involve ECWs, although not statistically significant.

Determinants of ECWs Involvement

Dep Var = Ratings =	<i>Prob (DECW=1)</i>			<i>NECW</i>		
	<i>Overall Rating</i> (1)	<i>Recommend Status</i> (2)	<i>Ave Rating</i> (3)	<i>Overall Rating</i> (4)	<i>Recommend Status</i> (5)	<i>Ave Rating</i> (6)
<i>%EmpChg</i>	0.532*** (3.454)	0.542*** (3.492)	0.538*** (3.417)	0.392** (2.834)	0.400** (2.898)	0.393** (2.848)
<i>Ratings</i>	-0.199*** (-3.322)	-0.299*** (-2.656)	-0.273*** (-4.377)	-0.134*** (-4.168)	-0.211*** (-4.495)	-0.168*** (-5.359)
<i>AcctEvent</i>	-0.109 (-0.868)	-0.114 (-0.934)	-0.113 (-0.892)	-0.137 (-1.479)	-0.142 (-1.569)	-0.139 (-1.519)
<i>ExecTurnover</i>	-0.589 (-1.422)	-0.623 (-1.501)	-0.579 (-1.393)	-0.461* (-1.879)	-0.484* (-1.986)	-0.458* (-1.876)
<i>AbTrade</i>	-0.244** (-2.309)	-0.234** (-2.196)	-0.251** (-2.316)	-0.131* (-1.776)	-0.124 (-1.656)	-0.135* (-1.848)
<i>NegEvent</i>	0.153 (1.271)	0.150 (1.225)	0.154 (1.308)	0.125 (1.758)	0.123 (1.705)	0.126* (1.804)
<i>Whistleblower</i>	0.093 (0.367)	0.095 (0.369)	0.090 (0.357)	0.123 (0.687)	0.124 (0.682)	0.123 (0.693)
<i>LaborIntense</i>	0.330*** (3.295)	0.335*** (3.412)	0.314*** (3.125)	0.217*** (3.348)	0.220*** (3.458)	0.209*** (3.193)
Controls	YES	YES	YES	YES	YES	YES
#Cases	629	629	629	629	629	629
Filing Year FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Pseudo/Adj. R ²	0.111	0.112	0.114	0.120	0.122	0.121

- Higher workforce growth, more likely to involve ECWs.

Determinants of ECWs Involvement

Dep Var = Ratings =	<i>Prob (DECW=1)</i>			<i>NECW</i>		
	<i>Overall Rating</i>	<i>Recommend Status</i>	<i>Ave Rating</i>	<i>Overall Rating</i>	<i>Recommend Status</i>	<i>Ave Rating</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>%EmpChg</i>	0.532*** (3.454)	0.542*** (3.492)	0.538*** (3.417)	0.392** (2.834)	0.400** (2.898)	0.393** (2.848)
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Controls	YES	YES	YES	YES	YES	YES
#Cases	629	629	629	629	629	629
Filing Year FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Pseudo/Adj. R ²	0.111	0.112	0.114	0.120	0.122	0.121

- Higher employee satisfaction, less likely to involve ECWs.

Linking underlying Misstatements to type of ECWs

- GAAP violations—ECWs more likely to be accountants?
- Revenue recognition violations—ECWs more likely to be sales?

Allegations and ECWs Job Positions

CW Positions:	<i>Accounting</i>	<i>Non-Accounting</i>	<i>Sales</i>	<i>Non-Sales</i>
	(1)	(2)	(3)	(4)
<i>GAAP</i>	1.378*** (0.000)	0.336** (0.030)		
<i>Revenue</i>			1.025*** (0.000)	0.456** (0.025)
Determinants of the use of ECWs Controls	YES YES	YES YES	YES YES	YES YES
#Cases		1,447		1,447
Pseudo R ²		0.152		0.129
<i>Test: GAAP (1) = (2)</i>		$\chi^2 = 19.20***$ (0.000)		
<i>Test: Revenue (3) = (4)</i>			$\chi^2 = 4.95**$ (0.026)	

Consequence analysis

- Involvement of ECWs is associated with **higher settlement likelihood**.
 - Increase by 12%.
- Involvement of ECWs is associated with **longer litigation process**.
 - Increase by 38%, or 342 days.
- Robust to using an entropy balancing approach

Dep Var =	<i>Settle</i> (1)	<i>Settle</i> (2)	<i>Duration</i> (3)	<i>Duration</i> (4)
<i>DECW</i>	0.312*** (4.573)		0.322*** (11.930)	
<i>NECW</i>		0.185*** (4.842)		0.162*** (9.059)
<i>Settle</i>			0.733*** (18.729)	0.731*** (18.306)
<i>AcctEvent</i>	0.148** (2.460)	0.159*** (2.658)	-0.079 (-1.684)	-0.073 (-1.518)
<i>AbTrade</i>	0.050 (0.210)	0.050 (0.204)	0.214* (1.939)	0.201 (1.703)
<i>ExecTurnover</i>	-0.080 (-1.069)	-0.072 (-1.005)	-0.002 (-0.042)	0.002 (0.037)
<i>NegEvent</i>	0.024 (0.313)	0.024 (0.307)	0.006 (0.104)	0.006 (0.109)
<i>Whistleblower</i>	0.503*** (4.681)	0.495*** (4.532)	0.071 (1.103)	0.063 (0.983)
<i>LaborIntense</i>	0.026 (0.234)	0.024 (0.218)	0.047 (0.834)	0.048 (0.870)
<i>%EmpChg</i>	0.116 (1.367)	0.108 (1.354)	0.001** (2.501)	0.002*** (3.276)
Controls	YES	YES	YES	YES
#Cases	1,441	1,441	1,441	1,441
Pseudo R ² /Adj R ²	0.121	0.123	0.362	0.358

Information content of ECW statements

- **Scienter**: information about defendants' intent to deceive
 - Example
 - “*CW X was personally told of the unlawful agreement by defendant Y.*”
- **Particularity**: details of the misstatement
 - What; where; when; how much; how

Distribution of information content of ECW statements

	<i>Particularity</i>					
	No		Yes		Total	
<i>Scienter</i>						
No	80	[12.3%]	169	[26.1%]	249	[38.4%]
Yes	90	[13.9%]	309	[47.7%]	399	[61.6%]
Total	170	[26.2%]	478	[73.8%]	648	

- Detecting intent to defraud is more challenging than observing details of the misstatement

ECW statements and settlement/duration

Dep Var =	<i>Settle</i>			<i>Duration</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>DECW_Scienter</i>	0.207** (2.280)			0.281*** (8.760)		
<i>DECW_Particular</i>		0.283*** (4.055)			0.303*** (9.990)	
<i>DECW_ScienterOnly</i>			0.257** (2.118)			0.202*** (3.969)
<i>DECW_ParticularOnly</i>			0.366*** (2.583)			0.246*** (6.608)
<i>DECW_Both</i>			0.283*** (2.961)			0.367*** (9.057)
<i>Settle</i>				0.751*** (17.596)	0.741*** (18.096)	0.738*** (17.814)
<i>Determinants</i>	YES	YES	YES	YES	YES	YES
<i>Controls</i>	YES	YES	YES	YES	YES	YES
#Cases	1,441	1,441	1,441	1,441	1,441	1,441
Filing Year FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
Circuit FE	YES	YES	YES	YES	YES	YES
Pseudo/Adj R ²	0.115	0.118	0.120	0.349	0.354	0.359

Main Takeaways and Contributions

- **Plaintiffs' cost-benefit considerations** and **employees' incentives** contribute to the use of employee confidential witnesses in private securities litigation.
- Employee confidential witnesses **help shareholders recover damages** from financial disclosure fraud.
- **Contributions**
 - The role of **employees in disciplining misstatements** above and beyond whistleblowing (Dyck et al., 2010; Stubben and Welch, 2020; Berger and Lee, 2022).
 - **Mechanisms that enhance efficacy of shareholder litigation** in disciplining misstatements (Cheng et al., 2010; Deng et al., 2014; Hopkins, 2018; Houston et al., 2019; Brochet and Srinivasan, 2014).

Thank You!

Comments are welcome!

Example Case with Whistleblower and CW

Steamfitters Local 449 Pension Fund v. Advanta Corp.

- Employee whistleblower:
 - Informed the regulator (FDIC) about the company's misconducts.
- Employee CWs:
 - Each defendant had personal knowledge that the company's disclosures were false and misleading.
 - A senior internal auditor confirmed that “Chief Credit Officer and **defendant Carroll** had already reported to other defendants, i.e., that Collections staff were improperly and purposely indicating in the records that past due accounts had been paid, when in fact they were not, in order to **effectively conceal the true proportions of Advanta's delinquent receivables.**”
 - “Specific facts are alleged to show that all Management Defendants were aware of...”

Whistleblower Literature and Our Study

- Importance:
 - 17% fraud was exposed by employee whistleblowers (Dyke et al., 2010).
 - 45% lawsuits involved employee **CWs** in our study.
- Determinants:
 - Whistleblowers target firms that are larger, with higher growth, with more recent layoff (Bowen et al., 2010).
 - Our research question: what affects shareholders' use of employee CWs?
- Consequences:
 - Whistleblowing leads to less misreporting (Wilde, 2017).
 - Involvement of whistleblowers in public enforcement actions lead to more severe penalties (Call et al., 2018).
 - Our research question: how does involvement of employee **CWs** affect **private** enforcement actions of securities regulation?

Yearly Distribution

Year	Full Sample		
	#Cases	# Cases with ECW	%ECW
2002	12	3	25%
2003	29	12	41%
2004	30	12	40%
2005	51	33	65%
2006	61	24	39%
2007	70	44	63%
2008	89	44	49%
2009	67	43	64%
2010	68	42	62%
2011	67	36	54%
2012	83	46	55%
2013	95	53	56%
2014	90	46	51%
2015	98	24	24%
2016	112	36	32%
2017	114	44	39%
2018	111	35	32%
2019	104	38	37%
2020	60	20	33%
2021	28	10	36%
2022	8	3	38%
Total	1,447	648	45%

Involvement of Employee CWs

Determining Factors

The presence of whistleblowers

- (-) Reliable whistleblower information can reduce plaintiffs' evidence-gathering costs.
- (+) Many whistleblowers make unsubstantiated accusations (Fan et al. 2025).
- (+) Whistleblowers' allegations focus on exposing misstatements rather than establishing liability for specific executives.

H3: The involvement of ECWs is positively associated with the presence of whistleblowers.

	Full Sample			Settled	Dismissed	Diff	<i>p</i> -value
	Mean	Median	Std	Mean	Mean	(4)–(5)	
	(1)	(2)	(3)	(4)	(5)	(6)	
<i>DECW</i>	0.448	0.000	0.497	0.528	0.380	0.148	0.000
<i>NECW</i> (raw)	2.648	0.000	4.422	3.299	2.095	1.205	0.000
<i>NECW</i> (in log)	0.776	0.000	0.959	0.938	0.637	0.301	0.000
<i>Settle</i>	0.460	0.000	0.499	1.000	0.000	1.000	0.000
<i>Duration</i> (raw)	1,042	925	662	1,397	741	656	0.000
<i>Duration</i> (in log)	6.703	6.831	0.811	7.141	6.330	0.810	0.000
<i>Restatement</i>	0.135	0.000	0.342	0.167	0.109	0.058	0.001
<i>LateFiling</i>	0.135	0.000	0.342	0.150	0.121	0.029	0.109
<i>ICW</i>	0.171	0.000	0.376	0.195	0.150	0.046	0.021
<i>AuditorTurnover</i>	0.096	0.000	0.295	0.117	0.078	0.039	0.012
<i>AcctEvent</i>	0.307	0.000	0.461	0.350	0.270	0.081	0.001
<i>AbTrade</i>	0.005	0.000	0.111	0.005	0.005	0.000	0.942
<i>ExecTurnover</i>	0.357	0.000	0.479	0.362	0.353	0.009	0.708
<i>NegRecom</i>	0.215	0.000	0.411	0.230	0.202	0.028	0.196
<i>NegCRA</i>	0.091	0.000	0.287	0.095	0.087	0.008	0.608
<i>ABSI</i>	0.209	0.000	0.407	0.220	0.199	0.020	0.350
<i>NegEvent</i>	0.425	0.000	0.495	0.429	0.422	0.007	0.801
<i>Whistleblower</i>	0.088	0.000	0.284	0.120	0.061	0.059	0.000
<i>LaborIntense</i>	0.248	0.000	0.432	0.250	0.247	0.003	0.902
<i>%EmpChg</i>	0.171	0.070	0.358	0.195	0.152	0.043	0.022
<i>CAR</i>	-0.231	-0.188	0.192	-0.251	-0.215	-0.036	0.000
<i>PIL</i>	0.972	0.639	1.252	1.093	0.869	0.225	0.001
<i>ClassLength</i>	5.737	5.811	1.021	5.788	5.693	0.095	0.076
<i>FScore</i>	-6.077	-6.006	0.852	-5.986	-6.153	0.167	0.000
<i>Ln(AT)</i>	7.194	7.001	2.350	7.047	7.320	-0.273	0.028
<i>Leverage</i>	0.252	0.187	0.266	0.257	0.247	0.011	0.448
<i>MTB</i>	4.390	2.798	9.070	4.218	4.536	-0.317	0.507
<i>ROA</i>	-0.092	0.017	0.388	-0.102	-0.084	-0.018	0.371
<i>InstOwn</i>	0.495	0.585	0.393	0.482	0.506	-0.024	0.244
<i>OverallRating</i>	3.165	3.213	0.640	3.012	3.290	-0.278	0.000
<i>RecommendStatus</i>	0.077	0.121	0.455	-0.026	0.161	-0.188	0.000
<i>AveRating</i>	3.094	3.100	0.565	2.962	3.203	-0.241	0.000

Distribution of Misstatement Allegations and ECWs Job Positions

	# Cases	%
Allegations:		
Accounting (GAAP Violations)	460	32%
– Revenue-Related Misstatements	201	14%
Non-Accounting	987	68%
Total	1,447	100%
ECW Position in:		
Accounting	151	23%
Sales	199	31%
– Both Accounting and Sales	52	8%
Non-Accounting/non-sales	350	54%
Total	648	100%

Information content of ECW testimonies

In Re: Acuity Brands Inc. Securities Litigation

“Former Acuity employees also described multiple specific transactions involving large amounts of prematurely shipped product at quarter-end. For example, CW 16 recalled one project involving Primary Corporate Account #1, one of Acuity's major corporate accounts. CW 16 stated that Acuity supplied over seventy Primary Corporate Account #1 mall and parking lot projects around the U.S. in 2015 and 2016. During this timeframe, CW 16 stated that Acuity prematurely shipped products to projects in California and on the East Coast in order to meet quarter and year-end sales goals. CW 16 stated that the prematurely shipped orders involved all types of LED fixtures, including indoor and outdoor, and also included “smart” lighting products. CW 16 stated her belief that the premature shipments involved orders ranging from \$200 thousand up to \$1 million.”

Information content of ECW testimonies

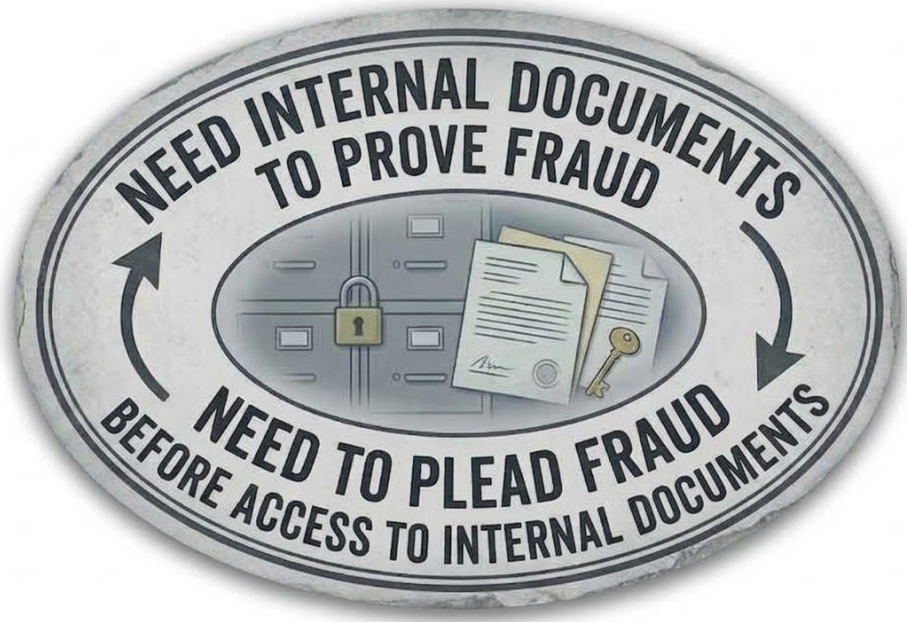
In Re: Acuity Brands Inc. Securities Litigation

- **What:** *prematurely shipped products to projects in California and on the East Coast in order to meet quarter and year-end sales goals.*
- **When:** *in 2015 and 2016.*
- **Where:** *California and on the East Coast.*
- **How:** *prematurely shipped products [...] the prematurely shipped orders involved all types of LED fixtures, including indoor and outdoor, and also included “smart” lighting products.*
- **How much:** *ranging from \$200 thousand up to \$1 million.*

ECW and Settlement

	Settled		Total
DECW	0	1	
0	485	314	799
1	297	351	648
Total	782	665	1,447

Motivation



- Do **employees** have the needed information to **break the loop**?
- If so, how do shareholders utilize this information source?