Reputation and the Invisible Hand: Financial Misconduct Research

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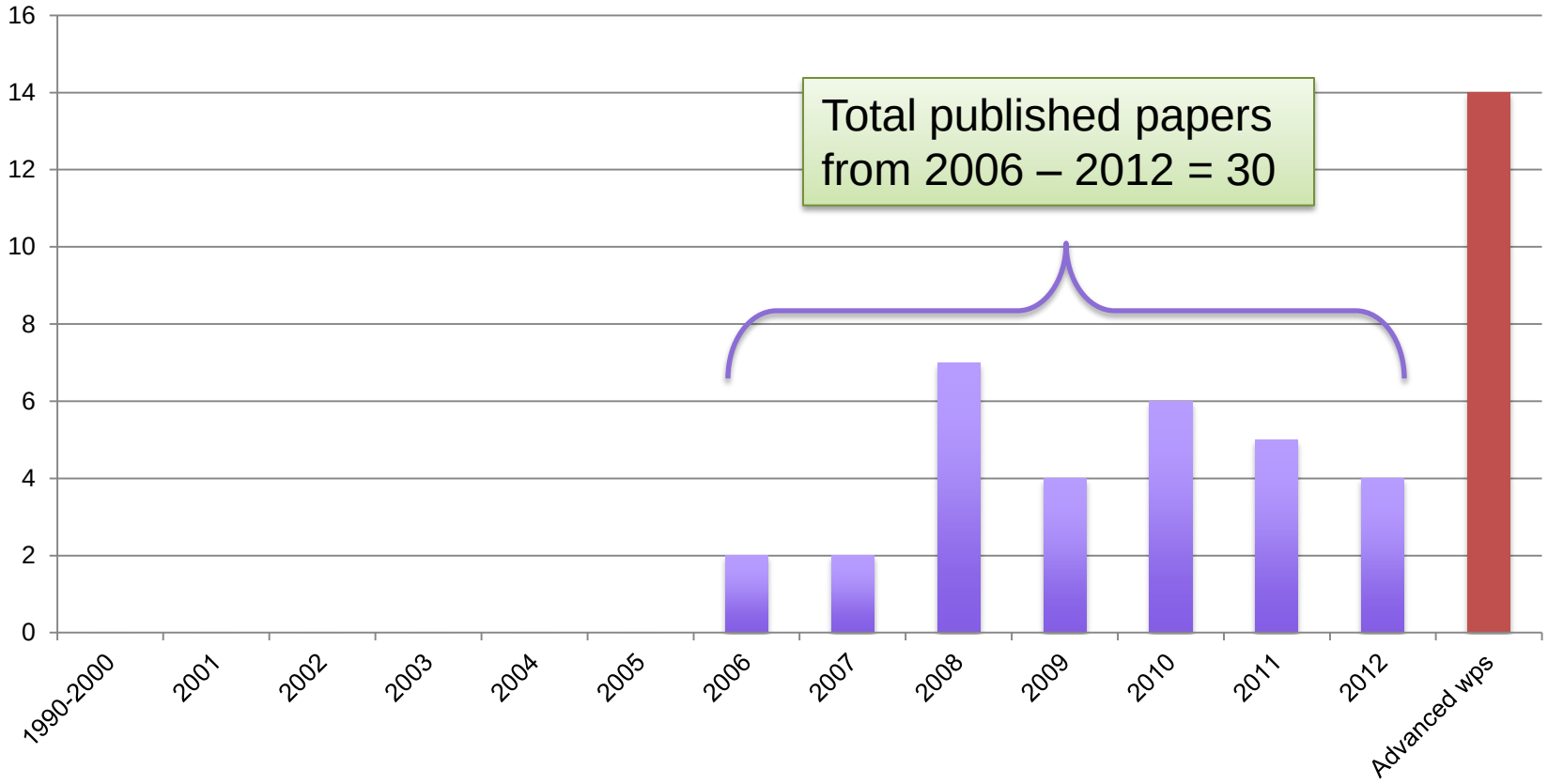
Jonathan M. Karpoff
WAMU Chair in Innovation
Foster School of Business
University of Washington

Foster School of Business
UNIVERSITY of WASHINGTON

Financial misconduct papers in finance outlets (JF, JFE, RFS, JFQA, Other)



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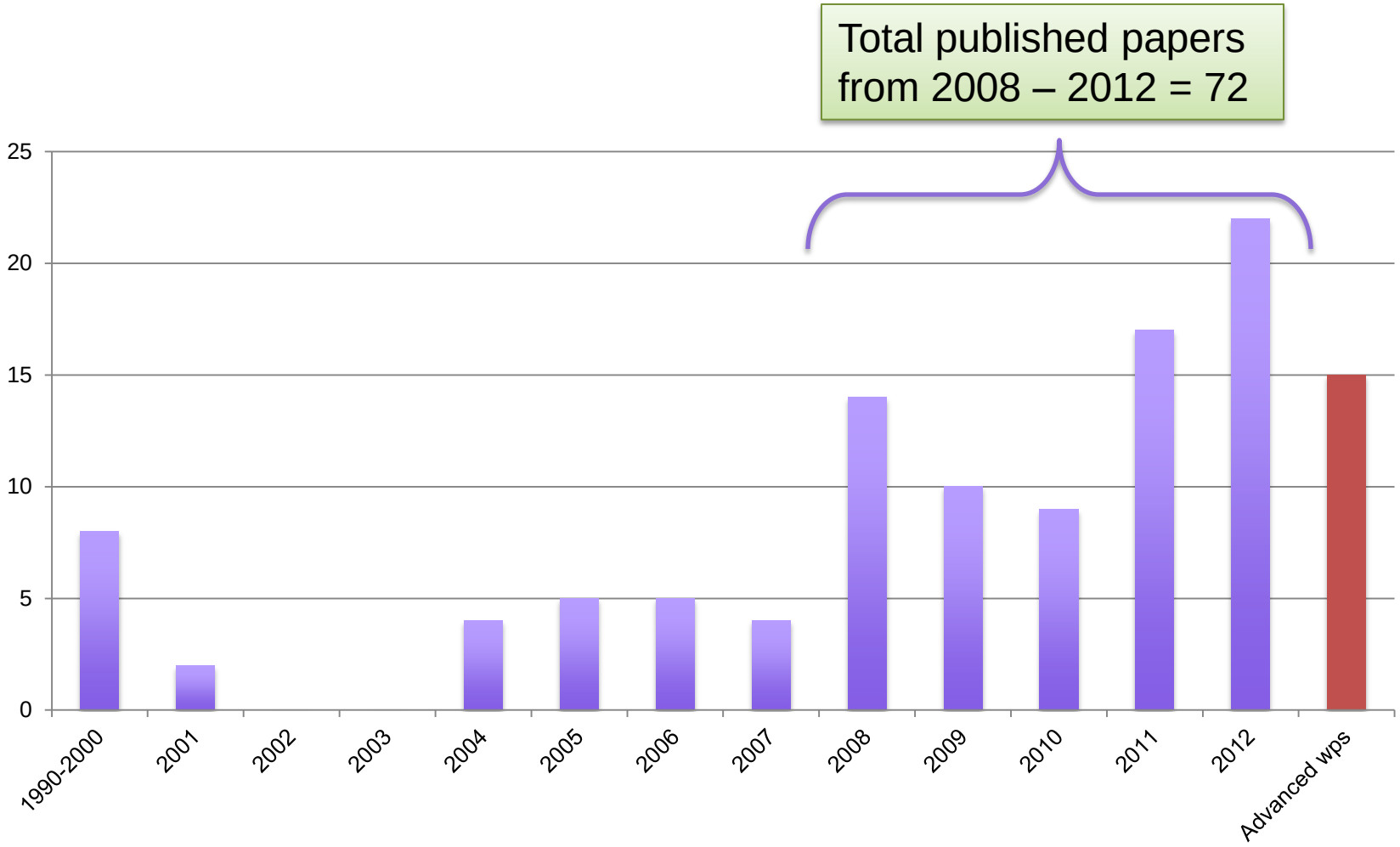
Financial misconduct papers in accounting outlets (JAE, JAR, TAR, CAR, RAS, Other)



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Everyone likes a good crime story…

… But why is research into misconduct so hot *now*?

Two central reasons

1. Misconduct events allow us to **identify tests** about corporate governance, financial reporting, market efficiency, reputation, and regulation.
2. Availability of **electronic data** on misconduct (or “fraud”) events.

Identification is more than a statistical criterion:
Adam Smith's invisible hand

"[Each person] generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it … he intends only his own gain, and he is in this … led by an **invisible hand** to promote an end which was no part of his intention… By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it."

– *Adam Smith*

(IV.ii.6-9, page 456 of the 1776 Glasgow Edition of Smith's works; vol. IV, ch. 2, p. 477 of 1776 U. of Chicago Edition.)

Not ***always***? When does the pursuit of self-interest not promote society's interest?

Monopolies

Externalities

Distributional concerns

Behavioral biases

… What else?

What about liars, cheats, and thieves?

Former Tyco International CEO Dennis Kozlowski

– “One of theTop 25 Managers of the Year” (*Business Week* magazine in 2001)

– Now ***Prisoner 05A4820****, in jail*

What to do?

- "A more activist SEC is what's needed."

  – *The Christian Science Monitor*

- "It's time to stop coddling white-collar crooks. Send them to jail ... Enough is enough: They lie, they cheat, they steal and they've been getting away with it for too long."

  – *Fortune magazine*

Now here's a solution…

"The first thing we do, let's kill all the lawyers."

– William Shakespeare, in *Henry VI*

"…[L]et's kill all the accountants."

– *New York Daily News*

The economic problem

- Fraudulent, deceptive, and opportunistic behaviors are difficult to control.
  - Information and contracts are costly
  - Contracts are incomplete
  - Contracts are costly to enforce
- Buyers demand discounts, and sellers demand premiums, for the expected amount of cheating by their counterparties (Akerlof's lemons problem).

… Leading to the Marxist problem.

- That's *Groucho* Marx:

  "I don't want to trade with anyone who is willing to trade with me…"

Akerlof's lemons problem à la Dilbert

What keeps it all together?

Why is fraud not the norm in most transactions?

What deters fraud: Three legs of a stool…

1. Regulations and regulators
2. Personal ethics and integrity
3. **Market forces**
   - Repeat contracting, trust, and reputation

Obvious once you point it out, but underappreciated

This is where misconduct research has power

- Misconduct events are the **counterexamples** in which governance, reporting, monitoring, and/or market efficiency break down.
- They facilitate research into how and where governance, reporting, monitoring, and markets work.

Examples of recent insights from misconduct research

- Reputation (i.e., market penalties) is the primary deterrent to financial misconduct and consumer fraud; legal penalties are the primary deterrent to bribery and environmental violations (survey paper 2012).
- Internal governance works faster and with less cost than external sanctions for managerial misconduct (papers with Lee and Martin JFE 2008, and with Hazarika and Nahata JFE 2012).
- Short sellers yield large external monitoring benefits (Dyck, Morse, Zingales JF 2010; paper with Lou JF 2010).
- The cost of capital depends on firm reputation and financial transparency (Graham, Li, and Qiu JFE 2008; Murphy, Shrieves, and Tibbs JFQA 2009).

Why is misconduct research so hot?
Data availability

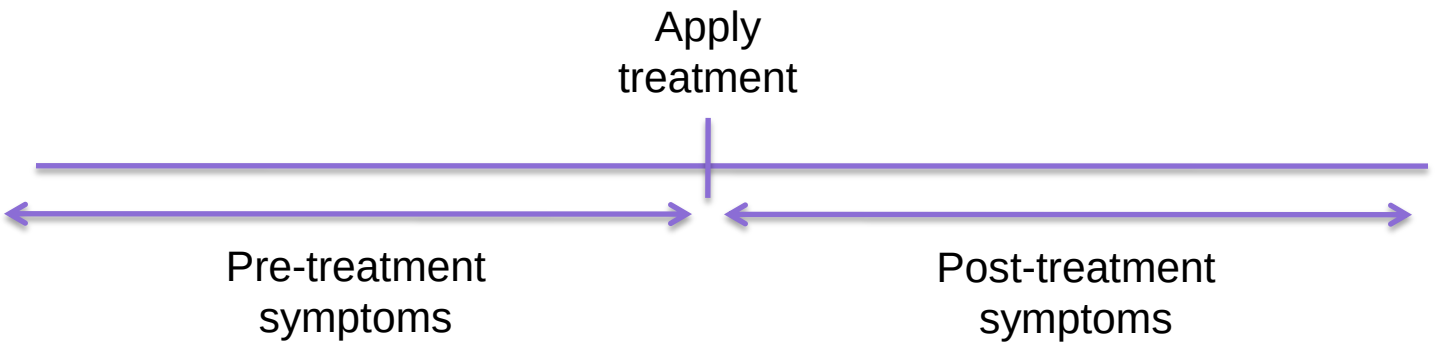
- GAO restatements database
- Audit Analytics restatement database
- Stanford's Securities Class Action Clearinghouse
- SEC's Accounting and Audit Enforcement Releases (AAERs)

Ideal empirical test design

Compared to…

Test group:
Experimental drug

Control group:
Placebo



Data-related challenge – Tainted control group

Compared to…

Test group:
Experimental drug

Control group:
Experimental drugs mixed with placebo

Data-related challenge – Tainted test group

Compared to…

Test group:
Placebo mixed with experimental drug

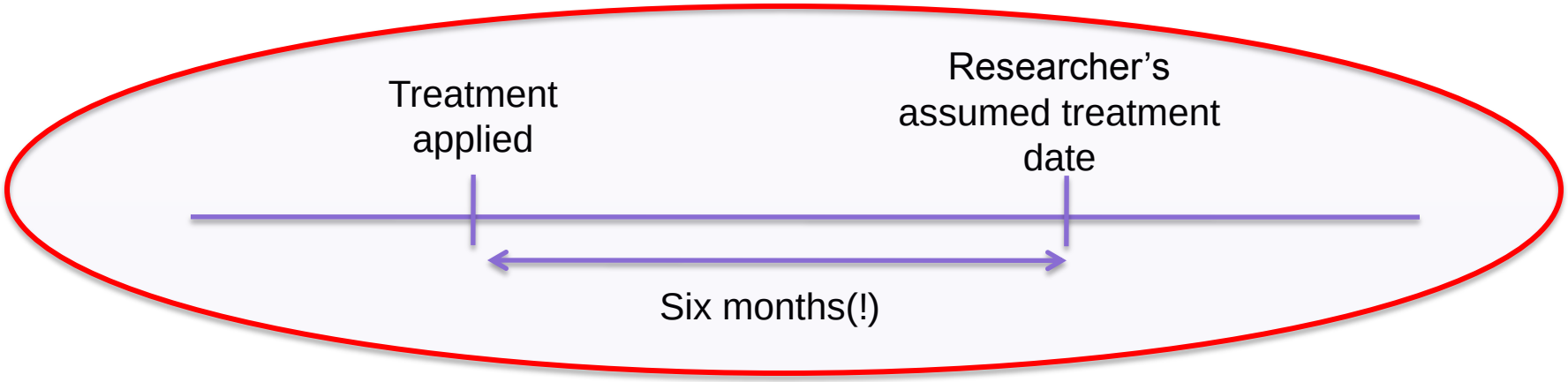
Control group:
Experimental drugs mixed with placebo

Data-related challenge: Timing is way off

Compared to…

Test group:
Experimental drug

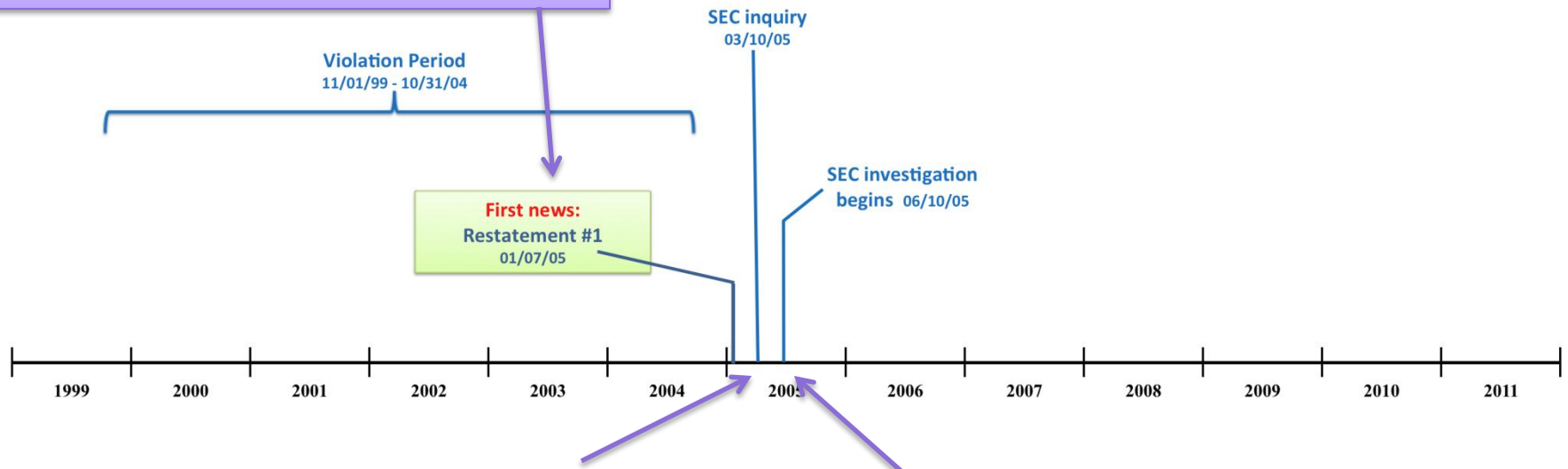
Control group:
Placebo



Why do these problems arise in financial misconduct research?

An example: Brocade Communications, Inc.

January 6, 2005: Brocade press release – 2001-03 statements will be restated



March 10, 2005: SEC begins an informal inquiry

June 10, 2005: SEC begins a formal investigation

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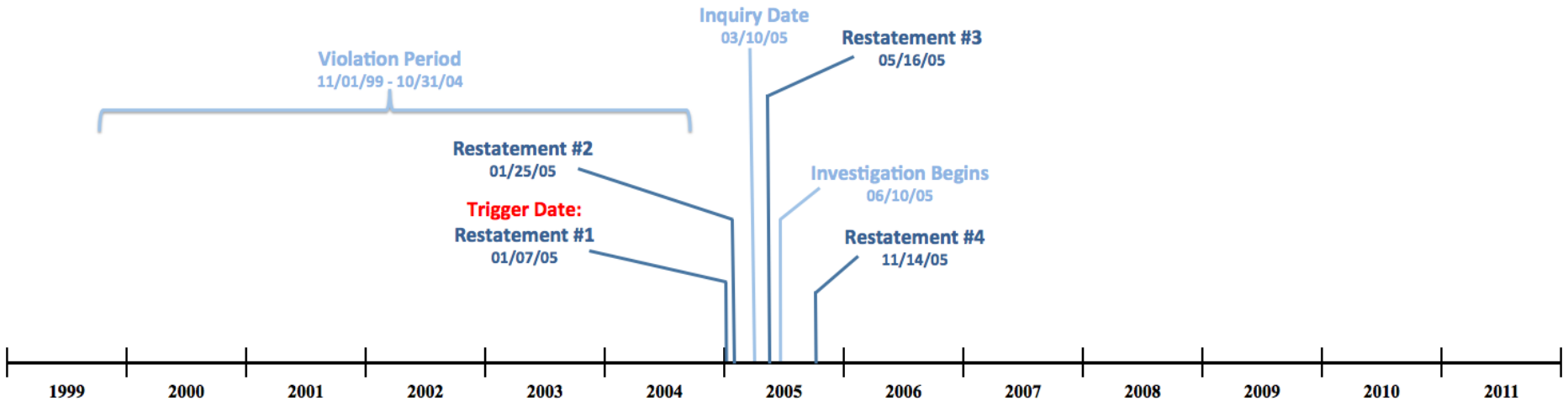
An example: Brocade Communications, Inc.

Brocade issues four restatements…



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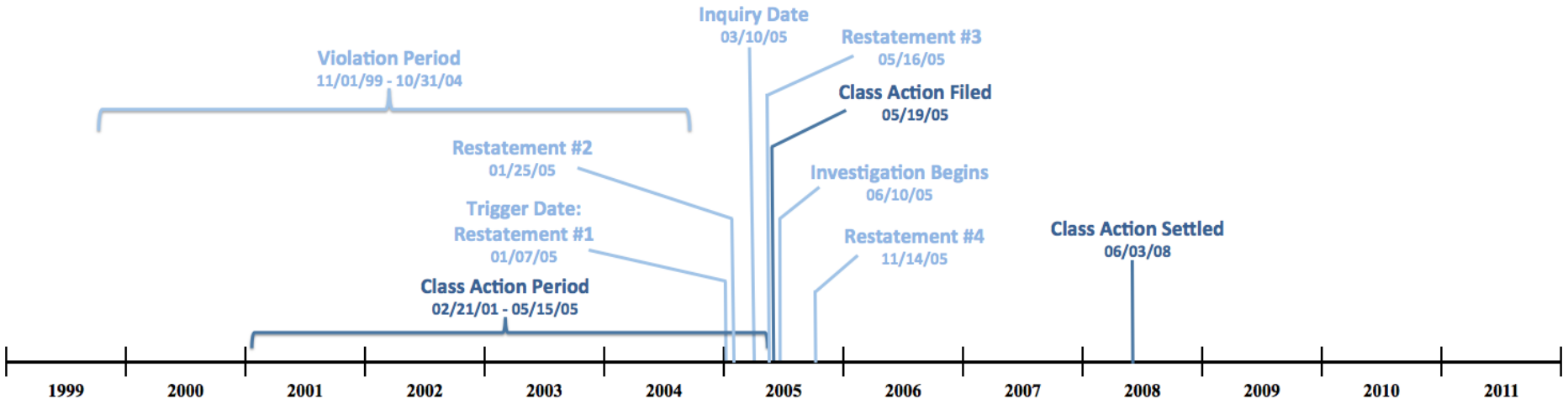
An example: Brocade Communications, Inc.

… a class action lawsuit is filed and settled…



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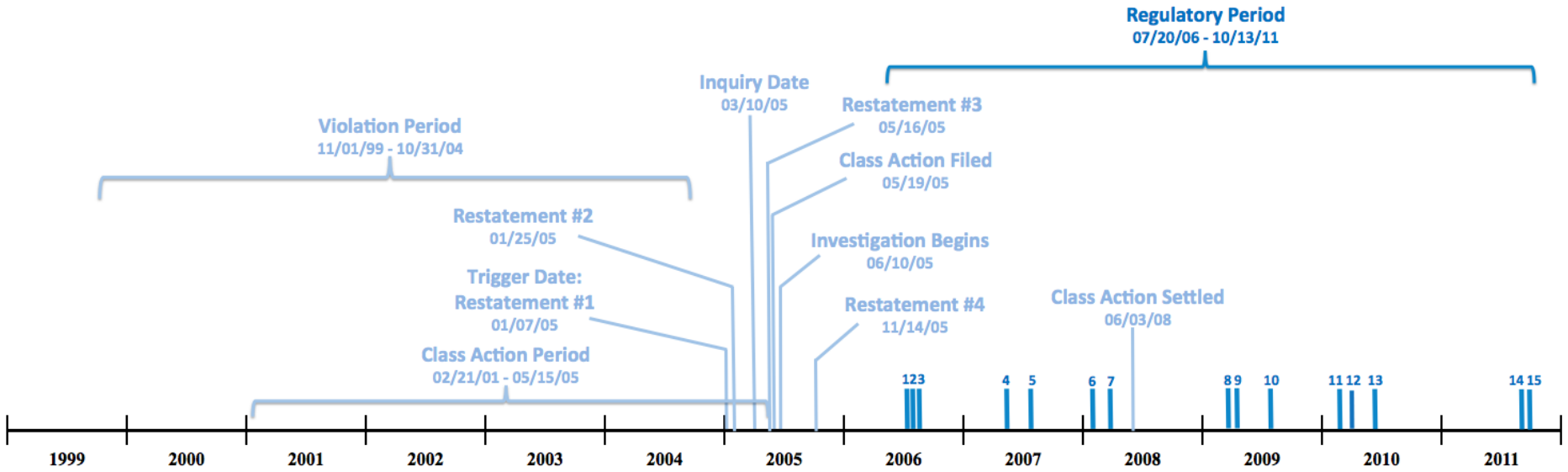
An example: Brocade Communications, Inc.

… and the SEC issues 15 different Administrative Proceedings or Litigation Releases – the last on October 13, 2011 …



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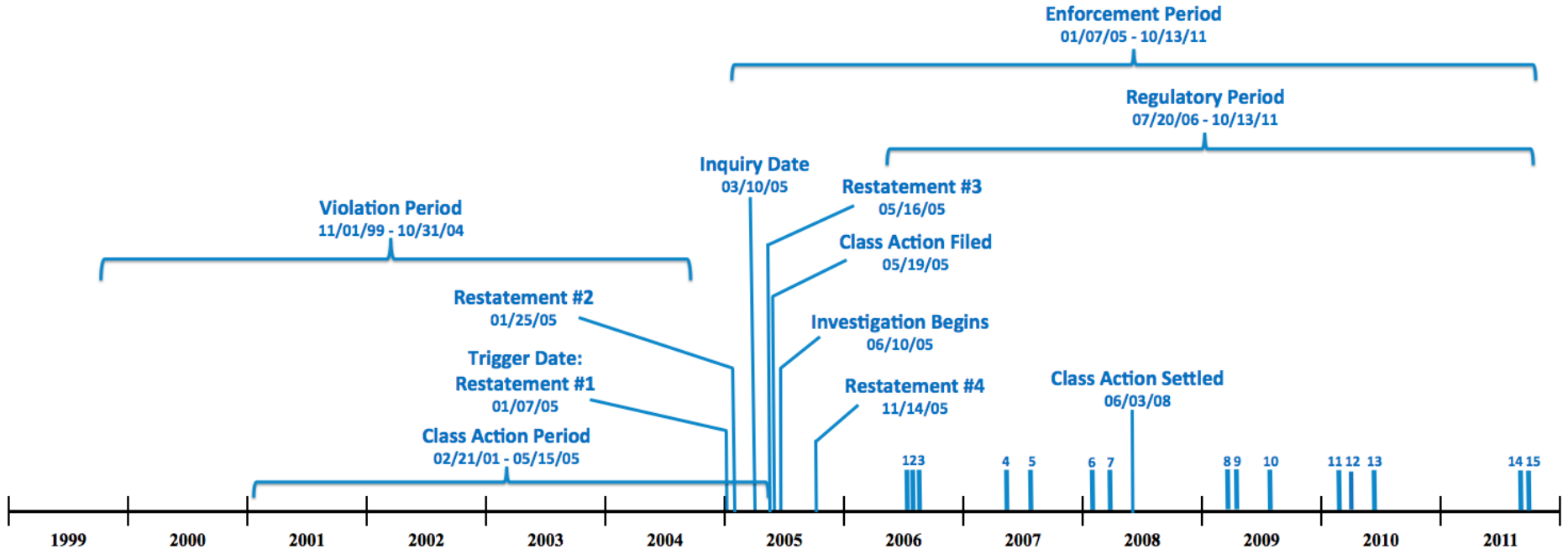
An example: Brocade Communications, Inc.



… For a total of **23 unique event days** with specific incremental information about Brocade's misconduct and its consequences.

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Researchers frequently need a collection of misconduct cases

Brocade

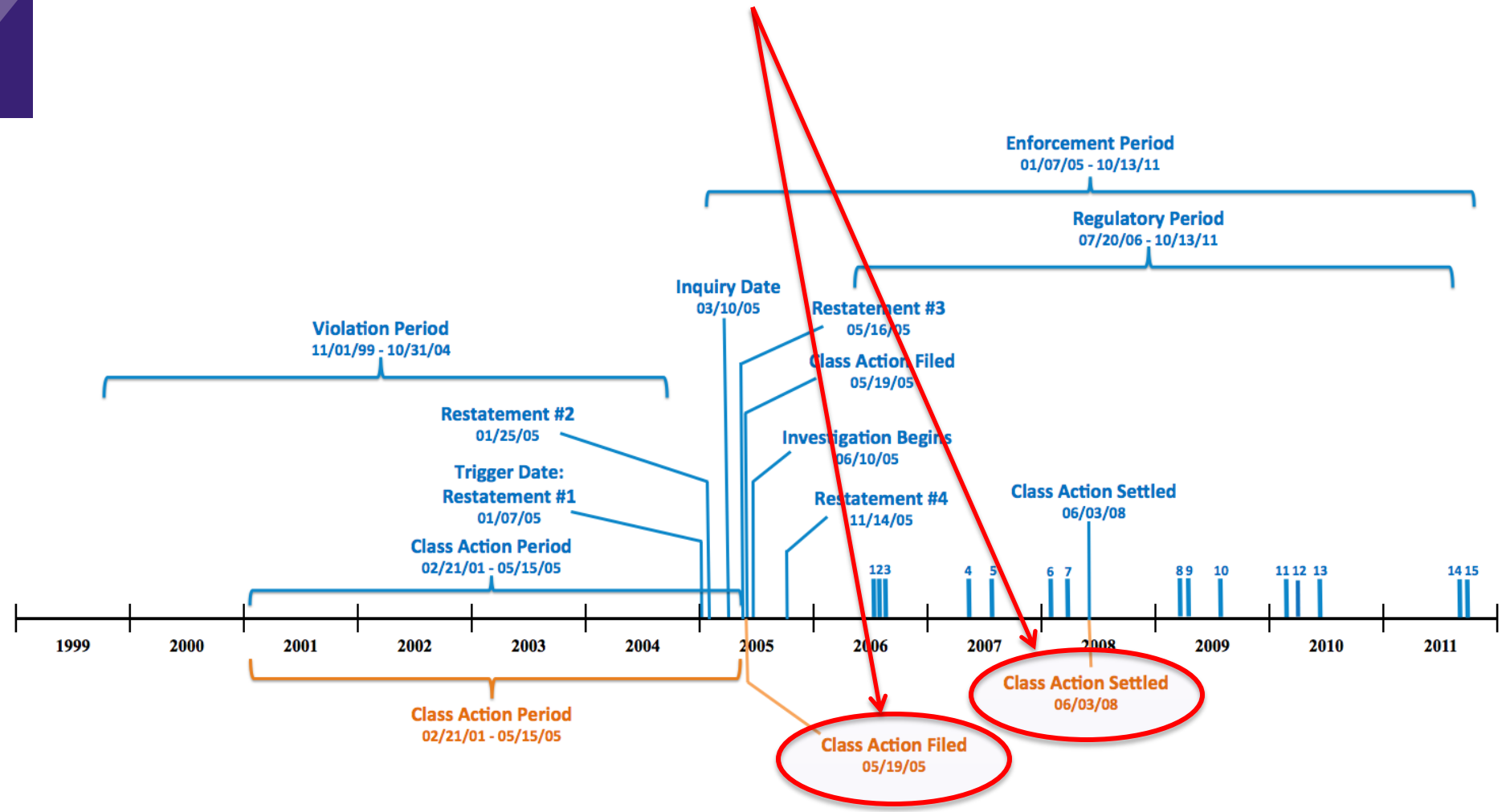
One such fishing net:

Security Class Action Clearinghouse (SCAC) database

- 3,425 federal class action securities-related lawsuits, 1996-2010
- Example papers:
  - Fich and Shivdasani (JFE 2007)
  - Gong, Lewis, and Sun (JAE 2008)
  - Yu (JFE 2008)
  - Gande and Lewis (JFQA 2009)
  - Rogers and Van Buskirk (JAE 2009)
  - Dyck, Morse, and Zingales (JF 2010)
  - Fernandes, Lel, and Miller (JFE 2010)
  - Cheng, Huang, Li, and Lobo (JFE 2010)
  - Wang, Winton, and Yu (JF 2010)
  - Cao and Narayanamoorthy (CAR 2011)
  - Shivdasani and Song (JFE 2011)
  - Yu and Yu (JFQA 2011)
  - Schmidt (TAR 2012)
  - Hanley and Hoberg (JFE 2012)

… (>> 48 papers)

The SCAC database flags two of the 23 events



The first SCAC date is 4+ months after the initial news of misconduct.

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A second fishing net:

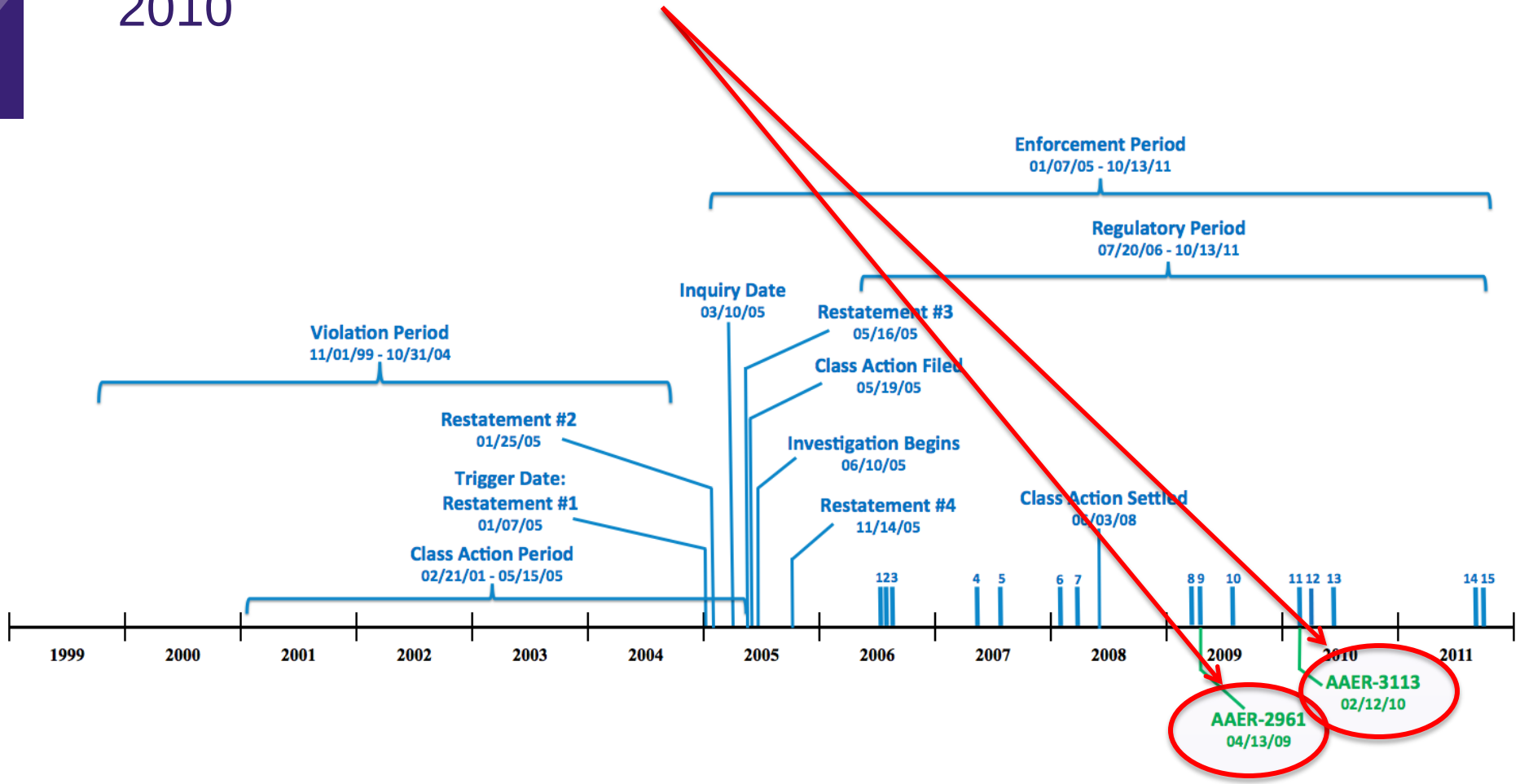
Accounting and Auditing Enforcement Releases (AAERs)

- Numbered (approximately) sequentially since 1982
- Last AAER in 2011 was numbered AAER-3350

- Example papers:
  - Dechow, Sloan, and Sweeney (CAR 1996)
  - Bonner, Palmrose, and Young (TAR 1998)
  - Farber (TAR 2005)
  - Erickson, Hanlon, and Maydew (JAR 2006)
  - Chen and Zhao (TAR 2008)
  - McNichols and Stubben (TAR 2008)
  - Armstrong, C., Jagolinzer, A., D. Larcker (JAR 2010)
  - Wang, Winton, and Xu (JF 2010)
  - Dechow, Ge, Larson, and Sloan (CAR 2011)
  - Schrand and Zechman (JAE 2012)
  - Caskey and Hanlon (CAR 2012, forthcoming)
  - Dechow et al. (JAR 2012)

  - *… (>> 46 papers)*

The AAER data flag two of the 23 events, in 2009 and 2010



These two AAERs relate to the SEC's censure of two former Brocade executives (who are CPAs).

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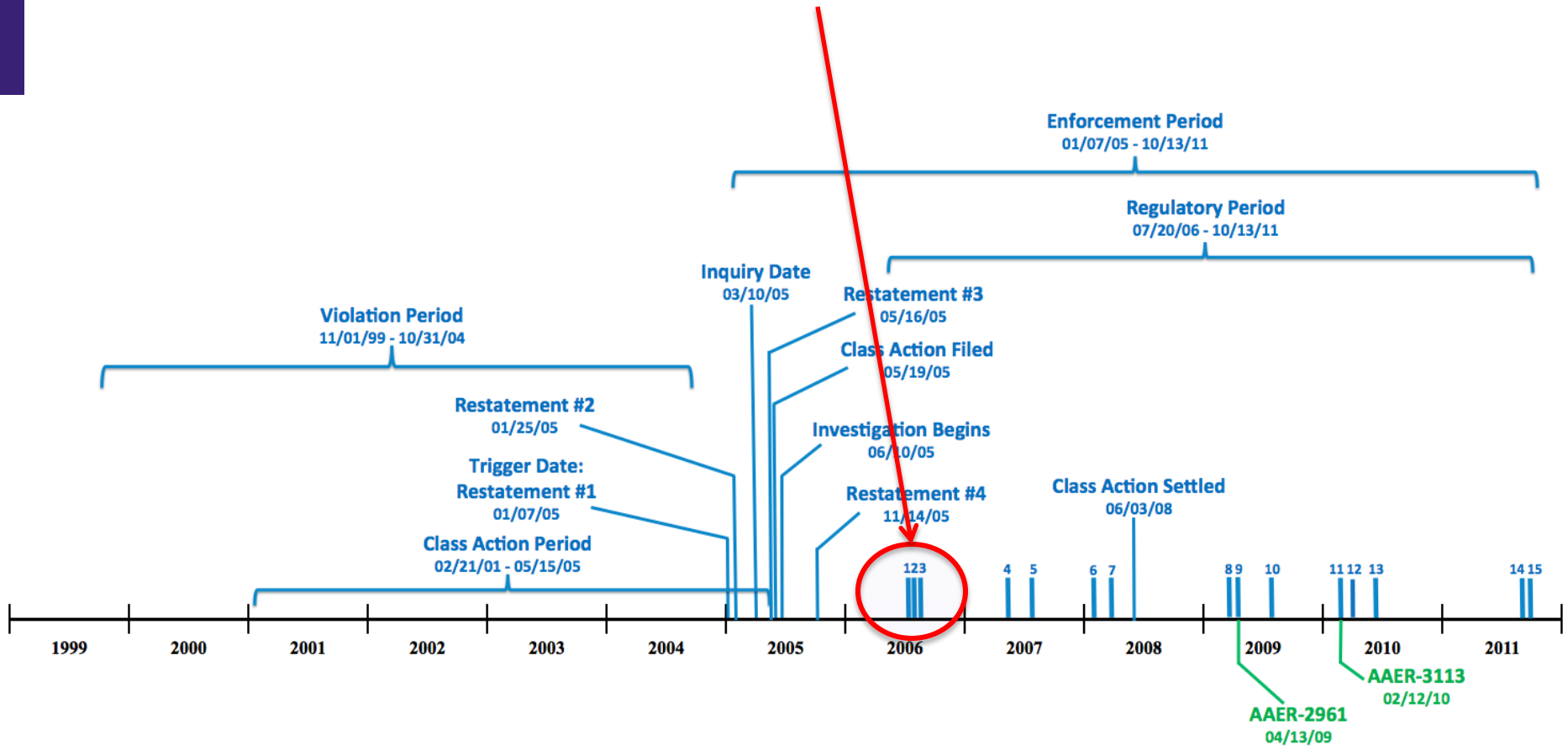
Compare this to the 1st SEC release on July 20, 2006



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A third fishing net:

The Government Accountability Office (GAO) database

- 2,707 restatement announcements, January 1997 – June 2006
- Example papers:
  - Burns and Kedia (JFE 2006)
  - Desai, Hogan, and Wilkins (TAR 2006)
  - Efendi, Srivastava, and Swanson (JFE 2007)
  - Graham, Li, and Qiu (JFE 2008)
  - Gleason, Jenkins, and Johnson (TAR 2008)
  - Kedia and Phillipon (RFS 2009)
  - Kravet and Shevlin (RAS 2010)
  - Badertscher, Hribar, and Jenkins (TAR 2011)
  - Bardos et al. (JFQA 2011)
  - Thevenot (JAE 2012)
  - Peterson (RAS 2012)
  - Chen, Cheng, and Lo (CAR 2012)

… (> 42 papers)

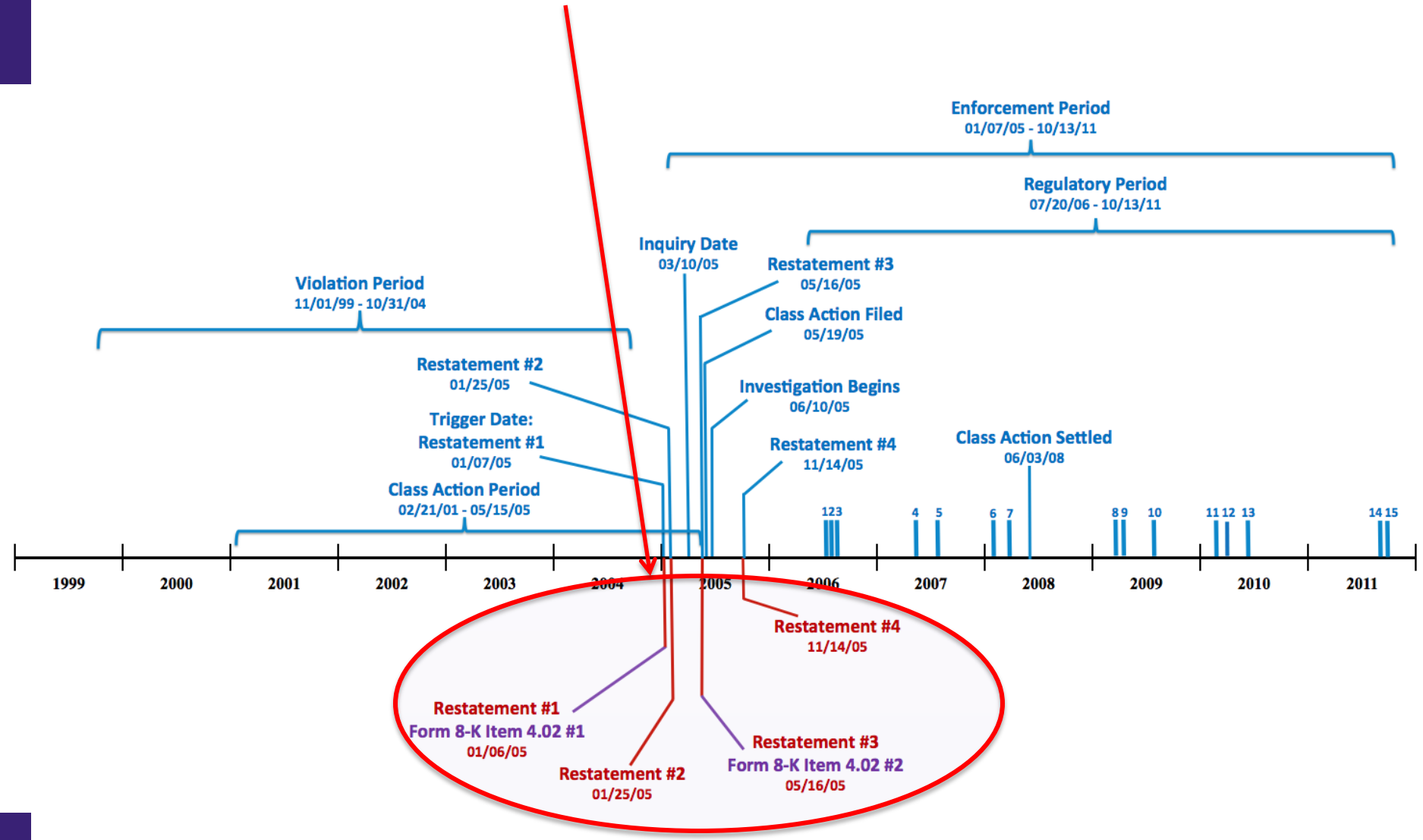
And a fourth fishing net:

The Audit Analytics (AA) database

- 11,001 restatement announcements, 2000-2010
- Example papers:
  - Lin, Pizzini, Vargus, and Bardham (TAR 2011)
  - Badertscher et al. (TAR 2011)
  - Files (JAE 2012)
  - Rice and Weber (JAR 2012)
  - McGuire, Omer, and Sharp (TAR 2012)

… (>> 26 papers)

The GAO data identify all four restatements; the AA database identifies two



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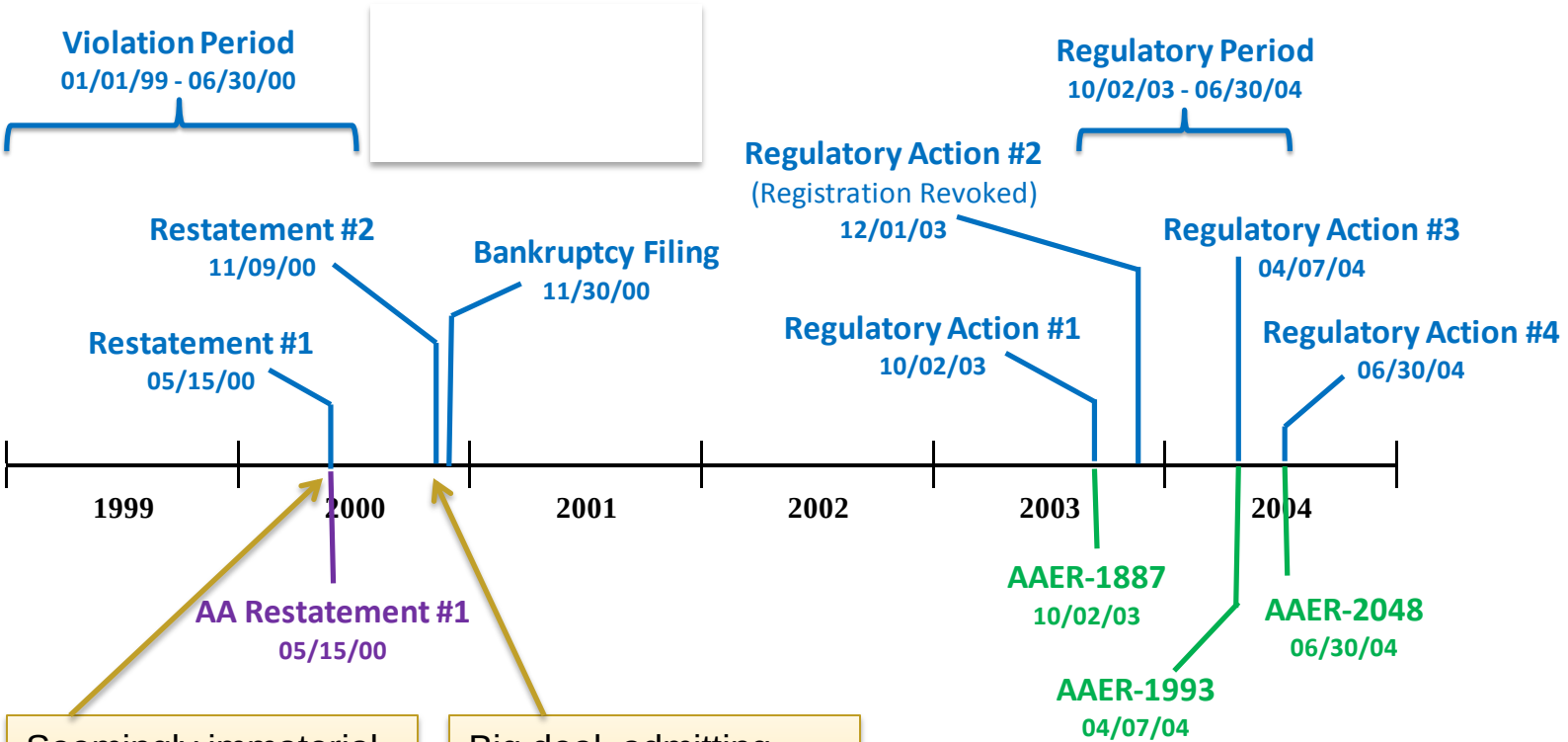
Another example:

Professional Transportation Group, Inc.

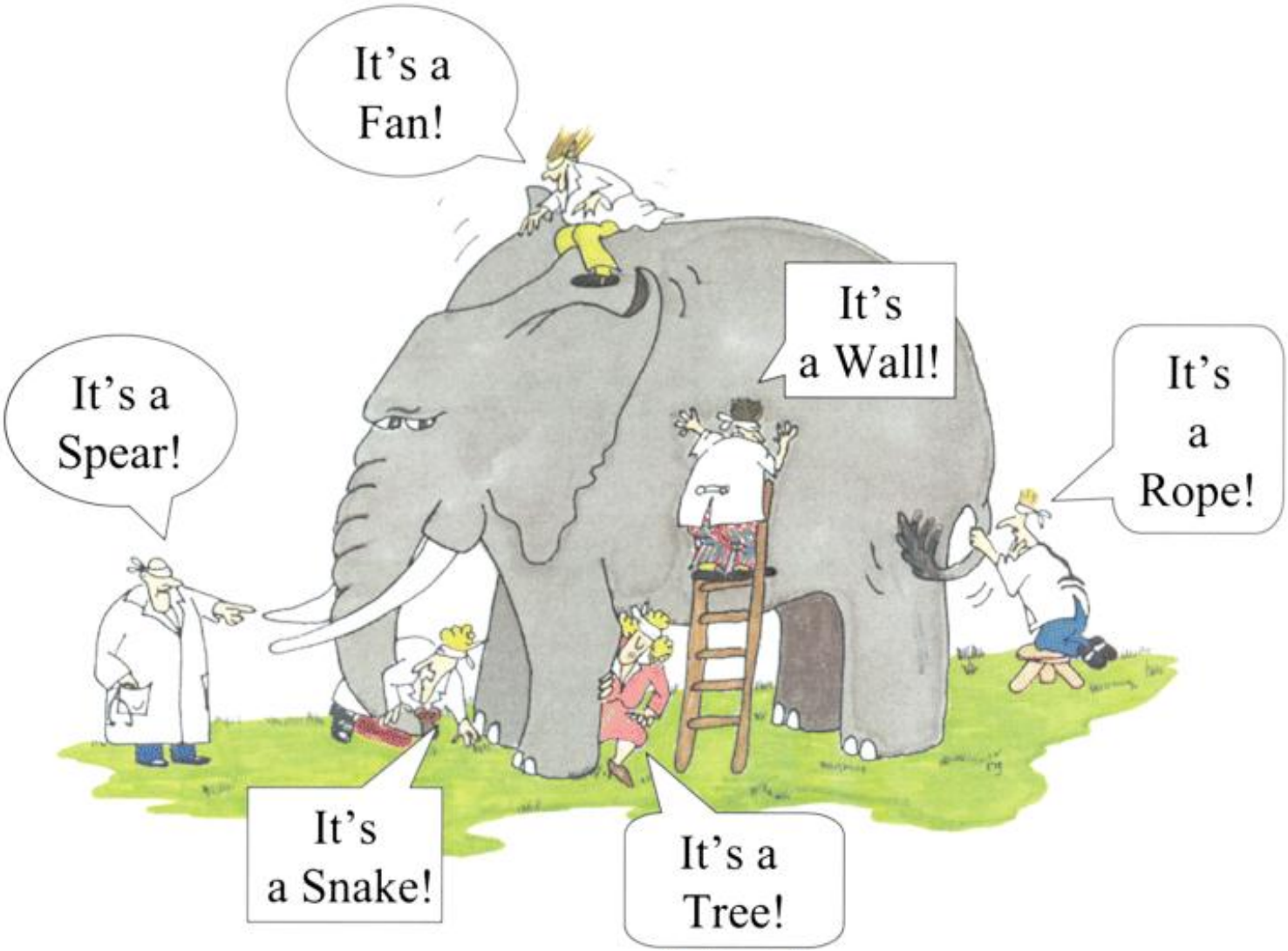
Scorecard:

- GAO: Whiffs
- AA: 1 of 2, but gets the one that is less important
- SCAC: Appropriately whiffs (no lawsuits were filed)
- AAER: Gets 3 of 4 releases – all after delisting



Seemingly immaterial restatement
(1-day AR = +4%)

Big deal, admitting fictitious revenues
(1-day AR = –33%)


It's a Fan!
It's a Spear!
It's a Wall!
It's a Rope!
It's a Snake!
It's a Tree!

How representative are the Brocade and Professional Transport cases?

Following results are from “Database Challenges in Financial Misconduct Research”

- with Allison Koester, Scott Lee, and Jerry Martin

- Replicate the Brocade analysis 1,099 times

- Why 1,099?
  - All cases of misconduct in which the SEC brings enforcement action for:
    - 13(b)(2)(a): Books and records violations
    - 13(b)(2)(b): Internal controls violations

Data sources

- SEC website (www.sec.gov)
- Department of Justice, including www.usdoj.gov
- Wolters Kluwer Law & Business Securities (Federal) electronic library
- Lexis-Nexis' FEDSEC:SECREL and FEDSEC:CASES libraries
- PACER database
- SEC's Electronic Data Gathering, Analysis, and Retrieval (EDGAR) system
- Lexis-Nexis' All News and Dow Jones' Factiva news sources

Total: 1,099 cases consisting of 10,415 events (average 9.48 per case)

Composition of these 1099 hand-collected case histories

Event type:		Total	Per case
(a)	Restatement announcements	1,442	1.31
(b)	Securities class action lawsuit filings	615	0.56
(c)	Securities class action lawsuit settlements	630	0.57
	SEC Enforcement Releases		
(d)	- That include an AAER designation	3,066	2.79
(e)	- That do not include an AAER designation	1,445	1.31
(f)	Other regulatory events	1,298	1.18
(g)	Other press releases and material announcements	1,919	1.75
		10,415	9.48

Events to ***cases***

E.g., the Brocade ***case*** consists of 23 separate ***events***.

Panel A: Events and cases in each database	GAO	AA	SCAC	AAER	HC
Number of events in the database	2,707	11,001	3,421	3,568	10,415
Number of unique cases in the database	2,321	8,358	3,116	1,356	1,099
Number of events associated with cases with a 13(b) violation for financial misrepresentation	427	239	389	2,865	10,415
Number of unique cases with a 13(b) violation for financial misrepresentation	290	188	346	939	1,099

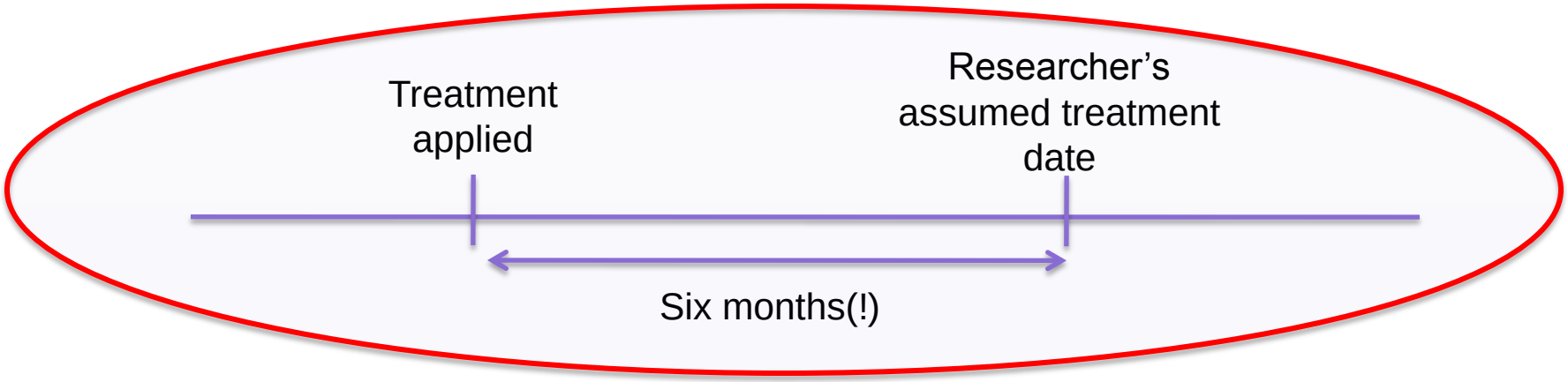
In discussing the challenges below, we combine related events into cases.

Data-related challenge #1: Timing is way off

Compared to…

Test group:
Experimental drug

Control group:
Placebo



Challenging feature #1:

Late initial revelation dates

		GAO	AA	SCAC	AAER	HC
Panel A: Late initial revelation dates (feature #1)						
Number of cases with a 13(b) violation (as reported in Table 2)		290	188	346	939	1,099
Number of days by which the initial event in the database lags the initial revelation of the misconduct	Mean	187	242	150	1,017	–
	Min	-3	-3	-3	-1	–
	P25	0	0	2	594	–
	P50	14	66	23	991	–
	P75	218	310	153	1,399	–
	Max	2,242	2,109	2,118	3,286	–

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How important are late initial revelation dates?

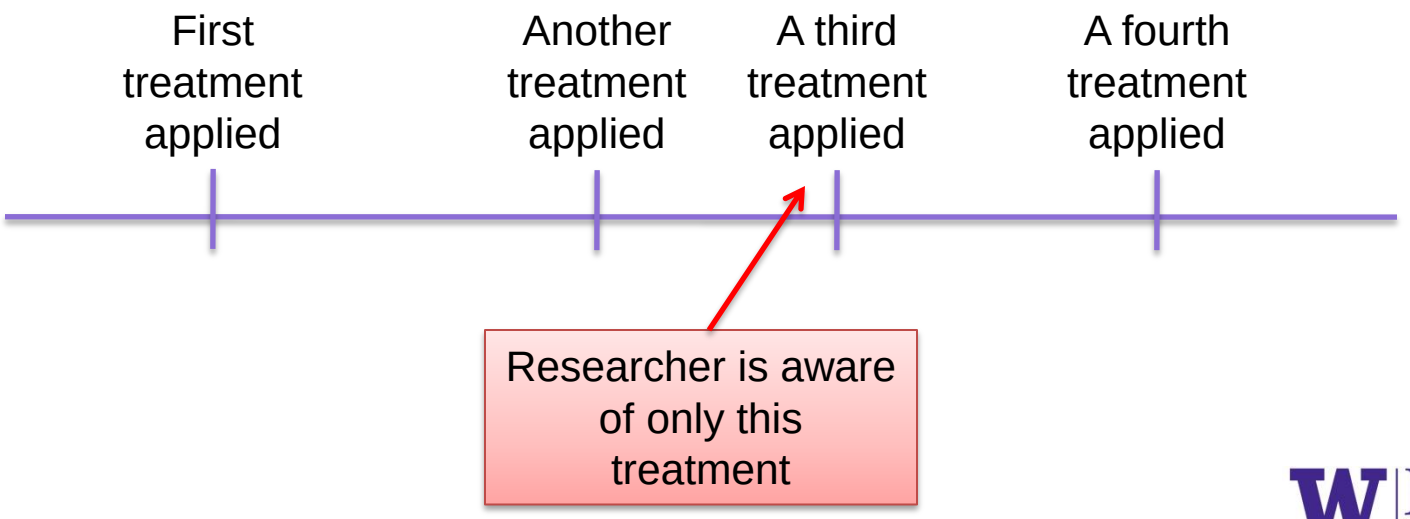
	GAO	AA	SCAC	AAER	HC
One-day abnormal return using the initial event date provided by the database:					
Mean	-7.06%***	-4.83%***	-5.43%***	-4.03%***	-14.91%***
Median	-2.13%***	-1.67%***	-1.21%***	-1.13%***	-7.80%***
One-day abnormal return using the earlier initial event date identified by the hand-collected (HC) data:					
Mean	-16.17%***	-13.59%***	-18.64%***	-14.69%***	-14.91%***
Median	-9.31%***	-7.97%***	-13.55%***	-7.38%***	-7.80%***
Difference:					
Mean	9.11%***	8.76%***	13.22%***	10.67%***	–
Median	1.31%***	2.00%***	6.95%***	4.53%***	–
Percentage by which the database understates the initial revelation date share value reaction:					
Using means	56%	64%	71%	73%	–
Using medians	77%	79%	91%	85%	–

Data-related challenge #2: Scope limitations

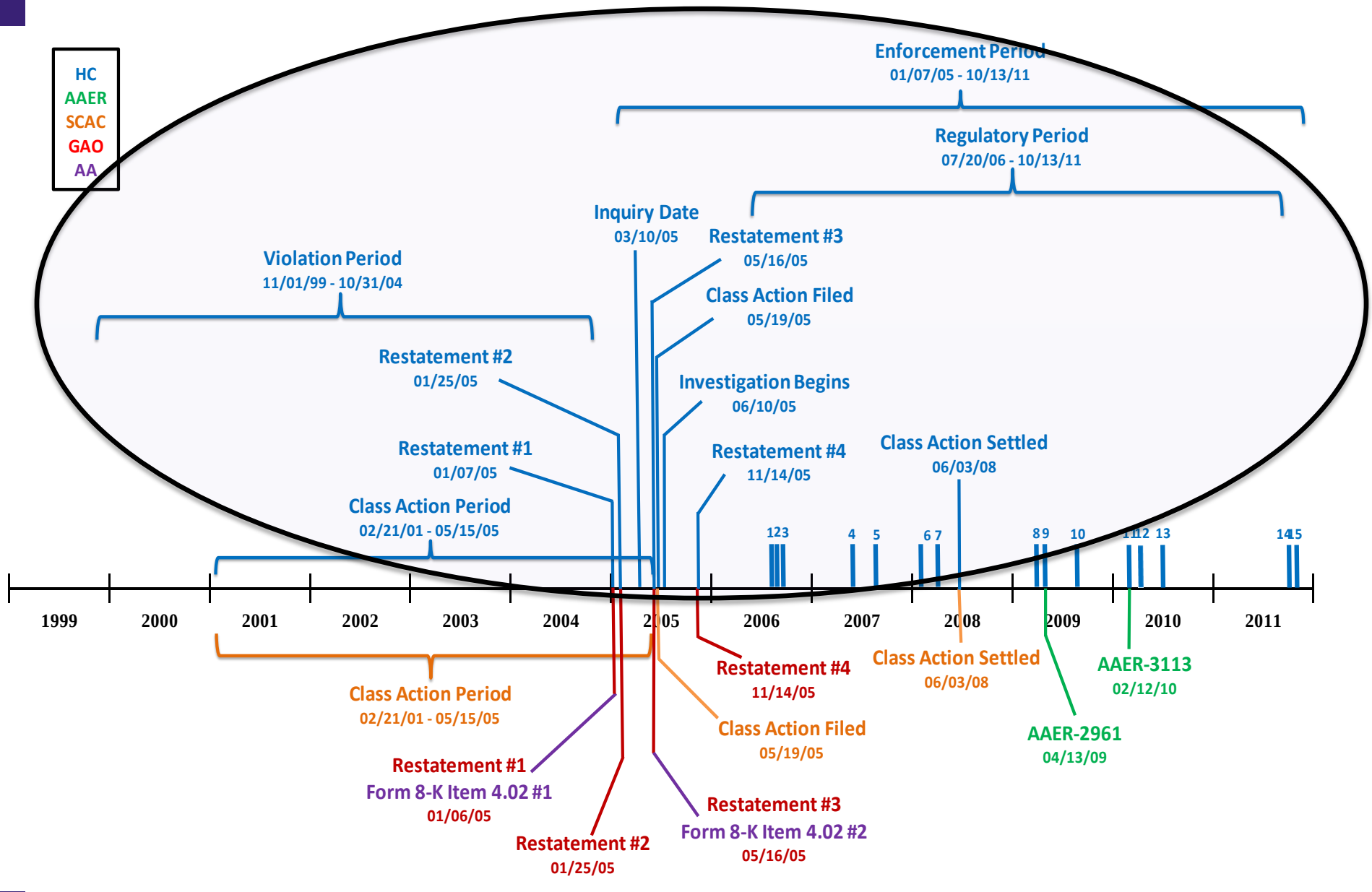
Compared to…

Test group:
Experimental drug

Control group:
Placebo



Brocade Communications, Inc. case



Challenging feature #2:

Scope limitations

	GAO	AA	SCAC	AAER
Number of cases with a 13(b) violation	290	188	346	939
Number of events associated with these cases	427	239	389	2,865
Average number of events per case	1.47	1.27	1.12	3.05
Number of all types of informational events related to these cases	4,336	2,738	6,556	7,919
Average number of events per case	14.95	14.56	18.95	8.43
% of all types of events the database captures	9.8%	8.7%	5.9%	36.2%
% of all types of events the database misses	90.2%	91.3%	94.1%	63.8%
Total	100%	100%	100%	100%

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How important are scope limitations?

	GAO	AA	SCAC	AAER
Cumulative abnormal return using all event dates for each case available in the database:				
Mean	-7.82%***	-4.64%***	-5.61%***	-7.49%***
Median	-2.45%***	-1.87%***	-1.27%***	-1.89%***
Cumulative abnormal return using all event dates for the same case available in the hand-collected (HC) database:				
Mean	-50.36%***	-38.38%***	-57.41%***	-44.38%***
Median	-35.54%***	-26.79%***	-42.33%***	-29.36%***
Difference:				
Mean	42.54%***	33.73%***	51.80%***	36.88%***
Median	28.03%***	21.26%***	38.22%***	22.89%***
Percentage by which the database understates the total change in share value:				
Using means	84%	88%	90%	83%
Using medians	93%	93%	97%	94%

Data-related challenge #3 – Tainted control group

Compared to…

Test group:
Experimental drug

Control group:
Experimental drugs mixed with placebo

Challenging feature #3:

Complete omissions – cases completely missed

Omitted cases with at least one same-type event and a 13(b) violation during the database time period

	GAO	AA	SCAC	AAER
Total number of cases that should have been identified	417	408	382	1,099
Cases identified by the database	290	188	346	939
Cases missed by the database	127	220	36	160
% cases missed	30.5%	53.9%	9.4%	14.6%
Same-type events related to the missed cases within the database's time period	219	553	43	649

Challenging feature #3b:

Partial omissions

Omitted same-type events within cases the database identifies

	GAO	AA	SCAC	AAER
Number of cases with 13(b) enforcement action	290	188	346	939
Number of same-type events associated with these cases	905	634	425	5,056
Number of same-type events identified in the database	427	239	389	2,865
Number of same-type events missed by the database	478	395	36	2,191
% of same-type events missed by the database	52.8%	62.3%	8.5%	43.3%

What types of cases are omitted?

	GAO	AA	SCAC	AAER
Smaller firms?	Y	N	N	Y
Less visible firms?	Y	N	Y	Y
More financially troubled?	Y	N	N	N
Less severe misrepresentation?	Y	N	Y	Y

Data-related challenge #4: Multiple records

Compared to…

Test group:
Experimental drug

Control group:
Placebo

This subject is observed at two different times, each time with different symptoms,

This subject is observed at four different times, each time with different symptoms,

Challenging feature #4:

Multiple events per case

Events per Case	GAO Case N	GAO Case %	AA Case N	AA Case %	SCAC Case N	SCAC Case %	AAER Case N	AAER Case %	HC Case N	HC Case %
1	2,028	87.4%	6,498	77.8%	2,885	92.6%	551	40.6%	8	0.7%
2	229	9.9%	1,321	15.8%	181	5.8%	340	25.1%	61	5.6%
3	43	1.9%	366	4.4%	37	1.2%	172	12.7%	72	6.6%
4	17	0.7%	124	1.5%	6	0.2%	101	7.5%	96	8.7%
5	2	0.1%	36	0.4%	4	0.1%	72	5.3%	107	9.8%
6	1	0.0%	8	0.1%	2	0.1%	41	3.0%	88	8.2%
7			2	0.0%	1	0.0%	25	1.8%	102	9.3%
8	1	0.0%	2	0.0%			12	0.9%	90	8.2%
9			1	0.0%			13	1.0%	72	6.6%
10							6	0.4%	57	5.2%
11							3	0.2%	41	3.8%
12							4	0.3%	56	5.1%
13							6	0.4%	38	3.5%
14							4	0.3%	39	3.6%
15									18	1.7%

Data-related challenge #5 – Tainted test group

Compared to…

Test group:
Placebo mixed with experimental drug

Control group:
Experimental drugs mixed with placebo

Challenging feature #5:

Potentially extraneous events and cases

For researchers seeking samples of financial misrepresentation…

	GAO	AA	SCAC	AAER
Panel B: Identifying non-misconduct events using unique cases in each database				
Cases in the database (as reported in Table 2)	2,321	8,358	3,116	1,356
Cases associated with cases with a 13(b) violation (as reported in Table 2)	(290)	(188)	(346)	(939)
Non-financial misconduct cases	2,031	8,170	2,770	417
% of non-financial misconduct cases	87.5%	97.8%	88.9%	30.8%

These are upper bounds

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Challenging feature #5:

Potentially extraneous events and cases - fraud samples

For researchers seeking samples of financial fraud…

	GAO	AA	SCAC	AAER
Panel C: Identifying non-fraud cases in each database				
Cases in the database (as reported in Table 2)	2,321	8,358	3,116	1,356
Cases associated with a fraud charge	(246)	(155)	(300)	(729)
Non-fraud cases	2,075	8,203	2,816	627
% of non-fraud cases	89.4%	98.1%	90.4%	46.2%

These are upper bounds

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The potentially extraneous cases really are different:

	GAO	AA	SCAC	AAER	FSR
Correct positives ***(first event in each unique case that has an associated financial fraud charge)***					
Total observations	246	155	300	729	821
Observations with CRSP data	222	108	258	478	692
Mean one-day abnormal return	-7.42%***	-5.08%***	-6.03%***	-4.60%***	-17.34%***
Median one-day abnormal return	-2.28%***	-1.73%***	-1.25%***	-1.19%***	-10.39%***
False positives ***(first event in all other non-fraud cases)***					
Total observations	2,075	8,203	2,816	627	278
Observations with CRSP data	1,827	3,388	2,294	274	252
Mean one-day abnormal return	-1.45%***	-0.69%***	-0.92%***	-2.56%***	-8.23%***
Median one-day abnormal return	-0.43%***	-0.28%***	-0.27%***	-0.72%***	-3.13%***

So, the culled cases really are smaller events

Some researchers appear to ***overcorrect*** potentially extraneous events and cases

- Many studies end up with sample sizes that are ***smaller*** than this small number of correct positives!
  - Implies very aggressive culling.

- It also is common for researchers to report abnormal returns that are ***larger*** than what we observe for the correct positives.
  - Gleason et al. (2008): –19.8% vs. –5.34% in our Table 8 for GAO events
  - Beneish (1999): –20.2% vs. –3.21% in our Table 8 for AAERs
  - Suggests that the culling may select the largest cases.

Challenging database features: Highlights

	Database:			
	GAO	Audit Analytics	SCAC (Stanford)	AAERs (SEC)
#1: Staleness: *Mean #days the database misses the first public revelation*	187	242	150	1,017
- % by which the measured 1-day abnormal return understates the initial date share value reaction	56%	64%	71%	73%
#2: Limited scope: *% of discrete information events missed*	90.2%	91.3%	94.1%	63.8%
- % total value-relevant information missed	84%	88%	90%	83%
#3a: Omitted cases: *% SEC financial misrepresentation cases missed that have ≥ 1 same-type events (restatements, lawsuits)*	30.5%	53.9%	9.4%	14.6%
#5b: % Extraneous events: *For researchers seeking cases of financial fraud*	89.4%	98.1%	90.4%	46.2%

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These findings do not undercut all research in this area

- For many papers, it is a only a blurred vision problem (like the Hubble Space Telescope).
- For others, the results could be fragile.
- Our intent: Provide a heads-up about these database features, to influence and improve future research.

Ideal empirical test design

Compared to…

Test group:
Experimental drug

Control group:
Placebo