Econ 234C – Corporate Finance
Lecture 14: Corporate Governance

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1 Organization

- Final exam: Wed, 5/21, 10am-1pm, usual class room (Evans 639)

2 Corporate Governance

THEORY: Optimal monitoring / auditing contract

- Seminal paper: Townsend (1979) Costly State-Verification (CSV) Model
- (Original) context: Derive optimal mix of securities / capital structure *given misaligned incentives of managers*.
- Link to Corporate Governance:

  – Explicit assumption about managers 'hiding' income (accounting fraud, perks, option timing ...)

  – Explicit derivation of optimal contractual/monitoring response.

EMPIRICS: Exogenous variation in monitoring / auditing / entrenchment

Starting point: **CEO pay**

- Some facts
  - CEO pay has increased $\sim$ 600% over last 20 years; average worker's pay by $\sim$ 15%
  - Median CEO pay in 2000: 60% equity-based (valued at grant date); in 1990 only 8%.

- Question: appropriate pay-for-performance sensitivity?
  - Jensen and Murphy (1990): "Are CEOs paid like Bureaucrats?"
    * Compensation data 1974-1986
    * $1,000 increase in firm value increases CEO wealth (due to pay, options, stocks) by $3.25. $\Longrightarrow$ 'Too low.'

- Hall and Liebman (1998)
  * Compensation data 1980-1994
  * $1,000 increase in firm value increases CEO wealth by $6.00
  * Sensitivity larger when scaled by managers' wealth instead of firm value. E.g. in 1994, median CEO at 10th percentile of performance loses $436k, at 90th percentile makes $8.6m.
- 1990s: Dramatic increase of CEO pay and stock option grants
- CEOs not bureaucrats, but what are they?

- Problems:
  - If company does badly, options are repriced −> lose incentives.
  - CEOs are rewarded for luck rather than performance.
  - Rent seeking by CEO to get higher pay.
  - Why do rank-and-file wokers get options?

Example 1: "Are CEOs rewarded for luck?"

Bertrand-Mullainathan (2001)

- Data on CEO pay (salaries + stock options) + company performance (accounting / stock returns) from ExecuComp, CRSP, Compustat

- w_t = pay at time t

- y_t = performance at time t

- X_t = set of controls

- L_t = luck variables measured at time t

Empirical specification

- First stage:
$$y_t = \alpha + \beta_0 X_t + \beta_1 L_t + \varepsilon_t$$

  - Obtain predicted performance based on luck: $\hat{y}_t$

- Second stage:
$$w_t = \gamma + \delta X_t + \lambda \hat{y}_t + \varepsilon_t$$

  - Coeffcient on λ should be zero according to standard principal/agent model.

- Measures for L :
  1. Price of oil on pay in 51 US oil companies (1977-1994)
  2. Industry-specific exchange rate for 792 corporations
     - Different industries are affected by different coutnries' exchange rates, e.g., toy industry affect by Japan, lumber industry by Bolivia.
  3. Mean accounting return in 2-digit industry (excluding same company)

- Why is there pay for luck?
  - CEOs stealing.
  - Inability of board (monitors): mis-take luck for ability.
  - Collusion / preference of board for high pay + justifiability of pay (tangible measures) towards shareholders. (Similar to 'outcry constraint' of Bebchuck and Friedman.)

- Does this result partly go away in better-managed firms?
  - Proxy: number of large shareholder in board
  - Check on actions of CEO
  - New second stage:

$$w_t = \gamma + \delta X_t + \lambda \hat{y}_t + \lambda GOV * \hat{y}_t + \varepsilon_t$$

Example 2: Enjoying the Quiet Life

Bertrand and Mullainathan (2004)

- *Anti-takeover laws.*

- Business combination laws that make takeovers more difficult: most stringent; moratorium (3-5 yrs) on assets sales, mergers.

- Exploit variation in implementation across states

- Diff-in-Diff – outcome y

$$y_{i,t} = \alpha + \beta d_{i,t} + \eta_i + \varphi_t + \varepsilon_{i,t}$$

  where i is state, t is year and $d_{i,t} = 1$ if antitakeover law is in place in state i in year t

Effects of anti-takeover laws

- Blue-collar wages rise by 1%

- White-collar wages rise by 4%

- Rate of plant destruction falls.

- Rate of plant creation falls!

- Total factor productivity decreases by 1%

- Return on capital decreases by 1%

Example 3: The "superstar" structure of executive compensation

(Malmendier and Tate, 2008)

- Superstar system = Highly skewed distribution of income, market share, attention (Rosen 1982)

  – High ratio top person relative to close competitors

  – Many markets: Actors, Athletes, Top Executives

- Ex-ante Perspective:

  – Optimality of tournaments (Lazear and Rosen, 1981)

  – Incentives, sorting, optimal contracting

- Ex-post Perspective: ?

Ex-post Perspective: What is the impact on shareholder value?

- Possibility 1: Increased exposure for the company boost profitability.

- Possibility 2: Celebrity shifts power to the CEO and induces perquisite consumption, in the spirit of Jensen and Meckling (1976).

Main Empirical Hurdle

- Credible identification of the hypothetical counterfactual:

  - How would the CEO have performed without achieving superstar status?

  - In particular: Can we distinguish post-superstar status underperformance from mean reversion?

- Applications:

  - "Sports Illustrated jinx"

  - "Sophomore jinx"

  - "Nobel prize disease"

  - "CEO disease"

$\longrightarrow$ Fact or just mean reversion?

- Past success likely due to extreme positive draws from the output-generating process.

  - Next draws are unlikely to meet or exceed prior realizations.

  - Individual average performance reverts to the population mean.

  - Popular belief in the 'curse of celebrity' might represent failure to adjust for expected changes in performance.

- Identification problem even more severe if "star" performs different (more difficult) task

  - E.g. CEO versus COO.

Methodology

- Measure of "superstar status" without changing task: CEO awards, awarded by business press

- Empirical Strategy: bias-adjusted, nearest-neighbor matching methodology (Abadie and Imbens, 2007)

  1. Logit regression to identify observable firm and CEO characteristics that predict CEO awards.
     - "Reconstruct" selection criteria.

     - Identifying assumption: business press has no insider knowledge $\implies$ We can condition on all relevant covariates.

  2. Match each award winner to the non-winning CEO who had the closest predicted probability of winning, or "propensity score" (Rosenbaum and Rubin, 1983), in the award month.
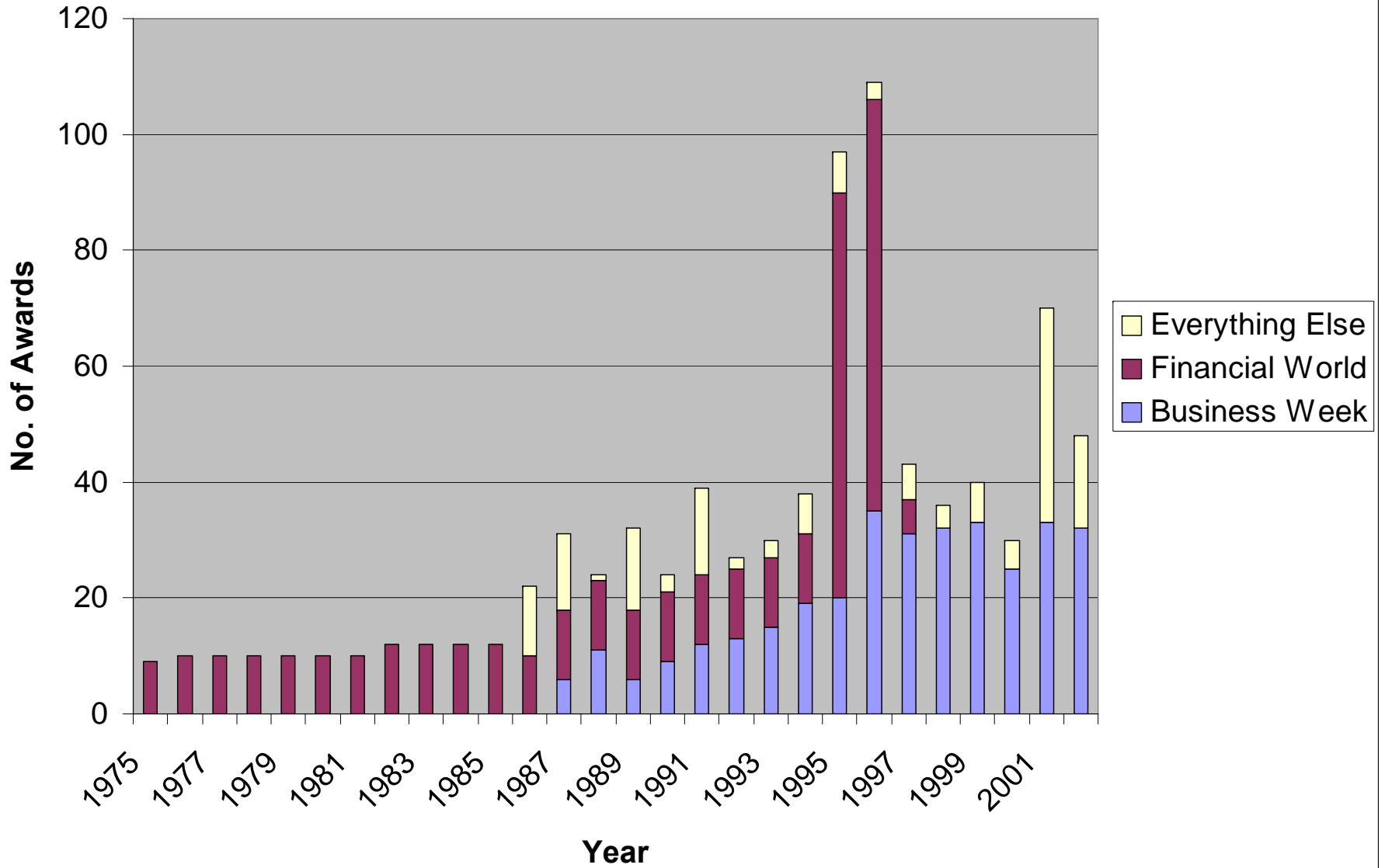
Sample of CEO Awards

- **Financial World Magazine** CEO of the Year: Gold and Silver Awards; 1975-1997; *365 winners*
- **Chief Executive Magazine** CEO of the Year; 1987-2002; *15 winners*
- **Business Week Magazine** Best Managers, Best Entrepreneurs; 1987-2002; *332 winners*
- **Industry Week Magazine** CEO of the Year, CEO Survey: Consumer Goods, Finance, High Tech, Heavy Industry, Industrial, Services; 1986-1987, 1989, 1991, 1993-2002; *64 winners*
- **Forbes Magazine** Best Performing CEOs; 2001-2002; *15 winners*
- **Time Magazine** Person of the Year; 1956, 1991, 1997, 1999; *4 winners*
- **Morningstar.com** CEO of the Year; 1999-2002; *6 winners*
- **Electronic Business Magazine** CEO of the Year; 1997-2002; *6 winners*
- **Time/CNN** 25 Most Influential Global Executives; 2001; *25 winners*
- **Ernst & Young** Entrepreneur and World Entrepreneur of the Year; 2001-2002; *20 winners*

Figure 1. CEO Awards By Year

Legend:
- E&Y.E
- E&Y.GE
- TIME.IGE
- EBM
- IW.CEO2
- Morningstar
- TIME.POY
- Forbes
- IW
- IW.SS
- IW.IS
- IW.HI
- IW.HT
- IW.F
- IW.CG
- BW.BE
- BW.BM
- CE
- Golds
- Silvers

Y-axis: Number of Awards (0, 20, 40, 60, 80, 100, 120)

X-axis: Years (1975, 1977, 1979, 1981, 1983, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001)

CEO Data By Year Grouped By Type

Legend:
- Everything Else
- Financial World
- Business Week

Y-axis: No. of Awards (0, 20, 40, 60, 80, 100, 120)

X-axis: Year (1975, 1977, 1979, 1981, 1983, 1985, 1987, 1989, 1991, 1993, 1995, 1997, 1999, 2001)

Other Data Sets

- **Firm data**
  - Stock returns: CRSP
  - Accounting data: Compustat
  - Governance: Gompers, Ishii, and Metrick (2003); Cremers and Nair (2004)
  - Earnings Announcements: DellaVigna and Pollet (2004)

- **CEO data**
  - Execucomp: S&P 500 / S&P MidCap 400 / S&P SmallCap 600
  - Charitable contributions: Hausman (2004)
  - Board seats, books, golf handicap, Conference Board membership, stadium sponsorship, corporate loans: hand-collected

Sample Period
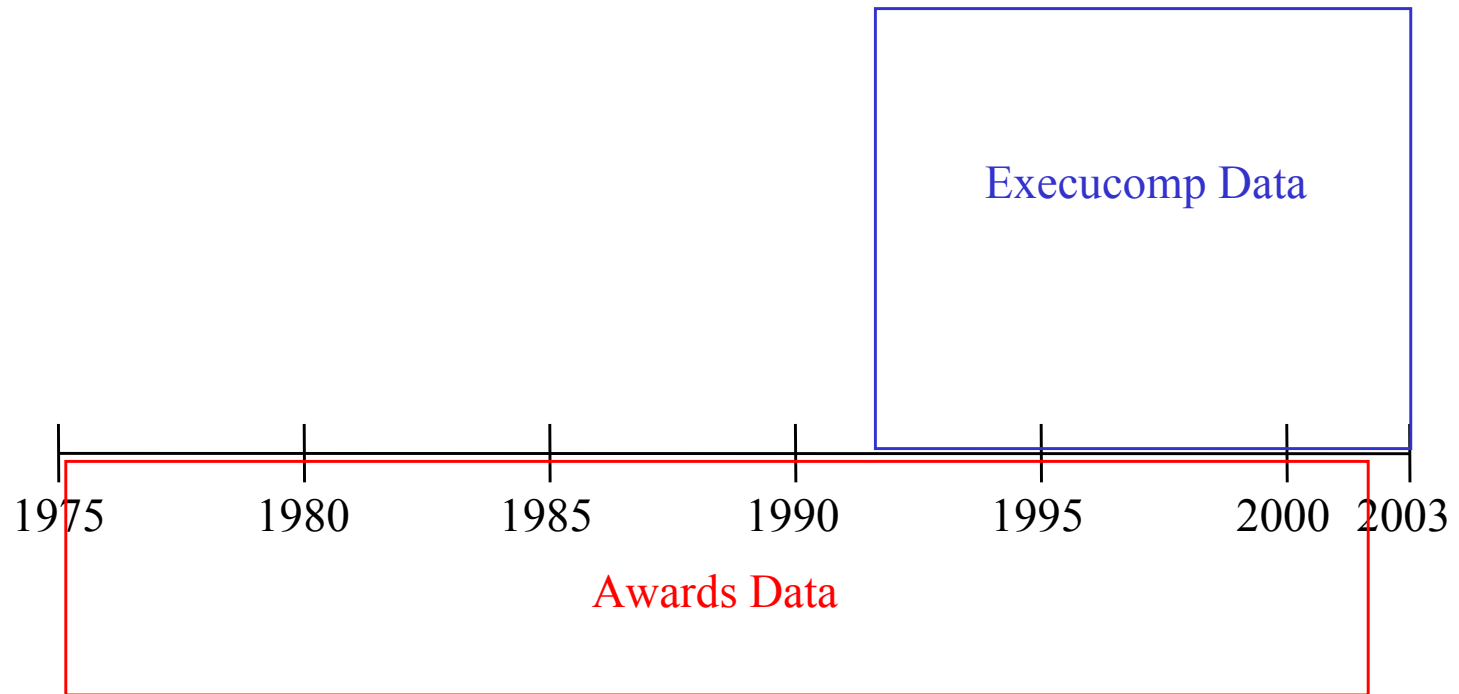
Summary Statistics

	Months with CEO Awards													
	CEO Award Winners				*All Non-Award Winners*				*Predicted Winners*				*Differences in Means*	
	Obs.	Mean	Median	SD	Obs.	Mean	Median	SD	Obs.	Mean	Median	SD	p(W - A)	p(W - P)
Match Variables:														
Market Cap	264	9.636	9.676	1.579	60,356	7.079	6.939	1.602	264	9.689	9.988	1.655	0.000***	0.709
Book-to-Market	264	0.377	0.307	0.304	60,356	0.581	0.482	0.626	264	0.411	0.321	0.309	0.000***	0.192
Returns_2_3	264	0.068	0.055	0.186	60,356	0.034	0.027	0.207	264	0.066	0.046	0.203	0.007***	0.872
Returns_4_6	264	0.075	0.070	0.198	60,356	0.020	0.011	0.244	264	0.068	0.046	0.190	0.000***	0.671
Returns_7_12	264	0.268	0.156	0.608	60,356	0.106	0.068	0.380	264	0.328	0.108	1.076	0.000***	0.432
Returns_13_36	264	1.137	0.498	2.997	60,356	0.604	0.281	1.792	264	0.724	0.474	1.461	0.000***	0.045**
CEO age	264	55.508	56	8.180	60,356	55.155	55	7.628	264	55.616	56	6.904	0.453	0.869
CEO female	264	0.015	0	0.122	60,356	0.011	0	0.106	264	0.022	0	0.140	0.567	0.542
CEO tenure	264	9.708	8	7.346	60,356	8.362	6	7.539	264	8.569	7	7.027	0.004***	0.069*

Summary Statistics

	Months with CEO Awards									Differences in Means	
	CEO Award Winners			*All Non-Award Winners*			*Predicted Winners*				
	Obs.	Mean	SD	Obs.	Mean	SD	Obs.	Mean	SD	p(W - A)	p(W - P)
Other Firm Variables:											
Assets	264	53,563.76	138,544.40	60,350	9,612.28	41,624.75	264	50,594.96	107,002.70	0.000***	0.783
Sales	264	20,753.49	30,185.48	60,346	4,014.42	10,879.21	264	23,904.41	31,012.16	0.000***	0.237
ROA	246	0.10	0.06	53,970	0.05	0.14	251	0.09	0.07	0.000***	0.114
ROE	264	0.20	0.43	60,251	0.09	4.92	264	0.17	0.23	0.731	0.441
Q	264	3.68	6.16	60,261	2.01	1.94	264	3.15	4.02	0.000***	0.243
Net Op. Assets	263	0.590	0.324	60,308	0.650	0.321	263	0.605	0.268	0.003***	0.56
Accruals	207	-0.044	0.082	52,219	-0.039	0.087	217	0.004	0.063	0.418	0.55
Gov. Index	252	9.067	2.558	48,782	9.361	2.736	258	8.777	2.653	0.089*	0.208
Inst. Blockholder	254	0.496	0.501	53,703	0.709	0.454	254	0.455	0.468	0.000***	0.342

Summary Statistics

	Months with CEO Awards									Differences in Means	
	CEO Award Winners			*All Non-Award Winners*			*Predicted Winners*				
	Obs.	Mean	SD	Obs.	Mean	SD	Obs.	Mean	SD	p(W - A)	p(W - P)
Other CEO Variables:											
CEO stock ownership (%)	262	0.040	0.100	58,725	0.031	0.078	264	0.029	0.088	0.058*	0.165
Total Comp. (tdc1)	231	13,289.66	29,774.55	52,325	4,048.15	13,870.43	229	10,111.22	21,419.98	0.000***	0.19
Cash Comp. (tcc1)	236	2,383.86	2,577.64	53,654	1,116.59	1,609.53	234	2,177.50	2,083.46	0.000***	0.341
Total Comp. Ratio	231	1.93	1.48	52,212	1.87	1.81	229	2.05	1.94	0.597	0.473
Cash Comp. Ratio	236	1.70	0.88	53,609	1.66	1.39	234	1.77	0.97	0.613	0.463
Chm., Pres. & CEO	260	0.158	0.37	54,988	0.26	0.44	261	0.210	0.377	0.000***	0.11

Empirical Strategy: Stage 1

- Identify "predicted winners"
- <u>Propensity score</u>. Logit regression of award winning on firm characteristics, CEO characteristics, time dummies, award dummies, industry dummies
- <u>Sample</u>: each month with a sample award (e.g., January of each year for the Business Week awards)
- <u>Dependent variable</u>: 1 if CEO won the award granted in that month
- <u>Independent variables</u>: given the differences in Table 1
  - Firm size (ln(market cap) at the beginning of the month before the award)
  - Book-to-market at the end of the last fiscal year ($\geq$ 6 months before award)
  - Returns for months two to three, four to six, seven to 12, and 13 to 36 before the award month
  - 48 Fama and French industry dummies
  - Year dummies
  - Award type dummies $\rightarrow$ control for variation in the number of winners across awards (shifts the baseline probability that a CEO will be named the winner)
  - CEO age, tenure and gender.

Table 2. Determinants of Award Winners

	logit
Market Capitalization	3.072
	(21.85)***
Book-to-Market Ratio	0.635
	(2.38)**
Returns_2_3	1.878
	(2.41)**
Returns_4_6	3.891
	(5.47)***
Returns_7_12	2.105
	(7.97)***
Returns_13_36	1.053
	(2.73)***
CEO female (dummy)	3.175
	(2.12)**
CEO age	0.982
	(1.68)*
CEO tenure	1.037
	(4.02)***
Industry dummies	yes
Year dummies	yes
Award type dummies	yes
Pseudo R^2	0.36
Observations	71,418

Absolute value of z statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Empirical Strategy: Stage 2

- <u>Method 1</u>: Use the predicted values from the logit regression (propensity scores) to construct a nearest-neighbor matched sample of "Predicted Winners"
  - In each award month, pick non-winning CEO with the closest propensity score to each actual award winner (with replacement).
  - Abadie and Imbens (2007) correction for remaining bias due to (ex ante) differences between the treatment and control samples:

    Correct for differences in the propensity scores of winners and predicted winners (e.g., eliminating the effect of outlier winners with a propensity score too high to closely match).

- <u>Method 2</u>: simultaneously minimize the distance between each treated observation and its match across all the characteristics we include in our first stage (according to some priority rule)
  - More significant differences between match and treatment sample.

Event Returns

- Event Date:
  - For magazine awards: cover date.
  - For awards conferred by an organization: date of public announcement.

- Abnormal returns calculation
  - Market model with the CRSP value-weighted index
  - Estimate α and β using the three years ending 23 trading days prior to the event.
  - Short-run event windows: [-5,+5]
  - Long-run reaction over 1 year ([+6,+255]), two years ([+6,+510]), and three years ([+6,+765]) following the award.

Table 3. Stock Performance of Award Winners vs. Predicted Winners

I. Cumulative Abnormal Returns Around Awards and Predicted Awards

	Award (W)	Predicted Award (P)	Difference (W - P)	Bias-Adjusted Difference	Characteristic-Matched, Bias-Adjusted Difference
Event Window [-5,+5]	-0.002	-0.006	0.005	0.005	0.003
	(0.35)	(1.37)	(0.65)	(0.61)	(0.57)
Event Window [+6,+255]	-0.183	-0.101	-0.082	-0.082	0.024
	(7.03)***	(4.48)***	(2.38)**	(2.44)**	(0.94)
Event Window [+6,+510]	-0.404	-0.235	-0.169	-0.168	-0.077
	(9.43)***	(5.68)***	(2.84)***	(2.77)***	(1.97)**
Event Window [+6,+765]	-0.607	-0.349	-0.257	-0.256	-0.147
	(10.42)***	(6.14)***	(3.16)***	(3.09)***	(2.69)***

Portfolio Returns

- Zero-investment strategy:
  - long award winners and short Predicted Winners.
  - drop firms when the (predicted) award-winner leaves the company
- Problem: Selection of Predicted Winners uses forward-looking information
  - first-stage logit on the entire sample of awards)
  - fully implementable strategy: separate first stage logit for each "award month" ➔ not feasible (only 1 winner for several awards) using only data from that month and before, is not feasible.
- Time series regression of the value-weighted average portfolio return on 3 Fama-French factors (size (smb), book-to-market (hml), and market excess returns (retrf)) + momentum factor (Carhart, 1997).

Table 3. Stock Performance of Award Winners vs. Predicted Winners

II. Long Run Returns to Difference Portfolio

	1 Year	2 Years	3 Years
mktrf	0.125	0.055	0.052
	(1.23)	(0.68)	(0.75)
smb	-0.209	-0.110	-0.079
	(2.01)**	(1.34)	(1.11)
hml	-0.173	-0.178	-0.096
	(1.35)	(1.75)*	(1.10)
umd	0.274	0.229	0.162
	(3.86)***	(4.06)***	(3.35)***
alpha	-0.005	-0.005	-0.005
	(1.16)	(1.52)	(1.99)**
Observations	141	143	143
R-squared	0.13	0.14	0.09

Absolute value of t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%

Statistical significance: 5%-level over three years

Economic significance: 50 bp per month = 18% over 3 years

Stock Returns versus Accounting Performance

- Stock returns imply that investors form systematically biased beliefs over future performance of award-winners.

- Do they not account for regression to the mean?

- Is there additional real under-performance?

→ Accounting measures

Figure 2. Accounting Returns: ROA
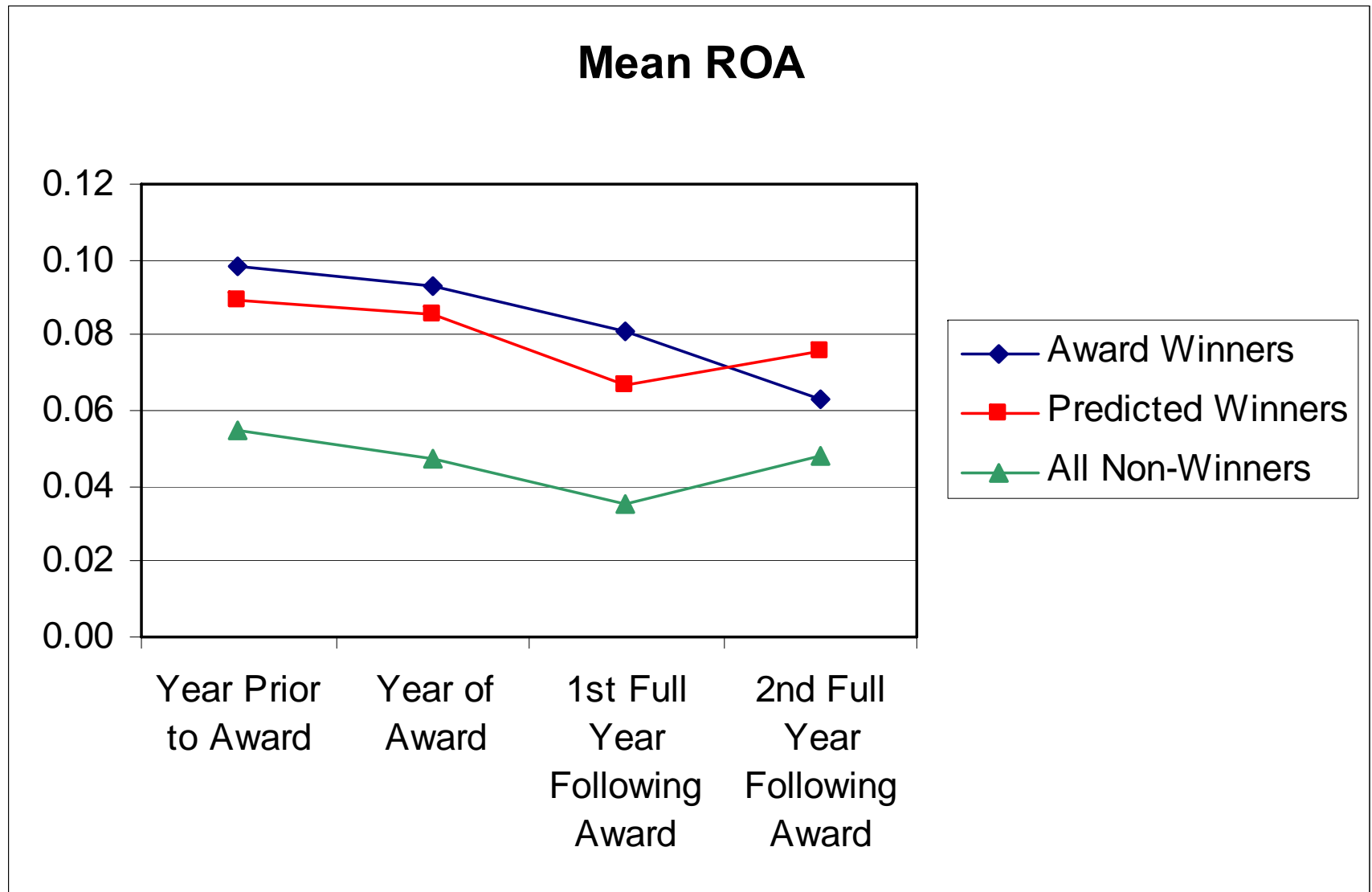
Mean ROA

Implications for the CEO

- **"Extractions"**

    Is CEO compensation adjusted to award and/or to underperformance?

- **"Distractions"**

    How does CEO behavior change post award?

- **"Earnings Management"**

    Does the CEO increase earnings management to meet expectations?

Compensation

- Mean immediate increase in total compensation among award winners: $7.816M
- Decrease among Predicted Winners: $829K
- Result driven by stock compensation
- <u>Interpretation 1</u>: firms use increased equity-based compensation following increases in CEO status to offset increased agency problems
  - BUT: underperformance results
- <u>Interpretation 2</u>: award-winning CEOs use increased power to extract greater rents in the form of equity-based compensation.
  - Rent extraction in the form of equity-based compensation (and particularly stock option grants) less transparent, less likely to violate the shareholders' "outrage constraint" (Bebchuk and Fried, 2003).

Compensation Ratio

## Ratio of Mean CEO Total Compensation to Next-Highest Paid Executive
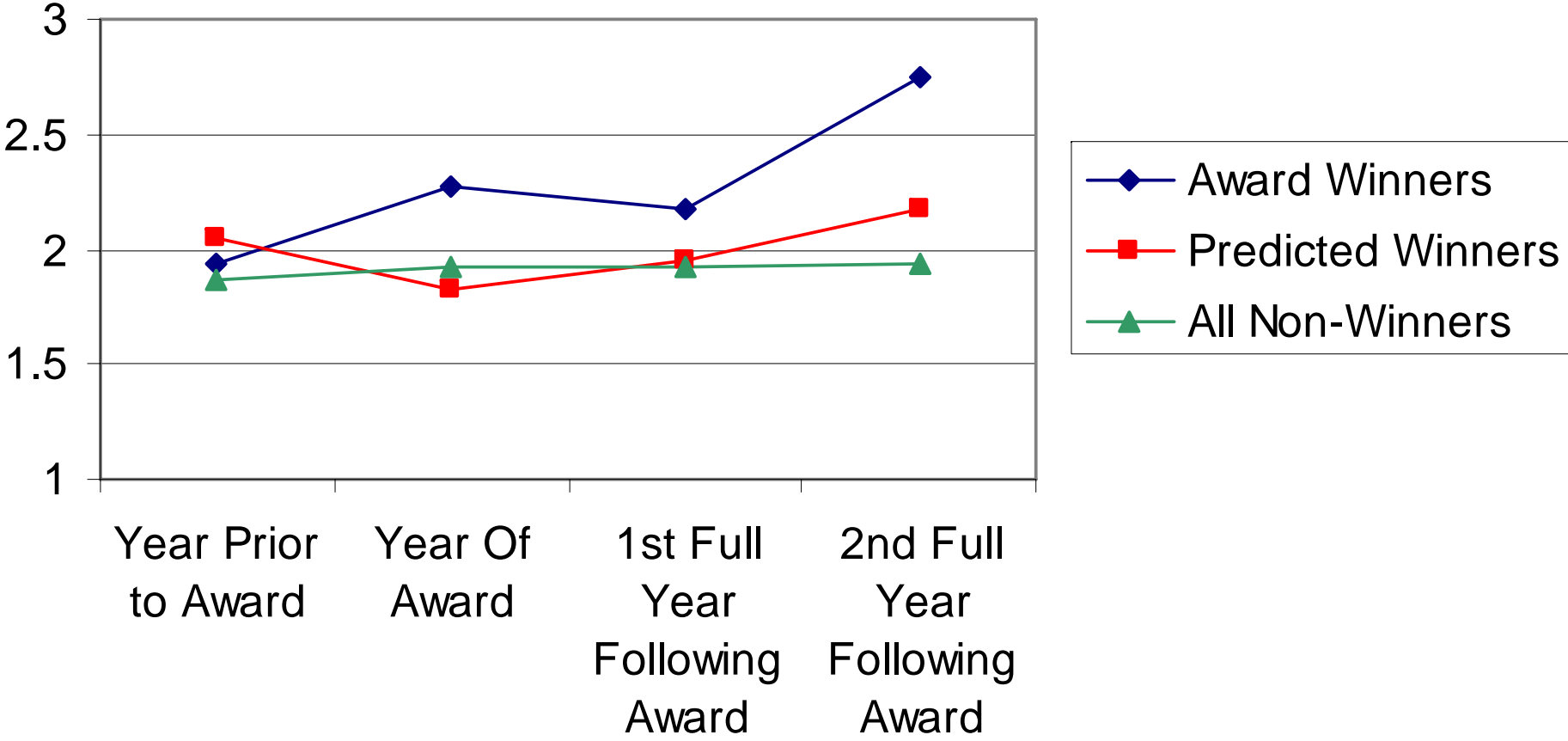
Rent Extraction vs. Optimal Contracting

- Do CEOs in firms with weaker corporate governance receive higher rewards?
  - **Measure 1:** CEO power as measured by "BOSS" variable, i.e. CEOs who are also President and Chairman of the Board
  - **Measure 2:** Gompers, Ishii, Metrick (2003) index
  - **Measure 3:** Presence of an institutional blockholder (Cremers and Nair 2004)

Total Compensation By Governance
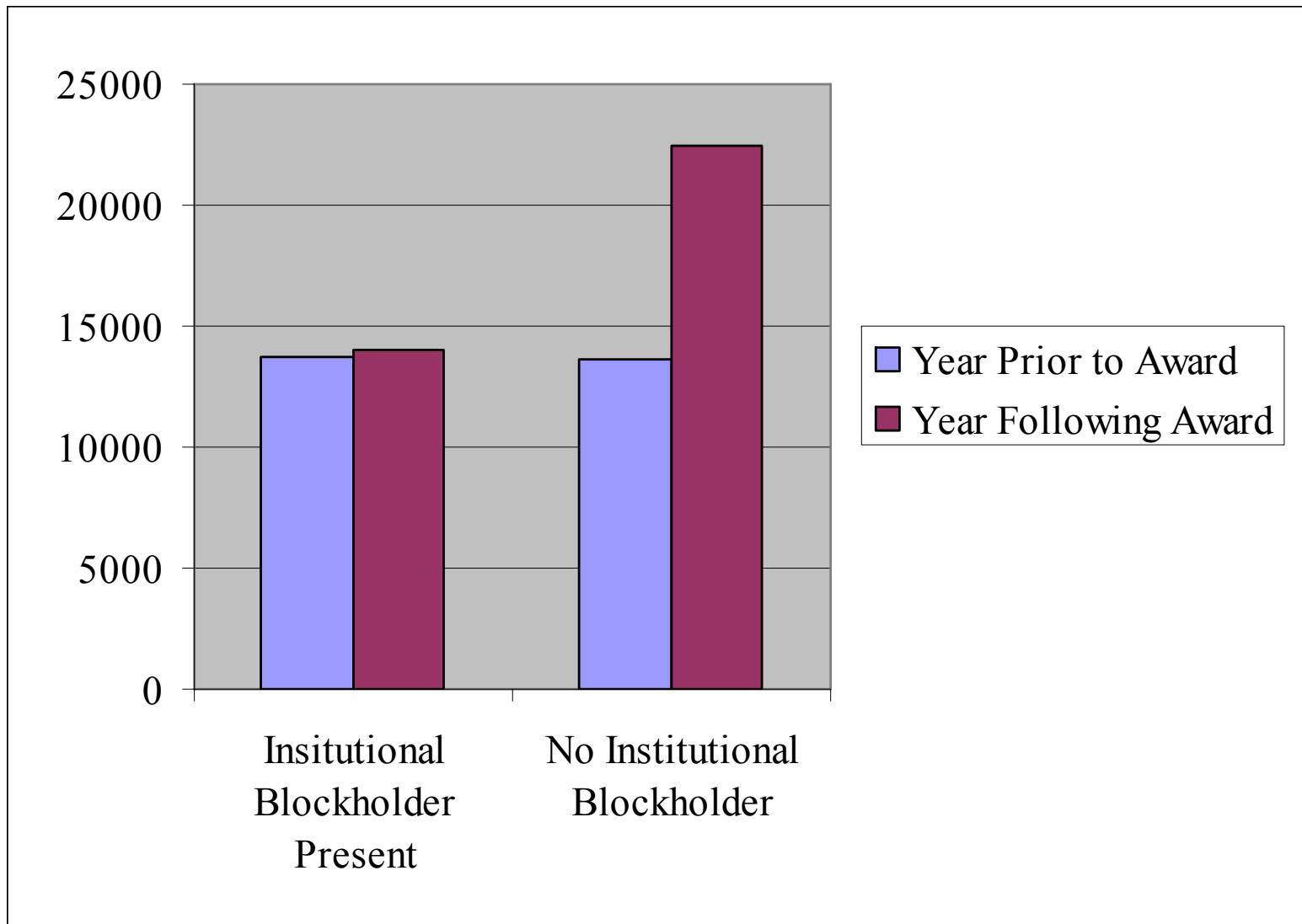
Ratio of Total Compensation to Next Highest Paid Executive By Governance
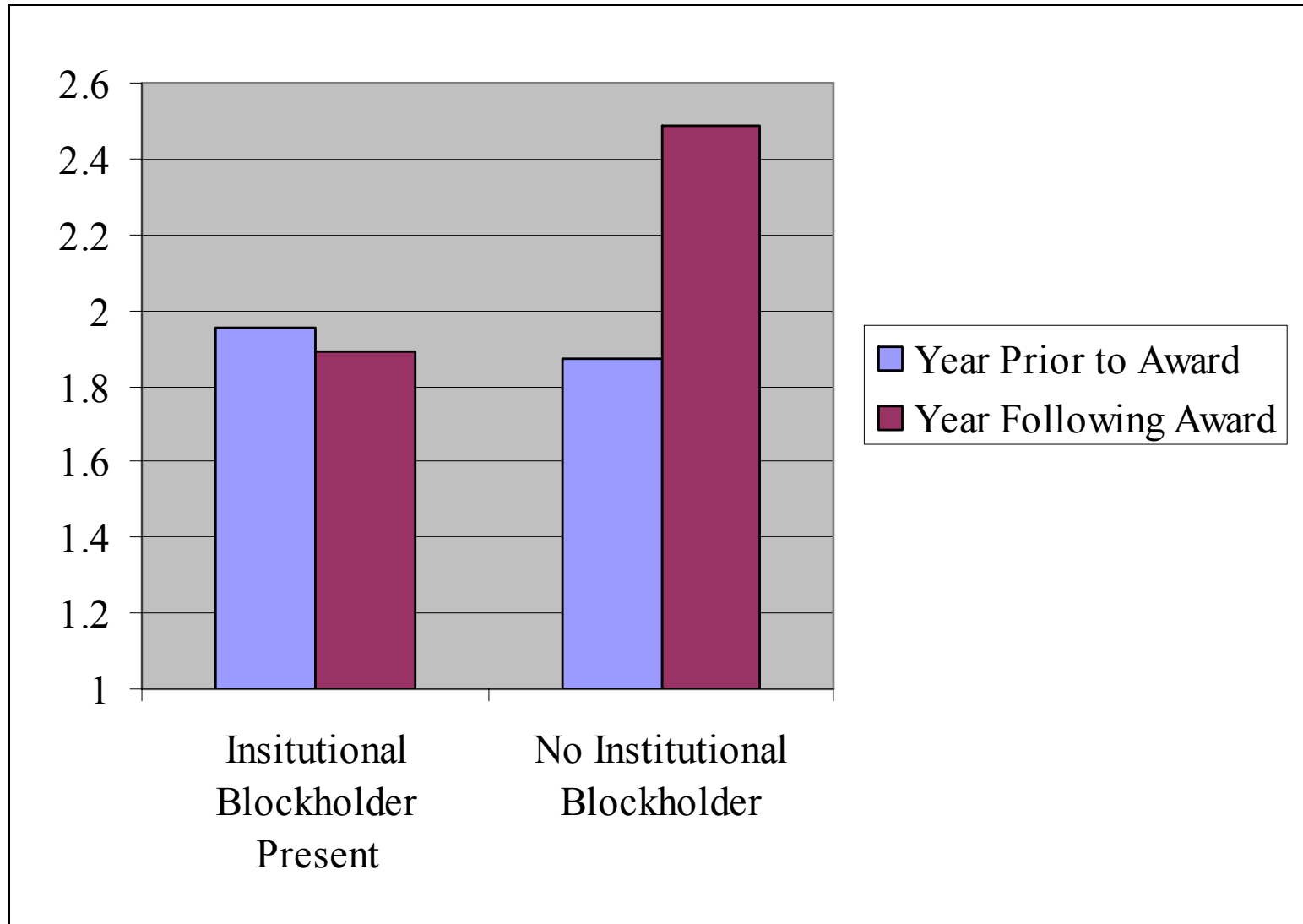
Table 5. Performance by Corporate Governance

	Governance (GIM ≤ 7) Bias-Adjusted Difference	(7 < GIM ≤ 9) Bias-Adjusted Difference	Governance (GIM > 9) Bias-Adjusted Difference
CAR [6, 255]	0.110	0.004	-0.127
	(1.01)	(0.08)	(2.77)***
	N=68	N=81	N=103
CAR [6, 510]	0.137	-0.026	-0.221
	(0.78)	(0.31)	(2.93)***
	N=68	N=81	N=103
CAR [6, 765]	0.066	-0.041	-0.229
	(0.28)	(0.38)	(2.17)**
	N=68	N=81	N=103

Absolute value of t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at

Table 5. Performance and Compensation by Corporate Governance

	Good Governance (GIM ≤ 7)		(7 < GIM ≤ 9)		Bad Governance (GIM > 9)	
	Bias-Adjusted Difference	Bias-Adjusted Difference with Lag	Bias-Adjusted Difference	Bias-Adjusted Difference with Lag	Bias-Adjusted Difference	Bias-Adjusted Difference with Lag
ROA [-1, +2]	0.036	0.004	0.017	0.014	-0.020	-0.011
	(1.07)	(0.11)	(0.68)	(0.99)	(1.98)**	(1.16)
	N=53	N=53	N=56	N=56	N=87	N=87
Total Compensation [-1, 0]	-831.18	357.39	5,483.33	7,140.69	9,412.38	8,741.06
	(0.12)	(0.08)	(0.58)	(0.79)	(2.16)**	(2.15)**
	N=63	N=63	N=70	N=70	N=91	N=91
Cash Compensation [-1, 0]	-247.20	-191.67	326.08	213.53	-100.69	-266.51
	(0.85)	(0.67)	(0.79)	(0.59)	(0.62)	(1.43)
	N=64	N=64	N=71	N=71	N=94	N=94

Absolute value of t statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%

Distractions

- **Outside Board Seats**
  - **Negative CAR around announcement that CEO is appointed as an outside director in Fortune 1000 firms (1997-1999), provided CEO is not of retirement age (Fich 2004)**
- Writing books
  - Memoirs
    - Andrew Grove (Intel): *Swimming Across: A Memoir*

      In SWIMMING ACROSS, a true American hero reveals his origins and what it takes to survive...and to triumph.
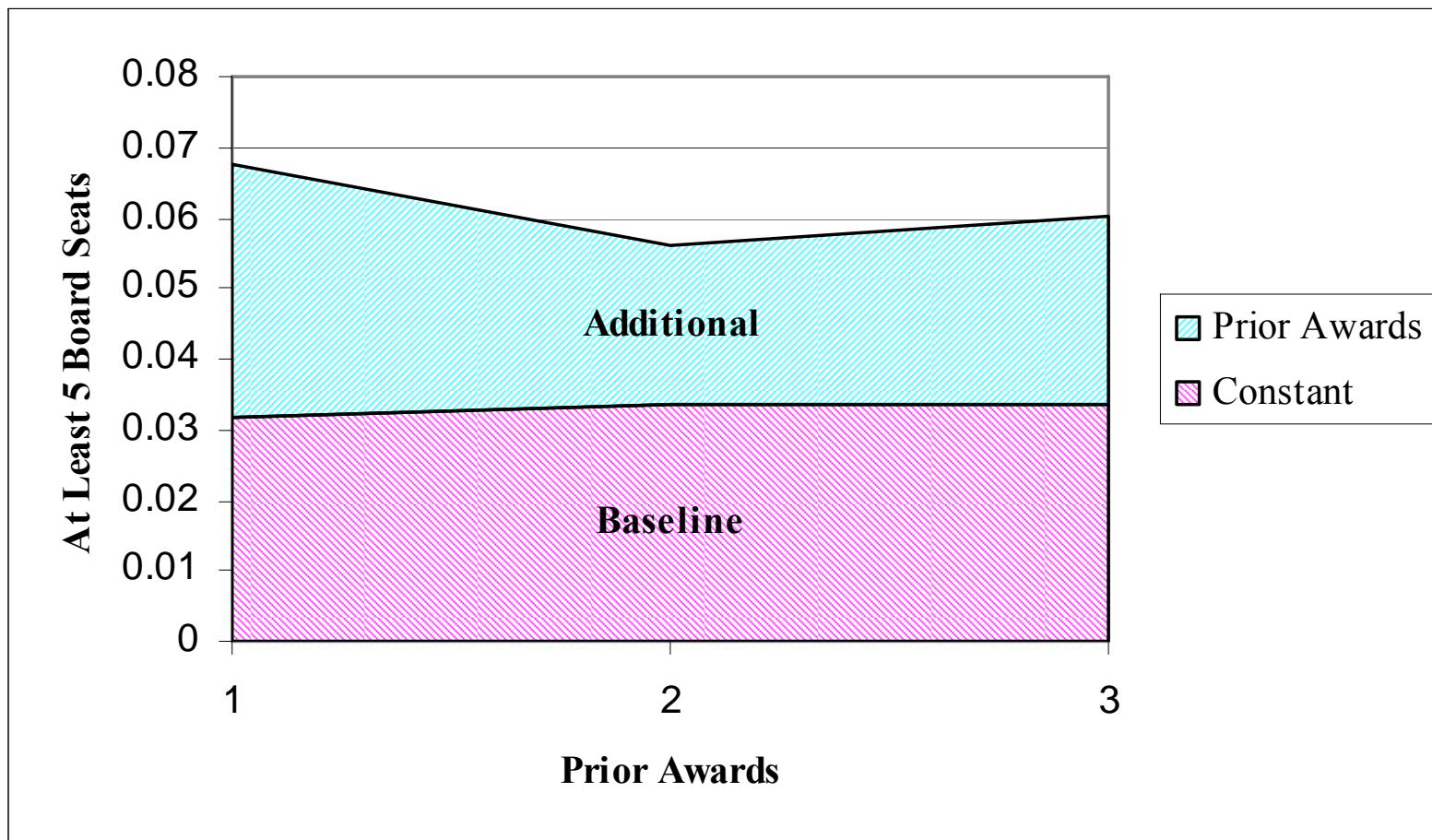
      - Amazon.com
  - Self-help Books
    - Andrew Grove (Intel): *High Output Management*
    - Andrew Grove (Intel): *Only the Paranoid Survive*
- Golf handicap
  - Among CEOs ranked in golf magazine, Superstars have a better handicap (13) than non-award winners (15).
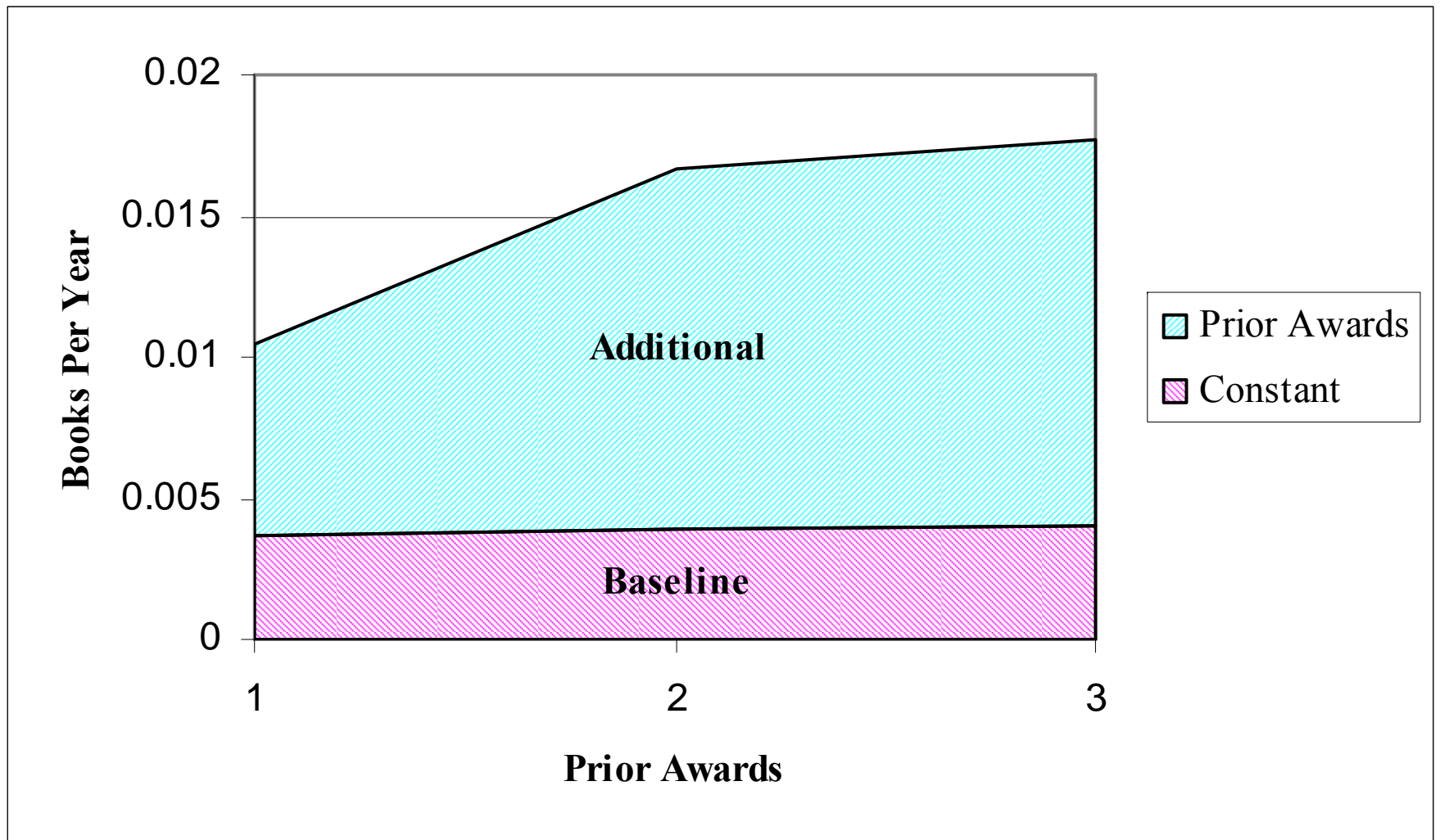
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Books

Implications for the CEO

- "Extractions"
  - Is CEO compensation adjusted to award and/or to underperformance?
- "Distractions"
  - How does CEO behavior change post award?
- **"Earnings Management"**

  Does the CEO increase earnings management to meet expectations?

Figure 6. Earnings Manipulation -- Zero Earnings Surprise
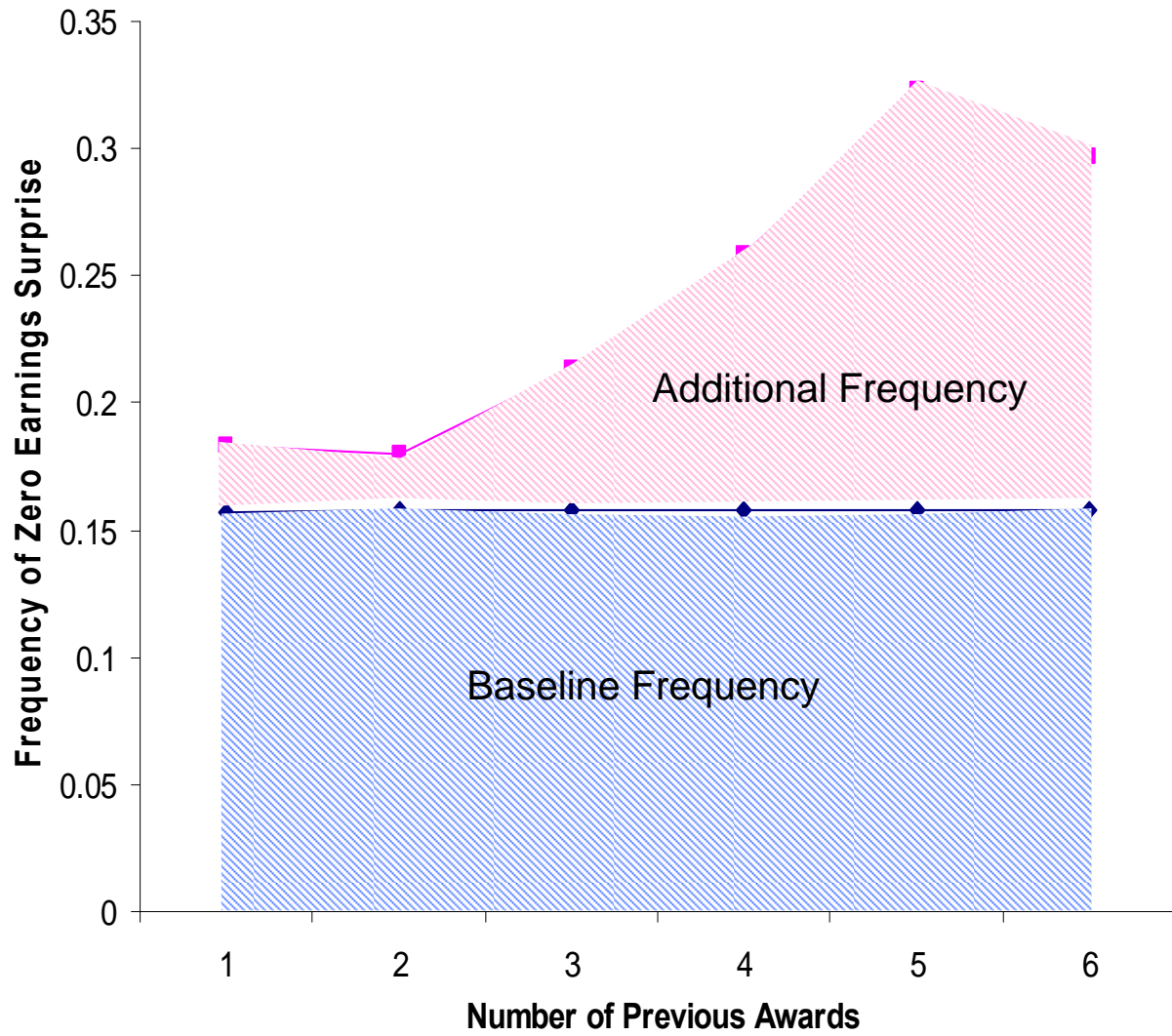
For zero earnings surprise as a measure of earnings manipulation see Degeorge, Patel, Zeckhauser (1999)

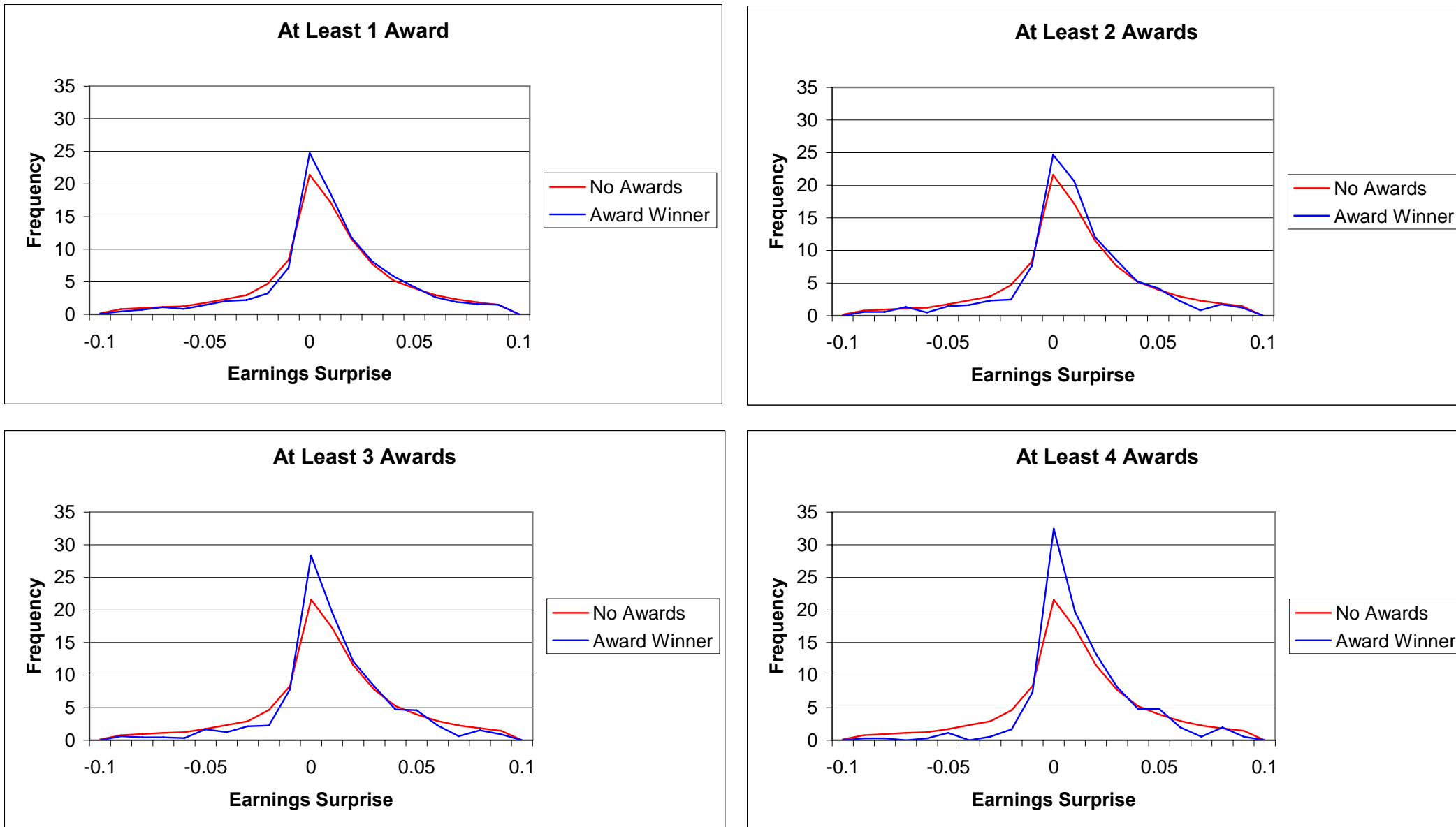# Distributions of Earnings Surprises

Figure 4. CEO awards and earnings manipulation. Earnings surprise is the difference between the firm's quarterly earnings announcement and the median analyst forecast among all analysts that make a forecast in the 30 calendar days prior to the announcement. The figures count the number of awards the CEO has won in prior years, inclusive of awards won in other companies.

Conclusions

- Award-winning CEOs

  – Generate lower stock returns than "predicted award winners."

  – Generate lower accounting returns in the long run.

  – Extract more money from their firm, especially when governance is weak.

  – Divert more time to non-core activities.

- Implications

  – Media matters! (Generating "superstar culture.")

  – Corporate governance matters even for star CEOs!

  – Corporate governance results suggest that ex-ante incentives can be maintained while eliminating some of the ex-post harm to shareholders.

Example 4: Does extra-ordinary high pay induce better performance?

(Ariely, Gneezy, Loewenstein, and Mazar, 2005)

- Experiment in India, in which subjects could earn very high payments
    - Up to half of the average annual consumer expenditure (per capita) in India.
    - Subjects randomly assigned to small, moderate or very large payments.

- Subjects play 7 games
    - Games testing spatial perception, memory, motoric skills, and the ability to lie.

- Key result: subjects with the highest payment perform worse than those with the moderate and the low payment in almost all games!

- Proposed explanation: "Yerkes-Dodson law" ("choking under pressure") = arousal generated by the high reward is too high to induce optimal effort

- Alternative explanations:

  - Subjects use high payoffs as a signal about the difficulty of the task. $\implies$ Infer in the high-stake treatment that it must be pretty much impossible to finish the task at the "very good" level. The rational response is to put in less effort.

  - Subjects in the high-payoff treatment are scared and perform worse just because they think the task is so difficult.

  - Subjects feel that it is not "right" or "fair" to earn so much in an experiment. The subjects in the high-payoff treatment may feel that they "owe the experimenter" and not put in as much effort.

Open Questions

- Boards

  – Optimal composition of boards

  – Optimal decision-making mechanism on boards. (What should be approved by board, what not?)

  – Optimal compensation structure for board members.

  – Key: instrument (regulation)

- Fraud detection

3   Some unsollicited advice for thesis work in CF

1. CF has become a very broad field. Some of the most exciting recent papers
   are grounded in other fields: political economy questions (corruption and
   lending), development economics question (microfinance), public finance
   (taxes), international (exploit international regulation / changes in com-
   petition), behavioral economics (manager biases, investor biases).
   $\implies$ Get to know at least one neighboring "applied micro" fields very well.

   - Questions - are they relevant to CF? (Evaluating the impact of "lead-
     ers" in political economy [Jones-Olken], family ties, networks, ...).

   - Methodology - could it be applied in CF? (Nearest-neighbor matching;
     new panel-data techniques)

   - Instruments / identification - could you extract a new source of iden-
     tification? (E.g. shocks to foreign competition).

- Data – is there data that speaks to CF questions but has not been exploited in CF? (E.g., census data.) You always get an extra bonus for a new data set (international; more micro, e.g. plant level, new contract data, e.g. VC).

- *However*, be prepared for the eternal "Can you make money? What is the arbitrage strategy?" type of question.

2. Theory versus Empirics:

- Corporate Finance has been going through waves (contract-theory wave $\longrightarrow$ mostly theory; corporate governance wave $\longrightarrow$ at the onset very atheoretical).

- Most promising: careful model $+$ empirical test (with different weights). (*This is my personal view, but it also corresponds to the recent publication process.*)

- Be open to structural approaches, especially given the lack of natural/policy experiments – but be critical, too. (What do we learn from the estimation?)

- Hunt for natural/policy experiments.

3. Follow recent work ... but don't follow it too much.

- Checking out the NBER cf / bf programs, AFA, WFA is useful.

- Reading too many papers can be harmful since it induces narrow-follow-ups and refinements. Go back to such detail only when you do the literature review for your paper.

4. "Learn the language."

- Attend seminars! (Finance, Financial Economics, Real Estate, ...). There is a collection of questions that are always asked and some lingo you can pick up.

- Definitely attend job-market seminars. (Try to find out about the finance JM seminars at Haas in Jan-Feb.)

- Try to RA for a professor who works on the topics you are interested in (not necessarily in Berkeley).

5. Talk as much as you can about what you are working on. Here are some ways to ensure this:

- My favorite one: Work with a co-author.

- My most important one (during my Ph.D.): work in a computer lab or field office and talk with co-students with similar interests.

- Talk regularly to a professor. (Really regularly! At least 2-3 a month, though not necessarily to the same person.)

  - *Note*: It's most important that you do so rather than procrastinating from week to week in the hope of having something more interesting to say next week. But it is also true that you are "selling" your research and your research abilities every single time. So: be well-prepared, ideally have a write-up of the results you want to discuss (for yourself, maybe to share with the prof), show how precisely you incorporated the suggestions from the last meeting.

- If possible, talk to seminar speakers! Faculty is often happy to fill their schedule and allow for 30-60 minutes of student meetings. Just ask! There is also often the possiblity to join lunches. Just ask!

- *Same note as above* ... you are leaving a first impression! Have a well-formulated statement of your own research project ready. Have some insights on the speaker's paper ready.

- Organize student presentations. (We did 'pizza dinners' once a week. You may even get funding for this.)

- Try to present as often as possible ... in any student lunch that might be related to your topic (Behavioral, Public, Labor, IO, ...)

6. Motivation

- Do not get discouraged! Unproductive periods come with the job ... (*Side-note: If you stay in academia, you will have to deal with failed projects for the next 40 years or so. The earlier you start finding strategies to deal with them the better!*)

- Try to push ideas to the point where they either work or don't work. Don't keep lingering ideas …

- Always prioritize your best idea!!!

- Think about topics you care about (comparative advantage!)

- Think about topics others care about (co-authors, professors, ..)

- Think about socially important topics, if you can.

- Come and see me :-)