Investor Reaction to First News of Option Backdating Probes

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Backdating as a phenomenon.

Lie (*Management Science* 2005):

Well-timed grants become less common after SOX.

Why? SOX stemmed retroactive dating of grants.

What exactly *is* backdating?

Selection, ex-post, i.e., with hindsight, of a *nominal* grant date on which the stock price was lower than the current stock price, as the *official* date on which the grant was made.

How does backdating work?

Under APB25 and FAS 123, if exercise price equals prevailing stock price on the grant date, no option expense.

Backdating "avoids" the expense by falsifying the grant date

Suppose the stock price today is $25, was $20 last week.

For grant made today, must set exercise price to $25 or higher or else must record an expense. *Grant less attractive?*

Pretend the grant was made last week. Now can set exercise price anywhere above $20 and still avoid expense!

Grant is sweeter *and* expense is avoided!

Backdating as a scandal.

Involves both potential managerial misconduct ***and*** possibility of financial misreporting (were grant ***terms*** misstated?).

First *Wall Street Journal* report on November 11, 2005:
SEC probing backdating at number of companies.

Second report on March 18, 2006 (wins *Journal* a Pulitzer):
Grants patterns have astronomical odds.

Flood of coverage follows.

Regulators, US Congress and Administration (even President) involved in formulating a response to the ensuing furor.

Fallout from backdating.

- Was there misleading accounting? disclosure?
  - Costly internal investigations, restatements
  - Regulatory probes, inquiries and prosecutions
  - Executive turnover: resignations, dismissals

- Opportunity costs
  - Loss of talented executives
  - Loss of focus on business
  - Morale losses among employees

- Income tax and payroll taxes, interest, penalties.

All this and more part of … still ongoing fallout.

Basic Research Question(s)

Could rational investors in an efficient securities market have foreseen these costly fallouts?

If the answer is ***yes***, then,

Would investors have doubted only those firms that subsequently admitted to or were accused of backdating (*tainted* firms) or would suspicion be a generalized (spillover) effect to ***all*** firms perceived to be at-risk?

Would cross-sectional variation in stock returns reflect the heterogeneity in the expected fallout to different firms?

Prior Related Research

Most prior studies focus on long-window returns around *firm-specific announcements* by small samples of *tainted* firms:

- Narayanan, Schipani and Seyhun (2007) 44 firms
- Jain and Rezaee (2007) 180 firms
- Becker and Lu (2007) 100 firms
- Bernile, Jarrell and Mulcahey (2006) 110 firms
- Bernile and Jarrell (2007) 130 firms

Only one study around the second, March 18, 2006, report date:

- Bernile and Jarrell (2007) find -1% return in 40 day window

1. ***Non-tainted* firms not studied: were they also hurt?**
2. ***First* report (Nov 11, 2005) not studied: did investors react?**

Why is this interesting?

Hundreds, if not thousands of firms were suspect.

Lie (2005) identifies over 2000 at-risk companies (*NYT* 2007)

WSJ, Nov 11, 2005, report put hundreds of companies at risk:

"David Aboody, an associate professor at UCLA's Anderson School of Management who also has researched option-grant timing, said he would be 'shocked' if backdating was a systemic practice. **To get the large aggregate effects that Prof. Lie found, he said, hundreds of companies would need to have been engaged in what amounts to 'criminal activity.'**"

How widespread was the suspicion? Who got hurt?

What (broadly) do we do?

Examine investor reactions to address four key questions.

1. How did investors react to the first news report (November 11, 2005) of regulatory investigations?

2. Is the X-sectional variation of excess returns around the report associated with the extent of questionable grants made by the firm?

3. At the time of first report, were investors able to further distinguish between tainted firms and non-tainted firms?

4. How did investors react to the March 18, 2006, report?

Methods & Data

Examine investor reactions to November 11, 2005, and March 18, 2006, *Wall Street Journal* reports for entire sample of executive stock option granting firms (N≈4350) with data in *Thompson Financial + Compustat + CRSP*.

Conduct two levels of analysis:

Mean (excess) returns

- *Are mean excess returns negative?*

X-sectional variation decomposition

- *Do suspicion metrics (extent of suspicions grants) explain X-sectional variation in excess returns?*

Mean Return Analysis

Compute four-factor abnormal returns for each firm (security).

Compute sample mean abnormal returns for each report date.

Nov 11: sample mean reaction -0.33% (significant)

Mar 18: sample mean reaction -0.007% (n.s.)

But is this <u>really</u> a reaction to backdating news?

X-Sectional Analysis

Construct *six* suspicion indices using definitions of suspicious grants proposed in literature (*BGP1*, *BGP2*, *NSS*, *HL2*, *HL 20*, *RSRR*) and *two* combined indices (*SUSAVG*, *SUSTOTR*).

Form hedge portfolios on indices, measure hedge returns.

Nov 11: hedge returns average 0.3% (significant)

Mar 18: hedge returns average 0.1% (not significant)

Overall pattern is consistent with mean return analysis.

Regressions suggest ***small*** additional penalty for tainted firms.

Table 1
Sample Composition

	Firm-grants	Firms
Number of Firm-Grants from Thomson Financial Insider with grants made to CEOs from 1 January 1996 to 31 December 2006	42,147	9,233
Less: Number of firm grants without CRSP daily prices to re-examine exercise dates	(7,735)	(2,147)
Number of Firm-Grants from Thomson Financial Insider with grants made to CEOs from 1 January 1996 to 31 December 2006 with CRSP daily data around grant dates	34,412	7,086
Less: Scheduled grants	(5,728)	
Less: Grants not issued at-the-money	(11,007)	
Less: Grants issued in the month of an ex-dividend date	(1,658)	
Less: Grants without stock prices for the entire month to compute "lucky" grants	(845)	
Less: Grants granted after 30 September 2005*	(1,533)	
		900
Remaining grants	13,641	7,986

Table 1

Sample Composition

Remaining grants	13,641	7,986
Less: Firms without CRSP data to compute volatility of returns (standard deviation of returns of the year ending 2 months before the month the news was reported) or the predicted coefficients of the four-factor model		(3,628)
Remaining Firms before consideration of Compustat Data (Hedge Sample)		4,358
Less: Firms with missing Compustat Data		(1,409)
Final Sample (Regression sample)		2,949

* December 31, 2005 for the firms in the March 18, 2006 event sample.

Table 2
Daily Returns around November 11, 2005

Panel A: Full sample (2,949 Option Granting Firms)							
Date	Event Time	4-Factor Adjusted Return	*T*	P(|*t*|)≥*T*	*Z*	P(|z|)≥*Z*	
11/9/2005	-2	-0.00190	-3.387	<.001***	-1.253	0.21	
11/10/2005	**-1**	**-0.00333**	**-5.533**	**<.001*** **	**-2.192**	**0.03**	**
11/11/2005	0	0.00012	0.201	0.84	0.081	0.94	
11/14/2005	1	0.00034	0.619	0.54	0.224	0.82	
11/15/2005	2	-0.00062	-1.007	0.31	-0.408	0.68	
Panel B: 2,759 Non-tainted firms							
Date	Event Time	4-Factor Adjusted Return	*T*	P(|*t*|)≥*T*	*Z*	P(|z|)≥*Z*	
11/9/2005	-2	-0.00171	-2.939	<.001***	-1.146	0.25	
11/10/2005	**-1**	**-0.00314**	**-4.977**	**<.001*** **	**-2.106**	**0.04**	**
11/11/2005	0	0.00039	0.603	0.55	0.263	0.79	
11/14/2005	1	0.00009	0.158	0.87	0.061	0.95	
11/15/2005	2	-0.00075	-1.161	0.25	-0.500	0.62	

Table 2
Daily Returns around November 11, 2005

Panel C: 190 Alleged Backdaters

Date	Event Time	4-Factor Adjusted Return	*T*	P(|*t*|)≥*T*	*Z*	P(|z|)≥*Z*	
11/9/2005	-2	-0.00469	-2.202	0.03**	-1.607	0.11	
11/10/2005	**-1**	**-0.00598**	**-3.488**	**<.001*** **	**-2.051**	**0.04**	****
11/11/2005	0	-0.00379	-3.310	<.001***	-1.298	0.19	
11/14/2005	1	0.00395	2.500	0.01***	1.354	0.18	
11/15/2005	2	0.00123	0.636	0.52	0.421	0.67	

Table 3
Daily Returns around March 18, 2006

Panel A: For 2,827 Option Granting Firms

Date	Event Time	4-Factor Adjusted Return	*T*	P(|*t*|)≥*T*	*Z*	P(|z|)≥*Z*
3/15/2006	-2	-0.00013	-0.296	0.77	-0.120	0.90
3/16/2006	-1	-0.00007	-0.135	0.89	-0.067	0.95
3/17/2006	0	0.00033	0.634	0.53	0.299	0.76
3/20/2006	1	0.00110	2.030	0.04**	1.006	0.31
3/21/2006	2	0.00124	2.596	0.01***	1.135	0.26

Panel B: For 2,644 Option Granting Firms Excluding Alleged Backdaters

Date	Event Time	4-Factor Adjusted Return	*T*	P(|*t*|)≥*T*	*Z*	P(|z|)≥*Z*
3/15/2006	-2	-0.00027	-0.590	0.55	-0.243	0.81
3/16/2006	-1	0.00019	0.335	0.74	0.168	0.87
3/17/2006	0	0.00028	0.518	0.60	0.247	0.80
3/20/2006	1	0.00110	1.944	0.05**	0.983	0.33
3/21/2006	2	0.00115	2.290	0.02**	1.020	0.31

Table 3
Daily Returns around March 18, 2006

Panel C: For 183 Alleged Backdaters

Date	Event Time	4-Factor Adjusted Return	*T*	P(|*t*|)≥*T*	*Z*	P(|z|)≥*Z*
3/15/2006	-2	0.00191	1.198	0.23	0.788	0.43
3/16/2006	-1	-0.00388	-1.992	0.05**	-1.599	0.11
3/17/2006	0	0.00106	0.518	0.60	0.437	0.66
3/20/2006	1	0.00111	0.611	0.54	0.455	0.65
3/21/2006	2	0.00268	1.641	0.10*	1.105	0.27

Table 4
Descriptive Statistics for variables used in factor analysis.

Variable	Mean	Standard Deviation	25th Percentile	Median	75th Percentile
Total Assets (in mil)	2653.57	9543.29	90.61	361.16	1403.35
Altman's Z score	5.899	13.71	2.03	3.73	6.46
Volatility of Stock Returns	0.027	0.014	0.018	0.0242	0.033
Big 4 (Proportion)	0.837	0.368	1.00	1.00	1.00
Newecy (Proportion)	0.191	0.393	0	0	0
HighTech (Proportion)	0.100	0.300	0	0	0
Prop_Nosdirgrants	0.364	0.195	0.24	0.37	0.50
Prop_Scheduled	0.134	0.186	0	0	0.25
BGP1	0.065	0.149	0	0	0
BGP2	0.148	0.222	0	0	0.25
NSS	0.339	0.282	0.05	0.325	0.54
HL2	0.309	0.305	0	0.25	0.50
HL20	0.312	0.306	0	0.25	0.50
RSRR	0.150	0.205	0	0.060	0.25
SUSAVG	0.203	0.191	0.025	0.173	0.315
SUSTOTR	5.127	3.223	2.00	5.00	8.00

Table 5

Hedge Returns

Panel A: November 11, 2005			
Measure	RET[-1]	MINRET	CUMRET
BGP1	**0.004 *****	0.003 ***	**0.005 *****
BGP2	**0.003 *****	0.003 ***	**0.003 *****
NSS	**0.003 *****	0.003 ***	**0.004 *****
HL2	**0.003 *****	0.004 ***	**0.004 ****
HL20	**0.003 *****	0.003 **	**0.004 ****
RSRR	**0.005 *****	0.004 ***	**0.005 *****
SUSAVG	**0.001 *****	0.004 ***	**0.004 *****
SUSTOTR	**0.004 *****	0.003 ***	**0.004 ****

Table 5

Hedge Returns

Panel B: March 18, 2006			
Measure	RET[-1]	MINRET	CUMRET
BGP1	0.0014	0.0033 ***	0.0026
BGP2	0.0005	0.0029 ***	0.001
NSS	0.0004	0.0028 ***	0.0005
HL2	0.0013	0.003 ***	0.0005
HL20	0	0.0024 ***	0.0003
RSRR	**0.0018 ***	0.0029 ***	0.0022
SUSAVG	0.0012	0.0036 ***	0.001
SUSTOTR	0.0011	0.003 ***	0.0006

Table 6
Factor Pattern Matrix (Principal Component Analysis)

Panel A. November 11, 2005.				
Variable	Factor 1 (Suspicious)	Factor 2 (Industry)	Factor 3 (Risk)	Factor 4 (Distress)
Total Assets	-0.24776	-0.19538	0.49255	-0.26340
Hightech	0.24498	**0.77847**	0.40985	0.04651
Newecy	0.27169	**0.76762**	0.41722	0.05483
Big4	-0.11124	-0.27651	**0.56067**	0.49083
Altman's Z	0.07755	0.02597	-0.17750	**0.55525**
Ivolatility	0.23667	0.42893	**-0.58220**	-0.16791
Prop_Nosdirgrants	0.15645	0.08419	-0.32748	**0.53967**
Proportion_sch	**-0.42879**	-0.18853	0.26408	0.07696
HL2	**0.81371**	-0.13475	0.04789	0.06125
HL20	**0.85008**	-0.12039	0.03105	0.04678
BGP1	**0.64853**	-0.18847	0.10393	-0.17191
BGP2	**0.80779**	-0.15120	0.09189	-0.15125
NSS	**0.85128**	-0.13956	0.00776	0.09787
RSRR	**0.79635**	-0.12658	0.09175	-0.03886

Table 6
Factor Pattern Matrix (Principal Component Analysis)

Panel B. March 18, 2006.

Variable	Factor 1 (Suspicious)	Factor 2 (Industry)	Factor 3 (Risk)	Factor 4 (Distress)
Total Assets	-0.24632	-0.08501	0.50030	-0.27955
Hightech	0.24162	**0.84957**	0.23326	0.05627
Newecy	0.28038	**0.83436**	0.23799	0.06641
Big4	-0.12264	-0.11790	**0.62763**	0.40103
Altman's Z	0.08717	-0.10182	-0.13475	**0.67549**
Ivolatility	0.25213	0.25077	**-0.67270**	-0.21066
Prop_Nosdirgrants	0.15814	0.04195	-0.36358	**0.48297**
Proportion_sch	**-0.44399**	-0.11989	0.29326	0.06068
HL2	**0.82036**	-0.11171	0.07512	0.03181
HL20	**0.85268**	-0.10873	0.05798	0.03981
BGP1	**0.64672**	-0.17866	0.14464	-0.14559
BGP2	**0.80607**	-0.13045	0.12622	-0.11563
NSS	**0.84880**	-0.12706	0.04875	0.07128
RSRR	**0.80141**	-0.09473	0.12285	-0.05028

Table 7
Event-window regressions.

Panel A: November 11, 2005						
	(1)		(2)		(3)	
	RET [-1]		*CUM [-1,0]*		*CUM[-2,+2]*	
Suspicious	**-0.00143**	******	-0.0007		-0.00085	
	(0.031)		(0.425)		(0.467)	
Industry	-0.00182	***	-0.00183	*	-0.00298	**
	(0.009)		(0.053)		(0.044)	
Risk	0.00134	*	-0.00001		0.00405	***
	(0.079)		(0.993)		(0.005)	
Distress	0.00101		0.00041		0.00159	
	(0.157)		(0.687)		(0.269)	
Backdater dummy	-0.00255		-0.00613	***	-0.00577	
	(0.179)		(0.009)		(0.124)	
Constant	-0.00316	***	-0.00296	***	-0.00522	***
	(0.000)		(0.000)		0.000	
N	2949		2949		2949	
Adjusted R^2	0.0060		0.0020		0.0050	

Table 7
Event-window regressions.

Panel B: March 18, 2006						
	(4)		(5)		(6)	
	RET [-1]		*CUM [-1,0]*		*CUM[-2,+2]*	
Suspicious	**-0.00013**		-0.00011		-0.00019	
	(0.821)		(0.885)		(0.860)	
Industry	-0.00119	**	-0.00127	*	0.00057	
	(0.022)		(0.080)		(0.640)	
Risk	0.00063		-0.00054		-0.00388	
	(0.347)		(0.532)		(0.009)	***
Distress	0.00017		-0.00023		-0.00097	
	(0.818)		(0.793)		(0.470)	
Backdater dummy	**-0.00399**	**	**-0.00254**		**0.00282**	
	(0.050)		**(0.395)**		**(0.558)**	
Constant	0.00017		0.0004		0.00217	
	(0.760)		(0.609)		(0.058)	*
N	2819		2819		2819	
Adjusted R^2	0.0020		0.0000		0.0030	

Table 8
Comparison of Suspicion Scores for Backdaters vs. a Control Sample

Variable	Backdaters (1)	Control* (2)	Difference (1)-(2)	p-value (2-tail)	
Number of firms	81	116			
BGP1	**0.136**	**0.057**	**0.079**	**0.002**	***
BGP2	**0.280**	**0.188**	**0.092**	**0.021**	**
NSS	0.492	0.415	0.077	0.168	
HL2	**0.478**	**0.386**	**0.092**	**0.047**	**
HL20	0.442	0.409	0.033	0.472	
RSRR	**0.279**	**0.199**	**0.079**	**0.016**	**
SUSAVG	**0.325**	**0.251**	**0.074**	**0.025**	**
SUSTOTR	6.901	6.198	0.702	**0.119**	
Prop_Scheduled	**0.064**	**0.105**	**-0.041**	**0.029**	**
Prop_Nosdirgrants	0.381	0.390	-0.009	0.846	

Summary and Conclusions

- Examine investor reactions to first public disclosure of widespread backdating of stock option grants.
- Sample mean excess returns ***negative*** (significant) around first report but ***n.s.*** around second report. ***Market-wide spillover to all at-risk firms, not just tainted firms.***
- Construct suspicion indices to form hedge portfolios.
- Hedge returns corroborate inference that mean excess returns reflect reaction to backdating related report.
- Some evidence of additional penalties for tainted firms.