

Internet Appendix for ‘Selective Publicity and Stock Prices’*

This document provides additional results for the paper ‘Selective Publicity and Stock Prices’. It includes results relating to the effect of adding an IR firm on book-to-market ratios, the effect of CEO stock and option compensation on the probability of IR firm use, IR firm use and selective issuance of press releases for positive news, the effect of IR firm use on bid-ask spread and volume, the possibility of selection effects in reporter names, and provides a list of the top 100 news sources.

I. Effect of Adding an IR Firm on Book-to-Market Ratios.

Bushee and Miller (2007) find that hiring an IR firm is associated with a decrease in the company’s book-to-market ratio. In the current sample, hiring an IR firm is associated with somewhat lower returns that year (see Table IX of the paper), but only on an equal weighted basis. This contrasts with the Bushee and Miller (2007) findings, to the extent that changes in book-to-market ratios usually are driven by changes in market capitalization (which tends to be more volatile than the book value of equity). Table IA.I considers whether book-to-market ratios themselves change in the year an IR firm is hired.

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Table IA.I shows that adding an IR firm is not associated with any significant change in book-to-market ratios. The effect of adding an IR firm is not statistically significant, and changes sign depending on which controls are taken into account.

One possible reason for this difference is the different nature of the companies considered. The current paper considers many more companies (1,805 companies vs. 211 companies), and the companies included have a much larger market capitalization (I consider NYSE, Amex, and NASDAQ listed companies, while the majority of the Bushee and Miller (2007) firms are OTC or Pink Sheet companies).

This explanation is particularly relevant, since the Bushee and Miller (2007) result is framed in terms of the effects of greater attention (Merton (1987), Fang and Peress (2009)), which raises prices by lowering the cost of capital. On the other hand, attention effects occur because the firm is “neglected” (i.e. suffers from limited attention) beforehand. It seems likely that this effect would be greater for the much smaller firms considered in Bushee and Miller (2007) than for the larger companies in my sample.

II. Effect of CEO Stock and Option Compensation on Probability of IR Firm Use

The spin hypothesis suggests that CEOs may desire to increase share prices in the short term, even if these prices increases are ultimately reversed. As noted in the paper, such behavior shares similarities with the management of reported earnings. While it is beyond the scope of the paper to provide a complete explanation of the CEOs’ motivations in hiring IR firms, one aspect

that I explore below relates to compensation incentives. If a larger part of CEO compensation is in the form of stock and option payments, CEOs may have greater incentives to push the share price up in the short term. This is true particularly for stock and options that have vested, and thus can be sold – unvested options may instead create longer-term incentives. CEOs may also desire to increase share prices if they are planning on selling shares (regardless of whether the shares are part of their compensation package).

In Table IA.II, I test whether these factors explain IR firm use. I examine the value of CEO stock and option compensation that vested in the current year as a predictor of whether a company will hire an IR firm, as well as the value of stock sold by the CEO in the current year.

In Table IA.II, vested stock and options positively predict IR firm use – an extra \$1m in vested equity-based compensation is associated with a 3.2% higher chance of using an IR firm in a univariate setting, and a 0.7% higher chance with the full set of controls (significant at the 1% and 5% levels, respectively, clustered by firm and year). The inclusion of equity-compensation as a percentage of total compensation (rather than the dollar amount) as an additional control shows no significant effect. I interpret these results as showing that managers care more about the dollar amount they stand to gain or lose, rather than the fraction of salary per se.

Greater CEO sales of stock during the year also predict a higher chance of using an IR firm, although the effect is somewhat smaller. An additional \$1m in CEO stock sales is associated with a 0.6% increase in the probability of IR firm use in a univariate setting (significant at the 1% level), but only a statistically insignificant 0.1% increase with the full set

of controls. Consistent with the compensation results, dollar levels of stock sales show larger effects than percentage measures of stock holding.

III. IR firms and Selective Press Release Issuance

Similar patterns in media coverage and returns to those found in the paper may obtain if IR firms affect disclosure policies by encouraging their clients to only issue press releases when the news is positive. When the news is negative, they could then either maintain the same disclosure level but release the information to the public through a less prominent mechanism (e.g. by filing an 8-K form with the SEC), or simply not disclose bad news until forced to (perhaps in a subsequent press release). If this were the case, then IR firm press releases would be more likely to contain good news, and would be associated with higher average returns. In contrast, since earnings announcements include both press releases and non-press release Compustat earnings days, they would not have the same higher average returns, this would not obviously predict IR firm clients to have higher media coverage for their positive press releases, however.

To test whether IR firms are more inclined to issue press releases when the news is positive, it is necessary to identify a sample of events for which it is known there was news at the company, regardless of whether a press release was issued. I consider two such samples: first, all earnings announcements listed in Compustat, and second, a sample of public disclosures that includes both press releases and all 8-K, 10-K, and 10-Q forms filed with the SEC. Since the sample period is after Reg-FD came into force, sample companies are required to make public

disclosures available to all investors. Filing these forms with the SEC is an alternative to issuing a press release, in terms of meeting the requirements for disclosure.

In Table IA.III below, I test whether IR firm clients are selectively more likely to issue press releases for positive earnings news. Panel A examines earnings announcements, and tests whether IR firm clients are more likely to issue a press release for positive SUE. The sample comprises all earnings announcement days in Compustat, and the dependent variable is a dummy that equals one if there was a press release issued that day. Positive earnings are measured using a dummy variable that equals one if SUE is positive (although the results are the similar if the level of SUE is used instead). This measure is interacted with the *IRFirm* dummy.

The results show that IR firms are more likely *overall* to issue a press release around earnings announcements, but that this effect is not concentrated among good news announcements. The interaction between IR firm use and positive SUE is statistically insignificant in all specifications and is directionally negative. This indicates that IR firm clients are not more likely to selectively issue a press release for positive SUE earnings announcements.

In Table IA.III Panel B, I consider whether IR firm clients are more likely to issue a (more prominent) press release for good news, rather than file a 10-K, 10-Q, or 8-K form with the SEC. The sample comprises all days with either an 10K, 10Q or 8K form or a press release. The dependent variable is a dummy that equals one if the company issued a press release that day. Because I have the dates of the SEC forms but not their contents, I use a measure of good news based on the characteristic-adjusted returns on the first available trading day on or after the

day that the press release or SEC form was issued. The variable is *Char. Adj. Return > 0 (Dummy)*, a dummy variable that equals one if there was a positive characteristic-adjusted return on the announcement day. I interact this variable with the main IR firm dummy variable.

These results confirm those of Panel A. IR firm clients are more likely to issue a press release on a day in which there is a disclosure (5.6% more likely with the full set of controls), indicating that IR firms promote news releases overall. However, IR firm clients are significantly less likely (relative to other companies) to selectively issue press releases on good news days. The column 4 coefficient of 0.019 on *Char. Adj. Return > 0 (Dummy)* means that non-IR firm clients are 1.9% more likely to issue press releases on positive return days, while the coefficient of -0.013 on *IRFirm*Char. Adj. Return > 0 (Dummy)* means that IR firm clients are only 0.6% more likely to issue press releases on positive return days ($0.019 - 0.013 = 0.006$).

Taken together Table IA.III shows that relative to other companies, IR firm clients are not more likely to disclose good news through a press release than through some other type of disclosure. This should mitigate concerns that the sample of press releases for IR firms is picking up their good news disclosures but not their bad news disclosures.

IV. Effect of IR firms on Bid-Ask Spread and Volume

While most of the analysis in the paper relates to the effect of media coverage on prices, it is possible that IR firm use affects information asymmetry and in turn share turnover and bid-ask spread. In particular, if IR firms are simply increasing dissemination and attention, then one

might expect these effects to reduce information asymmetry and thus increase turnover and decrease spreads. On the other hand, if IR firm spin makes disclosures less trustworthy, these effects could result in increased spreads and decreased turnover.

I shed light on these questions in Table IA.IV below. For share turnover, the results are generally insignificant. For spreads however, companies that use an IR firm have a relative spread that is three basis points higher than that for companies that do not use an IR firm, with the difference being only marginally significant. These results are weakly consistent with the notion that spin increases information asymmetry.

V. Potential Selection Effects in Reporter Names

In Table VI of the paper, I examine whether turnover by reporters connected to an IR firm affects the returns of companies that use the IR firm. One potential concern with this identification strategy is selection effects may affect whether articles list a reporter's name, as only 25.6% of articles give a reporter's name. In Table IA.V below, I test whether reporter listing is affected by the presence of an IR firm. I examine both whether a reporter who wrote at least 50 single authored articles is listed (columns 1 to 3) and whether any byline is given at all (columns 4 to 6). The number of articles with bylines is larger than the number of reporters I measure, given the requirement that a reporter have at least 50 single-authored articles (so that reporter turnover is a meaningful event, as opposed to, say, a single author appearing once and then not appearing again).

The results in Table IA.V show that large firms, value firms and high analyst coverage firms are more likely to have listed reporters, and also more likely to have bylines at all (although both effects tend to be small). A one-standard deviation increase in log market cap increases the probability of a reporter listing by 2.6%, a one-standard deviation in log book-to-market increases the probability by 1.0%, and a one-standard deviation increase in analyst coverage increases the probability by 1.8%. The biggest effect, is the size of the news source – a one-standard deviation increase in the log number of articles in the news source decreases the probability of a listed reporter by 3.9%. More importantly, using an IR firm does not appear to affect the chances of a reporter listing, as this effect is statistically insignificant for both reporter and byline listing.

It seems unlikely that any selection effects here would affect the reporter connection results, for a number of reasons:

-Reporter turnover is measured as the fraction of connected reporters who left, not the raw number. Hence, having more reporters will on average enter both the numerator and the denominator, and should not affect the mean of the variable.

-Reporter connections are measured not at the level of the company, but rather at the level of the IR firm. Thus any selection effects will be averaged over all clients of the IR firm.

-Company-level reporter turnover, which has a greater potential to be affected by selection since it is not averaged over all IR firm clients, has no effect itself and does not affect the connected

reporter turnover results. This suggests that the number of reporters is not directly influencing the results.

VI. List of Top 100 News Sources in descending order of number of articles

The list of news sources included covers 7,879 publications, which represent all the publications in Factiva that wrote about the companies in question. The sample of publications has a very large left tail of publications with only a small number of articles on publicly listed firms – only 827 publications have over 1,000 articles about publicly listed firms. Below are the top 100 sources by number of articles.

Dow Jones News Service, Reuters News, Business Wire, Reuters Significant Developments, PR Newswire, Associated Press Newswires, PR Newswire (U.S.), Market News Publishing, Professional Investor Report, Federal Filings Newswires, M2 Presswire, Knobias, Stock Diagnostics, The Wall Street Journal, Dow Jones Corporate Filings Alert, Dow Jones Business News, Dow Jones International News, Moody's Investor Service Ratings Delivery Service, Select Federal Filings Newswires, AFX International Focus, US Fed News, AFX Asia, Platts Commodity News, Health & Medicine Week, Biotech Week, FinancialWire, Financial Times, FD (FAIR DISCLOSURE) WIRE, The New York Times, FedBizOpps, MidnightTrader, Obesity, Fitness & Wellness Week, AFX UK Focus, Life Science Weekly, Science Letter, Biotech Business Week, Dow Jones Chinese Financial Wire, Datamonitor Company Profiles,

Dow Jones Online News, Market Wire, PrimeZone Media Network, Drug Week, Women's Wear Daily, Press Release (Chemicals), The Globe and Mail, Hollywood Reporter, Regulatory News Service, Factiva Press Release Service, Pharma Business Week, The Washington Post, AP Online, Moody's Investors Service Ratings Delivery Service, OsterDowJones Commodity Wire, St. Louis Post-Dispatch, Voxant FD (FAIR DISCLOSURE) WIRE, Canada Stockwatch, Barron's, Company Reports, New York Times Abstracts, Asia Pulse, National Post, PUCAlert, Medical Devices & Surgical Technology Week, The Oil Daily, Dow Jones Commodities Service, Wireless News, Capital Markets Report, Investor's Business Daily, Chicago Daily Herald, The Australian, The Milwaukee Journal Sentinel, Financial Times (FT.Com), Automotive News, ENP Newswire, M2 EquityBites, Houston Chronicle, The Canadian Press, Canada NewsWire, Newsbytes News Network, MarketResearch.com, Federal Register, Chicago Sun-Times, Electronic Engineering Times, Tenders Electronic Daily, TheDeal.com, Pittsburgh Post-Gazette, The New York Times Abstracts, Indian Business Insight, The Grand Rapids Press, Primedia Insight, Advertising Age, Times Union, Electronic News, Multichannel News, Commerce Business Daily, The San Diego Union-Tribune, Chemical Marketing Reporter, WMRC Daily Analysis, The Times, PR Newswire Europe.

References

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Table IA.I
Annual Percent Changes in Book-to-Market Ratio and Addition of an IR Firm

This table examines regressions of changes in a company's book-to-market ratio on a dummy variable for whether the company hired an IR Firm for the first time, using annual observations from 2002 to 2006. *t*-statistics (with standard errors clustered by firm and year) are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Intercept	0.474 (1.51)	2.436 (1.69)	1.735 *** (5.58)
Add IR firm (first time)	-0.115 (-0.36)	0.024 (0.10)	0.026 (0.27)
Log Market Cap		-0.157 (-1.70)	-0.075 * (-2.44)
Log Book-to-Market			0.597 (1.63)
Return, last year			-0.045 (-0.50)
Turnover, last year			0.092 (1.20)
Analyst Coverage			0.022 ** (3.94)
Institutional Ownership			-0.229 (-0.72)
Industry, Year controls	No	No	Yes
R ²	0.000	0.003	0.024
N	30776	30733	30670

Table IA.II

IR Firm Use and CEO Equity-Based Compensation and Sales

This table examines regressions of IR Firm use on measures of CEO stock-based compensation and sales, using annual observations from 2002 to 2006. *Vested Stock and Options* gives the dollar value of all stock and option compensation that vested in the current year, and *Total Compensation* considers this amount as a fraction of total CEO pay that year. *CEO Sales of Stock* gives the total dollar value of all stock sales by the CEO that year. *CEO Stock Holdings at Start of Year* is CEO stock sales divided by the first reported total value of CEO stock holdings that year. The dependent variable is a dummy variable that equals one if the company uses an IR firm that year, and zero otherwise. Definitions of independent variables are given in Appendix B of the main text. *t*-statistics (with standard errors clustered by firm and year) are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Intercept	0.190 ***	-1.037 ***	-0.698 ***	-0.684 ***	0.128 ***	-0.569 ***	-0.405 ***	-0.429 ***
	(5.01)	(-12.37)	(-4.84)	(-4.66)	(24.10)	(-12.65)	(-6.17)	(-6.59)
Vested Stock and Options	0.032 ***	0.007 *	0.007 **	0.009 **				
	(8.29)	(2.47)	(3.22)	(3.31)				
Vested Stock and Options / Total Compensation				-0.024				
				(-0.92)				
CEO Sales of Stock					0.006 ***	0.001 *	0.001	0.002
					(10.08)	(2.23)	(1.36)	(1.65)
CEO Sales of Stock / CEO Stock Holdings at Start of Year								0.000
								(-0.68)
Log Market Cap		0.087 ***	0.084 ***	0.085 ***		0.055 ***	0.055 ***	0.055 ***
		(14.06)	(12.00)	(12.16)		(19.23)	(15.89)	(14.52)
Year Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Company Char., Industry Controls	No	No	Yes	Yes	No	No	Yes	Yes
R ²	0.021	0.115	0.165	0.168	0.013	0.098	0.136	0.143
N	10305	10214	9929	9822	21182	20189	18752	15677

Table IA.III**IR Firm Use and Selective Press Release Issuance for Positive News**

This table examines whether companies with IR firms are more likely to issue press releases for positive news. Panel A considers all Compustat quarterly earnings announcements. Panel B considers cases in which companies issued a press release, or filed an 8-K, 10-K or 10-Q form with the SEC. The dependent variable is a dummy that equals one if the company issued a press release that day. *IRFirm* is a dummy variable equal to one if the company used an IR firm in the year in question and zero otherwise. *SUE If Pos - Dummy* is a dummy variable that equals one if the standardized unexpected earnings (SUE) are positive. *Adjusted Return Pos. (Dummy)* is a dummy variable that equals one if the characteristic-adjusted returns are positive. Company characteristics include log market capitalization, log book-to-market, momentum, industry controls, last month's stock return, the Heston and Sadka variable, as defined in Appendix B of the main text. *t*-statistics (with standard errors clustered by firm) are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Earnings Announcements			
Intercept	0.500 *** (53.28)	0.519 *** (30.16)	0.753 *** (16.88)
IR Firm	0.095 *** (5.96)	0.094 *** (5.82)	0.086 *** (5.53)
SUE (if Pos. - Dummy)	0.005 (0.99)	0.001 (0.25)	0.003 (0.46)
IR Firm * SUE (if Pos. - Dummy)	-0.024 (-1.62)	-0.019 (-1.35)	-0.018 (-1.34)
Company Characteristics	No	Yes	Yes
Industry Controls	No	No	Yes
R ²	0.019	0.020	0.040
N	57429	50798	50798
Panel B. All Days With Formal Disclosure (Press Release, 10K, 10Q, or 8K)			
Intercept	0.190 *** (5.93)	0.438 *** (9.49)	0.409 *** (8.00)
IR Firm	0.101 *** (8.64)	0.098 *** (8.43)	0.056 *** (6.03)
IR Firm * Adjusted Return Pos. (Dummy)	-0.014 *** (-4.43)	-0.014 *** (-4.46)	-0.013 *** (-4.57)
Adjusted Return Pos. (Dummy)	0.021 *** (14.91)	0.020 *** (14.20)	0.019 *** (14.05)
Log Market Cap.	Yes	Yes	Yes
Company Characteristics	No	Yes	Yes
Industry Controls	No	No	Yes
R ²	0.022	0.039	0.164
N	709935	665142	665142

Table IA.IV
IR Firm Use, Spread and Turnover Around Press Release Issuance

This table shows regressions of relative spread and turnover on days of a press release on a firm's use of an IR firm. *Relative Spread* is defined as $[\text{Price (Ask)} - \text{Price (Bid)}] / [(\text{Price (Ask)} + \text{Price (Bid)})/2]$. *Turnover* equals the volume of shares traded that day, divided by the number of shares outstanding. All other variables are the same as in Table II of the main text. *t*-statistics (with standard errors clustered by firm) are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Dep. Var. is Relative Spread (in %)			Dep. Var. is Share Turnover		
Intercept	0.837 *** (15.22)	0.789 *** (14.22)	0.791 *** (14.32)	11.884 *** (2.71)	12.173 *** (2.62)	10.972 ** (2.35)
IR Firm	0.034 * (1.86)	0.036 * (1.89)	0.035 * (1.82)	-0.466 (-0.95)	-0.349 (-0.69)	-0.439 (-0.88)
Neg. Tone		1.465 *** (2.89)	1.054 ** (2.01)		41.136 *** (4.43)	59.686 *** (6.27)
IR Firm * Neg. Tone		-0.692 (-1.11)	-0.274 (-0.43)		-17.436 (-0.88)	-33.056 (-1.60)
Earnings Ann. * IR Firm * Neg. Tone			-5.329 ** (-2.55)			115.359 ** (2.13)
Earnings Ann.			-0.068 *** (-4.62)			8.794 *** (12.65)
Earnings Ann. * IR Firm			0.005 (0.23)			1.944 (1.40)
Earnings Ann. * Neg. Tone			4.863 *** (2.97)			-211.919 *** (-8.85)
Company Char., Subject Codes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.017	0.030	0.031	0.098	0.117	0.117
N	8358638	5549162	5549162	8358638	5549162	5549162

Table IA.V**Probability of a Press Release Having Reporter Information Included**

This table examines the determinants of whether news articles list a journalist's name, using news articles from all sources in Factiva written about publicly listed firms from 2002 to 2006. In columns 1 to 3, the dependent variable is a dummy variable that equals one if any journalist name is listed. In columns 4 to 6, the dependent variable is a dummy variable that equals one if the article lists a journalist name listed who wrote at least 50 sole-authored articles. Other variables are defined in Appendix B of the main text. *t*-statistics (with standard errors clustered by firm) are in parentheses, and *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

	Dep. Var. is a dummy for whether the article is attributed to a listed reporter			Dep. Var. is a dummy for whether the article had any byline at all		
Intercept	0.308 *** (15.33)	0.113 *** (3.88)	0.119 *** (4.23)	0.760 *** (25.37)	0.461 *** (12.94)	0.466 *** (13.06)
Lnumarticles	-0.017 *** (-11.62)	-0.016 *** (-9.68)	-0.016 *** (-9.64)	-0.052 *** (-18.94)	-0.051 *** (-17.05)	-0.051 *** (-17.09)
Lmktcapann		0.012 *** (4.94)	0.011 *** (4.96)		0.020 *** (6.32)	0.019 *** (6.37)
Lbm		0.012 *** (3.01)	0.012 *** (3.00)		0.021 *** (3.57)	0.020 *** (3.59)
Numanalysts		0.001 *** (4.76)	0.001 *** (4.73)		0.001 *** (2.95)	0.001 *** (2.94)
Institpctown		-0.002 (-0.15)	-0.001 (-0.08)		0.007 (0.41)	0.008 (0.45)
IRFirm			0.005 (0.66)			0.004 (0.41)
R ²	0.017	0.030	0.031	0.098	0.117	0.117
N	8358638	5549162	5549162	8358638	5549162	5549162