Financial Management

Credibility and Multiple SEOs: What Happens When Firms Return to the Capital Market?

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Using a sample of firms that conducted multiple seasoned equity offerings (SEOs) from 1995 to 2012, we examine whether firms can build credibility for subsequent SEOs by following through on their stated use of the proceeds from earlier SEOs. We find that firms that state their intention to invest these funds in projects and those that make no such statements, but do invest have relatively more positive announcement returns around subsequent SEO announcements. Our results suggest that the markets are aware of the potential agency costs of equity, have a long memory, and update their beliefs as to the likely use of funds raised by firms.

Issuing seasoned equity is costly. In addition to floatation costs, there are potential costs associated with asymmetric information and potential agency costs associated with a large inflow of free cash flow to managers. Prior studies have found the market reaction to seasoned equity offering (SEO) announcements to be approximately –2% to –4%. Previous studies have offered various explanations for the observed decline. One line of thought is that an equity issue updates (negatively) the market's view of the value of the firm. Another view posits that newly raised capital might be used for agency spending. However, SEOs are heterogeneous and firms do not all issue for the same reason nor does the market react the same to each. We examine the connection between the firm's ex ante declarations and ex post performance from one SEO and the market's response to a subsequent announcement of an SEO.

DeAngelo, DeAngelo, and Stulz (2010, p. 294) get to the heart of the matter in discussing their results:

"One possibility is that investor rationality forces managers to disguise (hence limit) attempts to sell overvalued shares. For example, managers' blatantly obvious and/or repeated attempts to sell overvalued equity tend to self-destruct because investors who perceive the ploy immediately reduce the price they are willing to pay for that firm's securities."

The same intuition that DeAngelo, DeAngelo, and Stulz (2010) discuss for a manager's repeated attempts to time the market can be applied to a manager's repeated use of proceeds for agency spending or, less strictly, using proceeds on projects that are less valuable than initially claimed.

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DeAngelo, DeAngelo, and Stulz (2010) imply that the firm should bear a cost in lost credibility in the market for equity capital for trying to garner a short term benefit.

There are at least two advantages to using SEOs to study the impact of credibility. First, SEOs are economically significant. The average book value of assets for our returning SEO firms is $544 million and the average issue amount is $113 million. The magnitude of a typical SEO suggests that any value impact of credibility when firms return to the equity market for an SEO is likely to be economically important. Second, issuing seasoned equity potentially involves substantial asymmetric information. As Fama and French (2005) point out, firms may issue equity in a variety of ways (e.g., convertible debt, warrants, rights issues, employee options, employee grants, and employee benefit plans). The equity issued via these alternative methods is likely more frequent and smaller in magnitude with less asymmetric information. Thus, the economic magnitude and relevance of credibility should be smaller. SEOs provide an interesting laboratory to examine firms' credibility with the capital markets due to the relative amount of capital raised and extent of asymmetric information.

In order to better understand how firms might build (or destroy) credibility, we first examine what the firm tells the market regarding the expected use of funds. We categorize SEOs by their stated use of funds from their Securities and Exchange Commission (SEC) S-filings prior to the issue. SEOs are categorized as an INVEST SEO if the primary reason is investment, a DEBT SEO if the primary reason is debt repayment, or a GENERAL SEO if the primary reason is vaguely stated as for general corporate purposes. We confine our sample to those firms with multiple SEOs allowing us to investigate the connection from one SEO to the next.

Firms are not required to provide specifics regarding the use of funds, yet many do so. One reason for providing specifics might be to create a bonding mechanism with investors. If so, we expect that firms returning to the market after an INVEST SEO will be rewarded for having built credibility. In contrast, if the statements are not meaningful or are used to deceive the market regarding the quality of the firm's growth prospects, then we do not expect any relation between the prior stated use and subsequent SEOs. We find that the announcement return associated with an SEO is relatively greater when the SEO is preceded by an INVEST SEO. This suggests that firms that state their intention to invest the proceeds of an SEO build credibility with the market, allaying possible agency concerns.

Our next proxies for achieving higher credibility are the size of the firm's investment program in the year following an SEO relative to the issue size (deployment of capital) and the abnormal returns for the firm's stock over the year following the SEO (quality of investment). These measures are useful to the extent that the market was uncertain as to whether the firm actually had valuable projects available and these measures indicate a beneficial use of the funds. We find that these signals are most valuable for firms that do not provide specifics regarding the use of funds in the previous SEO. Firms with a previous GENERAL SEO have a positive relation between the abnormal announcement returns for the follow-on issue and both the deployment of capital and the quality of investment. These findings do not hold for firms with a previous INVEST SEO.

In aggregate, our evidence suggests that market participants update their beliefs as to the probability that a firm makes beneficial use of proceeds of an SEO. Firms can build credibility through their statements to the market regarding the specifics for their use of funds. For firms that do not want to divulge specifics about the intended use of funds, possibly for strategic reasons, they can build credibility in the equity market by using the funds wisely, which is observed and valued ex post.

Hovakimian and Hutton's (2010) finding that firms that had strong performance following an SEO are more likely to return to the market has implications for our sample. Firms with INVEST SEOs that do not return to the market ("dogs that don't bark") are likely to be those firms that

revealed a poor project. Indeed, our evidence suggests that firms with previous INVEST SEOs returning to the market are those that have built up the most credibility when compared to previous DEBT and previous GENERAL issuers. Given that our analysis focuses on the link from a prior SEO to a subsequent SEO, we are unable to include firms that elect to not issue again. This should reduce our ability to observe credibility from one issue to the next given that firms that do not return are likely have the least credibility. Yet, even with the self-exclusion of these firms, we observe a cross-section of our credibility measures and their positive relation to the market's reaction to new issues.

We also explore whether these measures of credibility are more connected to the firm or to leadership of the firm. For our GENERAL and DEBT SEOs, we find some evidence that our measures of credibility are stronger for the subset of firms that have the same leadership in place as in the prior SEO. Specifically, we examine firms that retain the chief executive officer (CEO) and firms that retain both the CEO and at least two-thirds of the board between equity issues. For these firms, coefficients in multivariate regressions of abnormal announcement returns on some measures of credibility more than double. For these firms that provide less information and, as such, might need to rely more on credibility, our evidence suggests that credibility is associated with individuals, as well as the firm. Pan, Wang, and Weisbach (2014) find that new leadership is associated with higher costs for debt. Our evidence implies that new leadership in a firm can also increase the cost of raising equity for firms that have built credibility connected to prior leadership.

Our findings are important for at least three reasons. First, if the market rewards or penalizes a firm for its previous SEO when it returns for a subsequent SEO, it suggests the market has a long memory. Incorporating the value of this additional information in subsequent SEOs sheds light on potential factors driving the negative market reaction to SEOs and provides further evidence regarding how the market processes information. Second, if the market penalizes a firm, the market limits a firm's ability to serially sell overvalued equity and raises the cost of agency spending. Thus, our findings provide further insight to a limiting factor regarding the connection between market timing and capital structure. Third, if the market fails to penalize a firm when it returns for another SEO after appearing to mislead the market, it implies that the market expected the actual use of the funds rather than the stated use of the funds. In other words, the firm's statements in S-filings are not credible. This is useful to policymakers in evaluating filing requirements.

The rest of this paper is organized as follows. Section I outlines the existing literature and provides a simple framework regarding the impact of credibility on firms returning to the market for a follow-on SEO. Section II describes the sampling methodology and data. Section III presents evidence from our multivariate models. Section IV presents a discussion of our results and Section V provides our conclusions.

I. Literature and Hypotheses

We begin this section with a literature review on market responses to SEOs. We continue by developing our predictions for the effect of firm credibility on subsequent equity issuance.

A. Market Responses to SEOs

Prior literature has suggested several underlying motivations for SEOs, which are not mutually exclusive. The market timing hypothesis argues that managers, acting in the best interest of

existing shareholders, exploit windows of opportunity to issue equity when the firm's stock is overvalued (Baker and Wurgler, 2000, 2002, among others). The market timing hypothesis can be viewed as a variant of the pecking order hypothesis (Myers and Majluf, 1984), with the notable difference being the prediction of an under-reaction by the market in response to the announcement of the firm's intention to issue equity. Both the pecking order and market timing views predict that the announcement of a new equity issue, on average, conveys negative information about the firm and results in a decline in the market value of the issuing firm. In support of these hypotheses, an average drop in the stock price of approximately 2%-4% is widely observed at the announcement of a new seasoned equity issue (Asquith and Mullins, 1986; Masulis and Korwar, 1986; Denis, 1994; Jung, Kim, and Stulz, 1996). In addition, Loughran and Ritter (1995, 1997) and Baker and Wurgler (2000) report substantial long run underperformance of issuing firms following SEOs, providing evidence consistent with the predictions of the market timing hypothesis.

An equity issue may be driven by a managerial desire to finance value-decreasing investments in pursuit of private benefits, such as empire building or pet projects. Kim and Purnanandam (2014) find that more effective corporate governance matters for SEO announcement returns. This result suggests an agency explanation for at least a portion of the negative abnormal announcement returns associated with issuing equity.

Both views, timing and agency, presume a degree of deception. To effectively time the market with an SEO, a firm must maintain its overvaluation between the announcement and the actual selling of shares. In the same manner, a manager desiring to engage in a negative net present value (NPV) project is unlikely to announce their intention to do so.

Several recent studies, such as DeAngelo, DeAngelo, and Stulz (2010), Butler et al. (2011), Carlson, Fisher, and Giammarino (2006), and Zhang (2005), posit yet more nuanced views. These papers argue that equity issuance is motivated by firms' needs to finance growth and investment and the average decline in value is caused by either a subset of firms that time the market or due to exercising the firm's growth options. Chan et al. (2011) find that regular SEO firms are more likely to engage in market timing strategies, while improved SEO issuers (those whose dollar offer size exceeds the amount filed initially at registration) tend to raise capital to finance investments. Using a large sample of initial public offerings (IPOs) and SEOs across 38 countries, Kim and Weisbach (2008) find that both market timing and investment-based explanations play an important role in motivating equity issuance. While firms appear to increase both research and development spending and capital expenditures subsequent to an SEO, high market-to-book ratio firms tend to save more cash and float a larger proportion of secondary shares in SEOs than their counterparts with low market-to-book ratios.

Firms interested in issuing equity to finance valuable projects can do so in a less costly manner by utilizing a credible signal to separate themselves from market timers and firms that have more severe agency problems. Some papers have investigated how firms attempt to manage information through ex ante stated uses of funds and whether voluntarily disclosing the specific uses of the incoming proceeds conveys useful information that can potentially mitigate the adverse selection problem associated with equity issues. Previous studies that have investigated ex ante firm disclosures associated with equity issues include Leone, Rock, and Willenborg (2007) for IPOs, and Walker and Yost (2008), and Autore, Bray, and Peterson (2009) for SEOs. We extend this line of work by examining how statements regarding expected uses of funds connect across multiple issues, allowing us to infer how firms credibly signal that they are not market timing and will use the newly raised capital for valuable projects.

Finally, we have presented credibility as a firm level concept rather than that of top management. To the extent that credibility is connected to an individual, this should add noise to our findings as managers come and go. Yet, many authors have argued that firms have a culture that goes

beyond the CEO. In particular, Bloom and Van Reenen (2007) analyze the survey data on management practices from 732 medium-sized firms in the United States, France, Germany, and the United Kingdom and conclude that corporate policies "are part of the organizational structure and behavior of the firm, typically evolving slowly over time even as CEOs and chief financial officers (CFOs) come and go" (see also Hermalin, 2001 and Cronqvist, Low, and Nilsson, 2009). While some financing and capital structure issues might be more tactical in nature, the size and timing of SEOs likely make them a board-level decision given the large magnitude of the typical equity issue. To explore this issue, we examine whether leadership in the firm has changed from one SEO to the next and its connection to the credibility garnered from the prior SEO.

Next, we examine how a firm can build credibility by either providing specifics about the use of funds ex ante or by revealing the value of the use of funds, as well as the value of their assets in place, following the SEO. We discuss these two signals in reverse order.

B. SEO Issues in Multiple Periods

Let us describe firm actions in a simple world in order to develop our predictions. Suppose the firm receives periodic growth opportunities that can either be highly valuable and garner a return of R_H or be relatively less valuable and might even be value destroying and receive R_L. Also, suppose that the CEO receives some utility associated with empire building or pursuing a pet project if she accepts the low value project. The firm's management knows whether the project is R_H or R_L, but cannot credibly convey the value of the project without revealing specifics about the project and, even then, the project's quality cannot be assessed by the market without error.

1. The Decision Not to Reveal Specifics

With no specific information revealed about the project's quality, the market assigns a probability that the project is R_H. The firm could have chosen to reveal further information about the project to influence the market to assign a higher probability that the project is in fact an R_H project rather than an R_L project. However, the market might discern that the project is in fact R_L with more disclosure. Quite plausibly, there might be a firm or industry where a specific cost associated with revealing information about the project exists. This cost may include disclosing project details to competitors. For some firms, the cost of revealing project details might be high enough to dissuade the firm from revealing information even if the firm has a valuable project available. It is also possible that management might be pursuing R_L, but is attempting to pool with those firms that do not reveal project details for strategic reasons. And, for firms that are timing the market, possibly with no project in which to invest, pooling with the nondisclosing firms might also be value maximizing initially.

For firms that chose not to reveal their plans and then the market observed that the project had a return of R_H, the market now has an updated view that the cost of revealing for the firm is relatively high. The other possibility available to the market was that management chose not to reveal since they were pursuing a project R_L or had no intent to invest, which is now known not to be the case. These firms should exhibit better than average long run equity performance reflecting the market updating its beliefs about the quality of the project over time as the project is undertaken. In contrast, firms that chose not to reveal specifics and then reveal a low quality project, R_L, or reveal that the value of their assets in place is lower than previously believed, should exhibit relatively worse long run equity performance.

Firms revealing that the project was R_L, or that they chose not to invest (or invest less than expected), will incur higher costs of raising equity, subsequently, due to lost credibility. As such, these firms are more likely to be a one-time issuer and, thus, less likely to be in our sample.

For instance, Hovakimian and Hutton (2010) find that the probability of follow-on equity issues increases with the first year, postissue returns for SEO firms. To the extent that credibility is a continuous variable, we should observe the effects of the costly signal (deployment of capital) in two ways. We expect a positive relation between the size of the investment program relative to funds raised in the prior SEO and credibility gained. We should also observe a positive relation between ex post abnormal returns following the prior SEO and the abnormal announcement returns for the follow-on SEO. In summary, we expect that for nonreveal firms, the quality of the signal will be captured by the relative size of the investment program (relative to the size of the prior SEO) and abnormal stock returns in the period following the SEO.

2. The Decision to Reveal Specifics

For firms that revealed specifics about their SEOs, the market is in a better position to assess the value of their projects. However, it is possible that the firm tries to deceive the market regarding the quality of the project, that the firm's management incorrectly assesses the value of the project, or is incompetent in its execution. In any of these cases, it is possible that a firm could reveal specifics, but still engage in an R_L project. To the extent that a firm's financing is a multiple period game with an indefinite life (which generally describes the ongoing nature of the corporate form), we expect that the cost of misleading the market will eventually be borne. Ultimately, revealing specifics should only be beneficial to the firm if doing so creates a costly signal. The fact that a substantial number of firms do choose to reveal specifics, which is not required, suggests that there is some credibility in these disclosures. Firms that mimic face a loss of credibility when they return to the equity market. Moreover, these firms might end up being the dog that doesn't bark in that they may choose not to issue more equity due to an increase in financing costs associated with a loss of credibility. Consistent with this, Hovakimian and Hutton (2010) find a positive relation between post-SEO stock performance and the likelihood of firms returning for additional equity issues.

For firms that revealed specifics for an initial SEO and then pursued an R_H project, the market updates its beliefs on both the probability that the firm will receive another R_H project and the firm's costs of revealing. Since investors can observe a firm's history of actual ex post outcomes of an investment, it is possible for a firm to build a reputation for pursuing only positive net present value projects. A firm may also build credibility with the market by initially raising a small portion of funds in the initial SEO, but defer a large portion of the planned issue for a follow-on SEO after the market learns its type (Allen and Faulhaber, 1989; Welch, 1989). In summary, our prediction is that if INVEST SEO firms that return to the market are dominated by nondeceivers, then we should observe a positive relation between previous INVEST SEOs and the market's reaction to the announcement of a subsequent SEO.

II. What Happens When Firms Return to the Capital Market?

In this section, we begin by describing how we categorize SEO firms into subgroups based on the ex ante stated use of proceeds. We present descriptive statistics for the abnormal announcement returns associated with the SEOs and provide statistics for the ex post use of funds.

A. The Sample

Our sample of SEOs is drawn from the Thomson One Banker's Corporate New Issues database. Our study focuses on firms that issued new shares of common stock at least twice from 1995 to

2012. We begin in 1995 as the availability of filings in the SEC database is less comprehensive prior to that point.[1] We require the issue to be a primary or combined offering of seasoned equity since we are only interested in firms that raise new equity capital for use by the firm. We also require firms to have the necessary data available on Compustat for our multivariate analyses, have at least $5 million in assets in the year preceding the SEO, and have the necessary data on Center for Research in Security Prices (CRSP) to conduct our event study.[2] We exclude utilities and financial firms due to their regulatory requirements for equity capital. Our final sample consists of 670 SEOs conducted by 276 separate firms.

For our sample of 670 SEOs, we document the firm's intended purpose for the proceeds, as stated in the firm's latest amendment to their SEC registration filings prior to the issue. We identify three specific uses: 1) investment, 2) debt repayment, and 3) general corporate purposes. We label SEOs as INVEST if the filing contains any specific statement regarding the use of funds for the purpose of increasing firm investment, such as capital expenditures, the acquisition of other companies, or research and development. We use the label DEBT to describe SEOs when firms state debt repayment as the intended use of proceeds. General corporate purposes (GENERAL) is used to describe capital for which the S-filing does not describe a specific use. For the vast majority of SEOs that we label as GENERAL, the firm uses a phrase that includes "general corporate purposes" for the anticipated use of those proceeds. We label each firm SEO event as either INVEST, GENERAL, or DEBT based on which purpose has a plurality. A significant minority of firms do not provide specific amounts for the various planned uses of funds. For these cases, we take the first item listed as the primary use of funds. For example, if a firm states that the newly raised funds will be used to "expand production capacity in our main factory and the remaining funds will be used for general corporate purposes," we label this as an INVEST SEO.

In many cases, stock analysts may be aware of the firm's external funding requirements. In these cases, the information in the "use of funds" section of the S-filing may already be known, which would seem to be more likely for INVEST and DEBT SEO firms. For these firms, the announcement of an SEO provides new information to the market regarding the timing of raising capital, the size of the equity issue, and how these known needs are to be financed. The exact nature of the new information from the S-filing is not always obvious. However, the announcement of the SEO does set in motion the raising of new capital for these uses of funds, whether the intended uses were known or not, and that information does seem to matter (Walker and Yost, 2008; Autore, Bray, and Peterson, 2009).

B. Univariate Analysis of Announcement Returns

Table I presents the abnormal announcement returns associated with the SEO. We employ standard event study methodology. We divide the sample into "first-in-sample" and "follow-on" SEOs. As previously noted, we do not conclusively know whether the first SEO in our sample is the firm's actual first SEO or not. However, we do know that the follow-on SEOs are not the

[1] We also examine Thomson to find the first SEO in their database prior to 1995 where filings are available and include these observations in our sample. Excluding these first SEOs prior to 1995 does not change our results.

[2] We do not include the firm's IPO, even though it is an equity issue. IPOs have different well documented characteristics as compared to SEOs. SEO firms, being already publicly traded, have a different information environment relative to IPO firms. IPO firms' abnormal returns are complicated by much higher degrees of uncertainty and underpricing, as well as differing characteristics for their long run abnormal returns following the IPO (Ritter, 1991; Lowry and Schwert, 2002; Ritter and Welch, 2002; Lowry, 2003).

Table I. Cumulative Abnormal Announcement Returns

CAR (0,+1) is the cumulative abnormal returns over the two-day event period. Statistics are reported in percentages. Abnormal returns are calculated net of expected returns, which are calculated using a market model where the parameters are estimated from days −250 to −50 using the CRSP equally weighted index as a proxy for the market. *INVEST* denotes an SEO announcement where the issue is primarily for specific investments. *GENERAL* is an SEO announcement where the issue is primarily for general corporate purposes. *DEBT* denotes an SEO announcement where the issue is primarily to reduce the firm's debt obligations.

Panel A. CAR (0,+1): By Current Issue Classification

	ALL		INVEST		GENERAL		DEBT	
	N	**Mean**	***N***	**Mean**	***N***	**Mean**	***N***	**Mean**
FULL SAMPLE	670	−2.344	269	−2.158	265	−2.686	136	−2.046
FIRST-IN-SAMPLE	276	−2.775	114	−2.420	108	−3.116	54	−2.844
ALL FOLLOW-ON	394	−2.042	155	−1.965	157	−2.389	82	−1.520

Panel B. CAR (0,+1): By Previous Issue Classification

	ALL		CEO Retained		Board Retained>= 2/3& CEO Retained		Significant Change in Board or CEO	
	N	**Mean**	***N***	**Mean**	***N***	**Mean**	***N***	**Mean**
PREV ISSUE = INVEST	171	−1.685	118	−1.566	100	−1.190	50	−2.153
PREV ISSUE = GENERAL	145	−2.397	104	−2.006	78	−1.468	48	−3.261
PREV ISSUE = DEBT	78	−2.161	52	−1.768	42	−2.113	17	−1.426

firm's first SEO.[3] We make this distinction in this table between first-in-sample and follow-on SEOs to highlight which SEOs will comprise our sample for our multivariate results.

Our estimation period runs from Day −250 to −50 with Day 0 as the announcement date and we use the CRSP equally weighted index as our market portfolio. We search Lexis-Nexis for news articles and press releases to determine whether an announcement precedes the filing date. We use the filing date as the announcement date if we are unable to find news preceding the filing date.

In Panel A, the first row reports the announcement returns for the full sample (both first and follow-on SEOs) and then for each of the subgroups by the classification of the current SEO (INVEST, GENERAL, and DEBT). For the entire sample, we find a –2.344% abnormal announcement return over the two-day window (Day 0 to +1). These abnormal announcement returns are on somewhat of the low end of the magnitudes previously documented. Previous studies, such as Masulis and Korwar (1986), Denis (1994), Jung, Kim, and Stulz (1996), and Walker and Yost (2008), among others, have found SEO announcement returns in the –2% to –4% range. However, these studies used unconditioned samples. Our sample is conditioned on firms that issued seasoned equity more than once during our sampling period. Presumably, firms that experience the most negative reactions to announcements of their intention to issue equity are the least likely to become multiple issuers. In this light, our finding of a –2.344% abnormal announcement return is not particularly surprising. INVEST and DEBT SEOs experience smaller negative abnormal announcement returns and GENERAL SEOs experience relatively worse announcement returns, although these differences are not statistically significant.

The next two rows break out the first SEO for each firm in our sample and all of the follow-on SEOs. The average abnormal announcement return for the first SEO in our sample is –2.775% as compared to –2.042% for follow-on SEOs. Our three subgroups follow the same pattern, with follow-on SEOs performing better than first-in-sample SEOs, but the differences are statistically insignificant.

In Panel B, we compare follow-on SEOs across subgroups based on how the previous SEO was classified. Thus, these rows do not include the first SEO for each of the 276 firms in our sample period. We know the characteristics of the firms' previous SEOs for these remaining 394 observations. We divide these 394 SEOs into groups based on the classification of the previous (PREV) SEO. For example, of the 394 follow-on SEOs, 171 of them were preceded by an INVEST SEO. One hundred and fourteen of these INVEST SEOs were the first SEO in sample and the remaining 57 SEOs were also follow-on SEOs. We also have 145 of the follow-on SEOs with a GENERAL SEO preceding and 78 SEOs with a DEBT SEO preceding.

In the first column, we find a similar pattern as with the current issue breakdowns. The announcement returns are better for those firms that provided specifics in a previous SEO (i.e., PREV ISSUE = INVEST) as compared to those SEO announcements for firms that did not previously provide specifics (PREV ISSUE = GENERAL). However, the difference is not statistically significant. We continue our analysis by splitting our sample by whether top leadership in the firm has remained consistent from the prior SEO. To do so, we examined the proxy statements immediately prior to each SEO. This analysis requires a proxy statement for the current SEO and the prior SEO to estimate the changes. We were able to locate 335 pairs of proxies (770 separate proxy statements) out of the 394 follow-on SEOs. Two hundred and seventy

[3] We have attempted to include all of the firms' SEOs through an examination of Thomson One Banker. We note that due to data limitations, it is probable that we do not have the first SEO conducted by all of our firms in our sample. As we discuss, we also do not include firms' IPOs. Despite these limitations, which bias us against finding results, we still find important differences in the models for first-in-sample SEOs relative to follow-on SEOs.

four of the 335 firms had the same CEO for the pair of SEOs. On average, firms had 75% of the same directors from one SEO to the next. As a first look at whether consistent leadership matters, we define firms that maintain leadership as those with the same CEO and at least two-thirds of the same board, though inferences are not sensitive to our arbitrary choice of two-thirds. This comprises 220 firms (66%).

Firms that engaged in a previous INVEST or GENERAL SEO and returned to the market with the same leadership performed better. On average, for firms that engaged in a prior INVEST or GENERAL SEO, those that returned with the same CEO had better announcement returns, and those that returned with the same CEO and at least two-thirds of the same board of directors performed even better, when compared to firms that had either a change in their CEO or at least one-third of their board. Consistent with our expectations that firms can build credibility, our results suggest that firms do better when they return to the market, particularly with consistent leadership. This result is in line with the view that credibility may be connected to individual leaders, as well as firms.[4] However, the poorer performance of these SEOs at firms that also have had leadership changes could indicate other difficulties at the firm that caused both the leadership turnover and the poor reception of the SEO announcement.

C. Use of Funds and Changing Firm Characteristics

Our hypotheses predict that the market will learn about the quality of the use of newly raised funds, and/or whether the firm tries to time the market using SEOs, and then apply this information to subsequent issues. In this section, we try to paint a broader picture of the firm's actual deployment of capital, firm characteristics prior to the issue, and the changes to these characteristics subsequent to the issue. For example, which types of firms park the funds in working capital as opposed to investing in fixed assets? Do they also raise debt capital? What about operating performance and relative valuation?

In Table II, we report the average capital being raised and how the funds are used. Our set of firms is the prior SEO for each of our follow-on SEOs. These SEOs are those that are potential credibility builders for firms returning to the equity market. We have complete Compustat data for 380 of our 394 prior SEOs. In Panel A, we report statistics on the uses and sources of funds for investment and debt.

The average issue size is \$113.4 million. This new equity capital turns into fixed assets. Comparing Year +1 to Year –1, the average firm increases capital expenditures (CAPX) by \$96.6 million, research and development (R&D) by \$13.3 million, and raises another \$168.9 million in debt financing. All three groups exhibit large increases in investment. The large increases in investment are not surprising following INVEST and GENERAL SEOs, but is perhaps more surprising for DEBT SEOs whose primary stated purpose for raising funds is to pay off specific debt contracts. Interestingly, firms conducting DEBT SEOs also increase their debt by the largest amount. While it is probable that these firms did do what they stated they would do in the S-filing (by paying down specific debt contracts), by the end of the subsequent year, these firms exhibit large increases in debt rather than decreases as might be expected. DEBT SEOs often state in their S-filings that they are reducing their debt levels using the newly raised equity capital, but are leaving the option open to return to the debt market if the opportunity arises. In this way, firms maintain financial slack in the form of debt capacity rather than hoarding cash.

In Panel B, we summarize acquisition activity for the year following the SEOs. Our data are from the Thomson One Banker's Mergers and Acquisitions (M&As) dataset. We focus on acquisitions

[4] For PREV ISSUE = GENERAL, the difference in abnormal returns for those with consistent leadership (–1.468%) and those that had a change in their CEO or at least one-third of the board (–3.261%) is significant at the 10% level.

Table II. Uses of Funds Subsequent to the Prior SEO

Means are reported for the labeled groups. *CAPX* is capital expenditures. *RD* is research and development expenses. *DEBT* is the firm's long-term debt plus the short-term portion of the long-term debt. *ACQ* denotes all acquisitions by the SEO firm in the year subsequent to the SEO.

Panel A.

	ALL	INVEST	GENERAL	DEBT
N	380	168	141	71
Issue Size	113.406	101.740	119.653	128.607
CAPX (*t*+1)	157.590	161.841	103.373	255.202
CAPX (*t*-1)	61.023	42.046	59.797	108.363
	96.567	119.795	43.577	146.840
RD (*t*+1)	37.650	40.794	38.298	28.924
RD (*t*-1)	24.362	25.865	26.094	17.366
	13.288	14.929	12.204	11.557
DEBT (*t*+1)	357.955	229.056	442.562	494.932
DEBT (*t*-1)	189.038	95.294	225.629	278.608
	168.917	133.761	186.933	216.324

Panel B.

	ALL	INVEST	GENERAL	DEBT
% Firms with *ACQ*	27.105	20.238	30.496	36.620
Avg. Number of Deals	0.468	0.310	0.553	0.676
CASH used for *ACQ*	62.424	19.312	86.933	115.762

completed by our sample SEO firms within one year following the equity issuance. Twenty-seven percent of these firms engaged in an acquisition in the 12 months following the SEO. The average firm made 0.468 acquisitions, spending $62.4 million in cash. Firms with INVEST SEOs deployed more of their capital in capital expenditures and R&D, but made the fewest acquisitions, averaging only $19.3 million in cash expenditures associated with acquisitions. In contrast, firms engaging in GENERAL and DEBT SEOs completed the most deals, on average, and deployed $86.9 million and $115.8 million cash, respectively, toward those acquisitions.

In Table III, we describe the changes in firm characteristics and uses of funds subsequent to the SEO for our three issue types. We report the means for the size and financing of the firm (total book assets, TA, and leverage, LEV), investment in fixed assets (capital expenditures denominated by assets, CAPX/TA), investment in research and development (RD/TA), the relative amounts of funds placed in working capital (WC/TA), the changes in operating performance, (EBITDA/TA), and relative valuation (Q).[5] We report these statistics by subgroup for the year immediately preceding and for the changes following each SEO. We also report the significant differences among the three subgroups.

Each subgroup grows its asset base substantively following an SEO. Firms with INVEST SEOs finance the increase in assets not only through equity capital, but also by increasing their borrowings to the point that their leverage ratios modestly increase. Firms with GENERAL SEOs increase their borrowings maintaining their leverage ratios. The combination of the increases in

[5] Consistent with prior literature, missing values of R&D are set to zero.

Table III. Univariate Firm Characteristics Before and After the Prior SEO

Means are reported for the labeled groups. *TA* is the total book value of assets ($ millions). *LEV* is the firm's long-term debt plus the short-term portion of the long-term debt divided by *TA*. *CAPX* is capital expenditures. *RD* is research and development expenses. *WC* is working capital. *EBITDA* is earnings before interest, taxes, depreciation, and amortization. *Q* is *TA* minus the book value of equity plus the market value of equity, all denominated by *TA*. The years relative to the SEO year (Year 0) are denoted in parentheses. a, b, and c denote significance at the 10% level as compared to *INVEST*, *GENERAL*, and *DEBT*, respectively. Two-population, two tail *t*-tests are used to test the means. Two debt firms do not have Year −1 market data to calculate *Q*.

	ALL	INVEST (a)	GENERAL (b)	DEBT (c)
N	380	168	141	71
TA (−1)	544.011	308.529[b,c]	719.672[a]	752.359[a]
(+1) - (−1)	489.060	390.991[c]	464.345	770.193[a]
LEV (−1)	0.194	0.154[c]	0.178[c]	0.322[a,b]
(+1) - (−1)	0.012	0.030[c]	0.015[c]	−0.037[a,b]
CAPX/TA (−1)	0.083	0.074[c]	0.072[c]	0.126[a,b]
(+1) - (−1)	0.012	0.020[b]	0.000[a,c]	0.016[b]
RD/TA (−1)	0.170	0.255[b,c]	0.143[a,c]	0.022[a,b]
(+1) - (−1)	−0.007	−0.007	−0.010	−0.004
WC/TA (−1)	0.403	0.507[b,c]	0.395[a,c]	0.171[a,b]
(+1) - (−1)	−0.010	−0.026	−0.002	0.010
EBITDA/TA (−1)	−0.088	−0.205[b,c]	−0.059[a,c]	0.133[a,b]
(+1) - (−1)	−0.012	−0.021	−0.008	0.003
Q (−1)	3.205	3.908[b,c]	3.167[a,c]	1.619[a,b]
(+1) - (−1)	−0.370	−0.527	−0.455[c]	0.171[b]

both assets and borrowing for firms with DEBT SEOs results in a leverage ratio that declines modestly.

On average, INVEST and DEBT SEO firms increase their ratio of capital expenditures to assets (CAPX/TA) and GENERAL SEO firms maintain their ratios of CAPX/TA, which represents an absolute increase in investment since the asset base of the firm has increased as shown in Table II. Prior to an SEO, the average INVEST SEO firm spends more in research and development per dollar of assets than does the average GENERAL SEO firm, and the average GENERAL SEO firm spends more than the average DEBT SEO firm. Following an SEO, firms do not increase investment in research and development in proportion to their increase in assets. However, as in the case for capital expenditures, maintaining a similar ratio of R&D to assets does reflect an absolute increase in R&D spending.

For the most part, the newly raised capital is not parked in working capital. A strict interpretation of the timing motive for equity issues implies that a firm should issue equity whenever they are overvalued, regardless of project availability. If these firms are doing so for the benefit of the old (existing) shareholders, and are not allocating capital to value destroying projects, we expect that the newly raised funds will sit in working capital until valuations return to reflect fundamentals. We find no evidence that working capital increases disproportionally.

For operating performance, changes in EBITDA/TA are not significantly different among the subgroups. INVEST SEO firms have the poorest operating cash flow prior to the SEO, GENERAL SEO firms have relatively better cash flow, and DEBT SEO firms have the best among the three

subgroups. The operating cash flows do not change to any substantive degree following the SEO and none of the changes in operating performance are statistically distinguishable across the subgroups. Consistent with previous studies, we find that firms generally experience a decline in value (Q) following an SEO. The decline in value is predominantly driven by INVEST and GENERAL SEO firms.

In summary, Tables II and III suggest that SEOs are economically significant events and firms are spending the money raised. With the exception of DEBT SEO firms, leverage ratios are not reduced following an SEO, despite the large increases in assets. Since capital is fungible, we are unable to directly track how each SEO dollar raised is spent. However, we can infer the quality of projects the firm undertakes by examining our measures of credibility. Do firms that provide specifics in the prior SEO do better (PREV INVEST SEOs)? Do firms that deploy capital for investment do better (INVEST and GENERAL SEOs)? Do DEBT SEO firms that have relatively lower leverage subsequent to the SEO do better? And do the post-SEO abnormal returns for GENERAL SEO firms predict better performance when the firm returns to the equity market?

In this section, we have documented differences in abnormal announcement returns based on the type of the firm's current and previous SEO announcements, as well as the continuity of leadership in the firm. We find that SEO firms primarily use newly raised capital to expand their investment programs. We also determine that firm characteristics are significantly different among the subgroups and the changes in these characteristics surrounding the SEOs are significantly different across groups. We continue our analyses in multivariate models to more formally test our predictions regarding credibility and market reactions to follow-on SEOs.

III. Credibility and Repeat SEOs

In this section, we report the results of our multivariate analyses. Since we are testing the informational impact of the previous SEO, in addition to our previously discussed restrictions, we require one year to have elapsed from the last filing date until the current announcement. We are left with 316 follow-on SEOs.

In Section A, we report our main results regarding the impact of credibility gained from the previous SEO. In Section B, we investigate the role of the continuity of firm leadership. In Section C, we extend our analysis to include alternative sources of credibility and further discuss the robustness of our results in Section D.

A. Credibility Signals

In Tables IV and V, we report our main results. As discussed in Section I, we have measures of credibility based on: 1) whether the firm revealed specifics in the SEO immediately preceding the current SEO and 2) the revelation of the deployment and economic impact of the use of funds for firms that don't reveal specifics.

In Table IV, our focus is on the last issue signal and the deployment of capital. We create a measure for previous net investment and debt reduction (or increase). For net investment, we consider funds used the year following the SEO for capital expenditures, research and development, and cash used for acquisitions relative to the size of the issue. This measure is imperfect as the firm may have some financial slack, operating cash flows (possibly negative), and the deployment of funds could take place over several years. However, this measure does provide an indication of the scope of the firm's investment programs relative to funds raised in the SEO. Put differently, this measure captures (albeit, imperfectly) the extent to which the actual use of proceeds is correlated

Table IV. OLS Regressions on Abnormal Returns Using Previous Investment Signals

CAR (0,+1) is the dependent variable in all models. All independent variables are for the year preceding the SEO. *CAR (0,+1)* is the cumulative abnormal returns over the two-day event period. Abnormal returns are calculated net of expected returns, which are calculated using a market model where the parameters are estimated from days −250 to −50 using the CRSP equally weighted index as a proxy for the market. *INVEST* denotes an SEO announcement where the issue is primarily for specific investments. *GENERAL* is an SEO announcement where the issue is primarily for general corporate purposes. *IS* is the issue size ($ millions). *TA* is the total book value of assets ($ millions). *PREV INV* is an SEO announcement where the (previous) issue is primarily for specific investments. *PREV GENERAL* is an SEO announcement where the (previous) issue is primarily for general corporate purposes. *LN(DAYS)* is the natural log of the number of days between the filing date of the previous issue and the announcement date of the current issue. *PREV NET INVESTMENT* is the sum of capital expenditures, research and development, and cash used for acquisitions the year following the previous SEO divided by the issue size of the previous SEO. *PREV DEBT REDUCTION* is the level of debt in the year prior to the previous SEO divided by the level of debt in the year following the previous SEO. *Q* is *TA* minus the book value of equity plus the market value of equity, all denominated by *TA*. *LN(TA)* is the natural log of *TA*. *LEV* is the firm's long-term debt plus the short-term portion of the long-term debt divided by *TA*. *EBITDA/TA* is earnings before interest, taxes, depreciation, and amortization denominated by total assets. *CAPX/TA* is capital expenditures denominated by total assets. *RD/TA* is research and development expenses denominated by total assets. *WC/TA* is working capital denominated by total assets. *PPE/TA* is net plant, property, and equipment denominated by total assets. *SECONDARY* is an indicator variable that is equal to one if there are any secondary shares being sold as part of the SEO. *p*-values are reported below each coefficient. Robust standard errors are used. Standard errors are clustered by industry at the two-digit SIC level.

	All Follow-on	All Follow-on	All Follow-on
	4.1	*4.2*	*4.3*
N	316	316	316
INVEST	−1.107	−0.875	−0.976
	(0.255)	(0.351)	(0.299)
GENERAL	−0.945	−0.854	−0.960
	(−0.205)	(0.262)	(0.222)
IS/TA	1.496*	1.546*	1.556*
	(0.074)	(0.080)	(0.070)
PREV INV	10.973*	1.787*	1.756*
	(0.057)	(0.091)	(0.074)
*PREV INV * LN(DAYS)*	−1.333*		
	(0.089)		
*PREV INV * PREV NET INVESTMENT*		2.251	2.257
		(0.188)	(0.184)
*PREV INV * PREV NET INVESTMENT * LN(DAYS)*		−0.351	−0.352
		(0.217)	(0.214)
PREV GEN	5.392*	0.634	0.611
	(0.088)	(0.255)	(0.322)
*PREV GEN * LN(DAYS)*	−0.658		
	(0.127)		
*PREV GEN * PREV NET INVESTMENT*		1.979*	1.986*
		(0.066)	(0.068)
*PREV GEN * PREV NET INVESTMENT * LN(DAYS)*		−0.285*	−0.286*
		(0.066)	(0.068)
*PREV DEBT * PREV DEBT REDUCTION*			1.191
			(0.576)

(Continued)

Table IV. OLS Regressions on Abnormal Returns Using Previous Investment Signals (*Continued*)

	All Follow-on	All Follow-on	All Follow-on
*PREV DEBT * PREV DEBT REDUCTION * LN(DAYS)*			−0.163
			(0.562)
Q	−0.246**	−0.245**	−0.247**
	(0.023)	(0.025)	(0.018)
LN(TA)	0.397	0.466*	0.444*
	(0.114)	(0.072)	(0.090)
LEV	0.705	0.601	0.607
	(0.359)	(0.489)	(0.485)
EBITDA/TA	4.114***	4.069***	4.108***
	(0.003)	(0.003)	(0.002)
CAPX/TA	−7.248**	−7.190*	−7.438*
	(0.047)	(0.064)	(0.053)
RD/TA	7.036***	7.101***	7.133***
	(0.004)	(0.004)	(0.002)
WC/TA	0.322	0.423	0.461
	(0.588)	(0.522)	(0.491)
PPE/TA	2.386	2.321	2.515*
	(0.108)	(0.134)	(0.099)
SECONDARY	−0.659	−0.565	−0.545
	(0.456)	(0.492)	(0.490)
CONSTANT	−5.435***	−5.941***	−5.757***
	(0.006)	(0.005)	(0.008)
R^2	0.074	0.069	0.072

***Significant at the 0.01 level.
**Significant at the 0.05 level.
*Significant at the 0.10 level.

with the stated use of proceeds (proxied by the issue size). For our DEBT SEO firms, we measure the level of debt in the year prior to the issue relative to the level of debt in the year following the issue. We do this to provide a consistent interpretation between our two variables. A larger number reflects a greater amount of capital being used for the purpose of investment (1) or debt reduction (2).

$$\text{PREV NET INVESTMENT} = (\text{CAPX} + \text{R\&D} + \text{CASH for ACQ})_{t+1}/\text{ISSUE SIZE}, \quad (1)$$

$$\text{PREV DEBT REDUCTION} = (\text{DEBT})_{t-1}/(\text{DEBT})_{t+1.} \quad (2)$$

In all of our multivariate tests, we include several control variables previously hypothesized to matter in the choice to issue equity. Previous studies investigating the role of agency issues argue that the agency role in SEOs is more likely to manifest in firms without valuable growth opportunities (Denis, 1994; Jung, Kim, and Stulz, 1996). We include multiple variables that have been used in the literature to capture growth opportunities, such as Q, size [LN(TA)], current investment (CAPX/TA), R&D expenditures (RD/TA), and operating performance (EBITDA/TA). The pecking order hypothesis and its variant, the market timing hypothesis, suggest that information asymmetry is important. We include asset tangibility (PPE/TA) as a proxy for information

Table V. OLS Regressions on Abnormal Returns Using Return Signals

CAR (0,+1) is the dependent variable in all models. All independent variables are for the year preceding the SEO. *CAR (0,+1)* is the cumulative abnormal returns over the two-day event period. Abnormal returns are calculated net of expected returns, which are calculated using a market model where the parameters are estimated from days −250 to −50 using the CRSP equally weighted index as a proxy for the market. *INVEST* is an SEO announcement where the issue is primarily for specific investments. *GENERAL* is an SEO announcement where the issue is primarily for general corporate purposes. *IS* is the issue size ($ millions). *TA* is the total book value of assets ($ millions). *PREV INV* is an SEO announcement where the (previous) issue is primarily for specific investments. *PREV GENERAL* is an SEO announcement where the (previous) issue is primarily for general corporate purposes. *PAR* is defined as the buy-and-hold abnormal stock returns of the issuer over one year following the initial issue, subtracted by the equally weighted average return of a matched size/book-to-market portfolio over the same period. *LN(DAYS)* is the natural log of the number of days between the filing date of the previous issue and the announcement date of the current issue. The following control variables are suppressed in the interest of brevity. *Q* is *TA* minus the book value of equity plus the market value of equity, all denominated by *TA*. *LN(TA)* is the natural log of TA. *LEV* is the firm's long-term debt plus the short-term portion of the long-term debt divided by *TA*. *EBITDA/TA* is earnings before interest, taxes, depreciation, and amortization denominated by total assets. *CAPX/TA* is capital expenditures denominated by total assets. *RD/TA* is research and development expenses denominated by total assets. *WC/TA* is working capital denominated by total assets. *PPE/TA* is net plant, property, and equipment denominated by total assets. SECONDARY is an indicator variable that is equal to one if there are any secondary shares being sold as part of the SEO. *p*-values are reported below each coefficient. Robust standard errors are used. Standard errors are clustered by industry at the two-digit SIC level.

	All Follow-on	**All Follow-on**
	5.1	*5.2*
N	307	307
INVEST	−0.611	−0.347
	(0.537)	(0.702)
GENERAL	−0.351	−0.142
	(0.583)	(0.832)
IS/TA	1.353*	−2.455***
	(0.092)	(0.010)
PREV INV	9.746*	
	(0.086)	
*PREV INV * LN(DAYS)*	−1.226	
	(0.115)	
*IS/TA * PREV INV*		4.391***
		(0.002)
*IS/TA * PREV INV * LN(DAYS)*		−0.090**
		(0.012)
PAR	0.014	1.882**
	(0.989)	(0.044)
*PAR * PREV GENERAL*	5.883	
	(0.150)	
*PAR * PREV GENERAL * LN(DAYS)*	−0.750	
	(0.108)	
*PAR * IS/TA*		−3.146***
		(0.000)
*PAR * PREV GENERAL * IS/TA*		4.690*
		(0.082)
*PAR * PREV GENERAL * IS/TA * LN(DAYS)*		−0.301
		(0.137)
Control Variables	YES	YES
CONSTANT	−4.917**	−1.659
	(0.030)	(0.525)
R^2	0.068	0.089

***Significant at the 0.01 level.
**Significant at the 0.05 level.
*Significant at the 0.10 level.

asymmetry, as well as Q, which is also utilized in the literature for this purpose. We include an indicator variable for the presence of secondary shares being sold by insiders (SECONDARY) to measure insiders' possible negative beliefs of the relative value of the firm. Finally, the pecking order hypothesis suggests that equity issues are done as a last resort. We include the relative amount of working capital (WC/TA) as a measure of liquidity, as well as leverage (LEV). We include an indicator variable denoting which SEOs are classified as INVEST and GENERAL in the current issue, as well as the relative economic magnitude of the issue for the firm (IS/TA). Finally, we cluster our standard errors to control for industry effects at the two-digit SIC level.

In our first model, 4.1, we examine the role of the type of issue in the prior SEO. We include the indicator variables PREV INV and PREV GEN, omitting PREV DEBT. We also include the natural log of the number of days since the previous SEO (specifically, the number of days between the filing date of the previous issue and the announcement date of the current issue) and our key measures of credibility. We expect that if credibility matters, the value of that credibility will likely decrease over time. The coefficient for PREV INV is positive and significant suggesting that following an INVEST SEO, firms build more credibility than following a DEBT SEO. Separately, however, we find that the coefficient is not significantly different than the coefficient for PREV GEN. We also find the expected pattern of a negative coefficient for the interactions with LN(DAYS).

In Models 4.2 and 4.3, we add our PREV NET INVESTMENT signal, and in 4.3 we also include our PREV DEBT REDUCTION signal [and their interactions with LN(DAYS)]. The coefficient on the previous net investment signal for PREV GENERAL SEOs (PREV GEN $*$ PREV NET INVESTMENT) is positive and significant. The equivalent variable for previous INVEST SEOs is positive, but not significant. This evidence is consistent with the prediction that firms that release less information in the prior issue can build credibility by deploying capital in valuable projects soon after the SEO. We expect that firms whose issues were classified as INVEST for their previous SEO and return to the market will be met more favorably by the market if this group is primarily composed of firms that followed through with their stated intentions on the previous SEO. For previous INVEST SEOs, we find that deploying capital (as measured by NET INVESTMENT) does not provide explanatory power beyond the positive signal of having revealed specifics in the first place. For PREV GENERAL SEOs, however, we find that deploying relatively more capital in capital expenditures, research and development, and acquisitions is viewed more favorably when these firms return to the market. We also find that this credibility gained does deteriorate over time. DEBT SEO firms also exhibit the predicted pattern. PREV DEBT REDUCTION is positive and the interaction with LN(DAYS) is negative, although neither is significant.

Our control variables have consistent signs and some statistical significance. There is a negative relation between abnormal announcement returns for the current SEO and Q, capital expenditures, and whether the issue contains secondary shares. The relation is positive for firm size, operating performance (EBITDA/TA), R&D, and the degree of fixed assets (PPE/TA).

In Table V, we turn to the economic impact of the previous and current issue. As we have discussed, for firms that provide less information at the announcement, our GENERAL SEOs, we expect that market participants will become aware over time of the quality of the use of funds and if the firm is trying to time the market by selling overvalued equity. Specifically, our measure is one year postevent abnormal returns (PAR), which capture the ex post realized returns of the investment project. PAR is our estimation as to whether the project is indeed an R_L or R_H type for firms where the preissue uncertainty of the project type was relatively high. To compute PAR, the equally weighted average returns of a matched size and book-to-market portfolio are subtracted from the daily buy-and-hold returns of sample firms over one year following the equity issue,

similar to Hovakimian and Hutton (2010), Fama and French (1992, 1993), Brav and Gompers (1997), Lyon, Barber, and Tsai (1999), and Daniel, Grinblatt, Titman, and Wermers (1997).[6] We construct matches based on size and book-to-market characteristics since the prior literature has shown that these factors best predict the cross sectional returns of common stock (Fama and French, 1992, 1996). We predict that our PAR signal (following the previous issue) is positively related to the announcement returns of the follow-on SEO. To the extent that at least part, if not all, of the information about project quality might have already been incorporated into the market price at the announcement of the previous SEO, we further predict that our PAR signal should be more informative when the previous issue is GENERAL, which provided less specifics about future investments.

Our variable of interest in Model 5.1 is the interaction term PAR ∗ PREV GENERAL. The long run abnormal returns following the previous SEO have a positive sign, consistent with our prediction, but are not significant. As before, we find that PREV INV is positive and significant. We continue in Model 5.2 by interacting our variables of interest, PREV INV and PAR ∗ PREV GENERAL, with the economic magnitude of the current issue (IS/TA). We expect that the economic impact of a positive, credible signal should be related to the size of the current issue. Consistent with this notion, the coefficient for IS/TA∗PREV INV is positive and significant suggesting that PREV INVEST SEO firms that return to the market tend to have greater credibility with the market when compared to firms that were not previous INVEST SEO firms, and that credibility is of greater value the larger the current equity issue.

We include PAR ∗ (IS/TA) since we want to examine the incremental impact of being a GENERAL SEO firm in the prior issue. We find that the interaction of our signal for previous GENERAL SEO firms (PAR ∗ PREV GENERAL) with the economic magnitude of the current issue (IS/TA) is positive and significant. Similarly, GENERAL SEO firms that had good performance subsequent to their prior SEO, having a higher PAR, are met more favorably than GENERAL SEO firms that had poorer performance subsequent to their previous SEO. Both of our variables of interest are interacted with LN(DAYS). Both have negative coefficients as predicted, significantly so for IS/TA ∗ PREV INV.

The evidence presented in Tables IV and V suggests that firms can build credibility over time by investing in high quality projects post-SEO. The market either predicts this outcome through the firm revealing (credible) details, or learns of the valuable projects by observing the firm allocating the capital post-SEO. These firms are rewarded for their credibility and obtain more favorable responses when returning to the capital market for follow-on SEOs. We also find that credibility dissipates over time for both of these cases. These results are robust to controlling for key variables shown in the prior literature to affect SEO announcement returns.

B. Firm Leadership

Thus far, we have shown that a firm can build credibility from one equity issue to the next, reducing the firm's cost of issuing equity. Where does that credibility reside, in the firm or in the leadership of the firm? In Table I, we presented the univariate statistics for the average abnormal announcement returns. These results suggest that credibility may be held, at least in part, by individuals rather than institutions. We more formally test this conjecture in Table VI.

[6] Specifically, to form the size/book-to-market benchmark, all NYSE-listed firms are divided into five quintiles based on size, and into five quintiles based on BM, where size and book-to-market are defined as in Fama and French (1992) and Daniel et al. (1997). The intersection of these groupings yields 25 size/book-to-market portfolios. Each sample firm is placed into its appropriate portfolio, and its return is adjusted for the equally-weighted average returns across all other firms in that portfolio. We lose nine observations due to incomplete CRSP data.

Table VI. OLS Regressions on Abnormal Returns and Retained CEOs

CAR (0,+1) is the dependent variable in all models. All independent variables are for the year preceding the SEO. *CAR (0,+1)* is the cumulative abnormal returns over the two-day event period. Abnormal returns are calculated net of expected returns, which are calculated using a market model where the parameters are estimated from days −250 to −50 using the CRSP equally weighted index as a proxy for the market. *INVEST* is an SEO announcement where the issue is primarily for specific investments. *GENERAL* is an SEO announcement where the issue is primarily for general corporate purposes. *IS* is the issue size ($ millions). *TA* is the total book value of assets ($ millions). *PREV INV* denotes an SEO announcement where the (previous) issue is primarily for specific investments. PREV GENERAL is an SEO announcement where the (previous) issue is primarily for general corporate purposes. *PREV NET INVESTMENT* is the sum of capital expenditures, research and development, and cash used for acquisitions the year following the previous SEO divided by the issue size of the previous SEO. *PREV DEBT REDUCTION* is the level of debt in the year prior to the previous SEO divided by the level of debt in the year following the previous SEO. *PAR* is defined as the buy-and-hold abnormal stock returns of the issuer over one year following the initial issue, subtracted by the equally weighted average return of a matched size/book-to-market portfolio over the same period. *LN(DAYS)* is the natural log of days since the last SEO filing. The following control variables are suppressed in the interest of brevity. *Q* is *TA* minus the book value of equity plus the market value of equity, all denominated by *TA*. *LN(TA)* is the natural log of *TA*. *LEV* is the firm's long-term debt plus the short-term portion of the long-term debt divided by *TA*. *EBITDA/TA* is earnings before interest, taxes, depreciation, and amortization denominated by total assets. *CAPX/TA* is capital expenditures denominated by total assets. *RD/TA* is research and development expenses denominated by total assets. *WC/TA* is working capital denominated by total assets. *PPE/TA* is net plant, property, and equipment denominated by total assets. *SECONDARY* is an indicator variable that is equal to one if there are any secondary shares being sold as part of the SEO. *p*-values are reported below each coefficient. Robust standard errors are used. Standard errors are clustered by industry at the two-digit SIC level.

Panel A.	**CEO Retained**	**Board Retained > = 2/3 & CEO Retained**
	6.1 (4.3)	*6.2 (4.3)*
N	208	160
INVEST	−0.551	0.014
	(0.617)	(0.991)
GENERAL	−0.827	−0.487
	(0.468)	(0.658)
IS/TA	0.834**	1.120**
	(0.040)	(0.041)
PREV INV	2.867**	3.214**
	(0.040)	(0.044)
*PREV INV * PREV NET INVESTMENT*	4.515***	2.105
	(0.001)	(0.504)
*PREV INV * PREV NET INVESTMENT * LN (DAYS)*	−0.729***	−0.309
	(0.002)	(0.559)
PREV GEN	1.874*	3.382***
	(0.097)	(0.010)
*PREV GEN * PREV NET INVESTMENT*	2.091	1.152
	(0.234)	(0.501)
*PREV GEN * PREV NET INVESTMENT * LN (DAYS)*	−0.303	−0.172
	(0.235)	(0.486)
*PREV DEBT * PREV DEBT REDUCTION*	3.925	9.833*
	(0.486)	(0.069)
*PREV DEBT * PREV DEBT REDUCTION * LN (DAYS)*	−0.483	−1.296*
	(0.531)	(0.074)
Control Variables	YES	YES
CONSTANT	−8.016***	−7.395**
	(0.007)	(0.026)
R^2	0.112	0.114

(Continued)

Table VI. OLS Regressions on Abnormal Returns and Retained CEOs (*Continued*)

Panel B.	**CEO Retained**	**Board Retained > = 2/3 & CEO Retained**
	6.3 (5.2)	*6.4 (5.2)*
N	208	160
INVEST	0.071	1.305
	(0.949)	(0.237)
GENERAL	−0.157	0.580
	(0.863)	(0.524)
IS/TA	−0.948	0.513
	(0.578)	(0.769)
*IS/TA * PREV INV*	2.242	0.871
	(0.180)	(0.595)
*IS/TA * PREV INV * LN(DAYS)*	−0.058***	−0.028*
	(0.006)	(0.063)
PAR	1.198	1.169
	(0.106)	(0.237)
*PAR * IS/TA*	−2.822***	−2.155*
	(0.000)	(0.075)
*PAR * PREV GENERAL * IS/TA*	11.790***	10.555**
	(0.006)	(0.012)
*PAR * PREV GENERAL * LN(DAYS)*	−0.596**	−0.614*
	(0.029)	(0.059)
Control Variables	YES	YES
CONSTANT	−3.557	−4.229
	(0.334)	(0.249)
R^2	0.112	0.104

***Significant at the 0.01 level.
**Significant at the 0.05 level.
*Significant at the 0.10 level.

We return to our main models. We focus on Model 4.3 in Panel A and Model 5.2 in Panel B. We obtain board and CEO information for 335 pairs of our sample SEOs. We re-estimate our models using two subsets: 1) those firms that have the same CEO and 2) those firms that have the same CEO, as well as two-thirds or more of the same board members.[7] As two-thirds is an arbitrary cutoff, we have estimated a variety of models using alternate cutoffs, such as 60% and 75%. The patterns that we report here are broadly representative of our other models. In other words, our inferences do not appear to reflect the choice of cutoff for board retention. Panel A indicates that PREV INV is of somewhat larger magnitude and retains significance. In Panel B, IS/TA ∗ PREV INV is no longer significant. For follow-on SEOs with a PREV GENERAL

[7] Another approach is to re-estimate the models using an indicator variable for continuity of leadership and interactive variables with our leadership indicator variables. We have chosen not to report these models as the number of interactive variables becomes cumbersome. We note that these models provide the same inference as those reported, as the indicator variable for leadership continuity (CEO and two-thirds of board retained) is positive and significant (although not the interactive terms). Estimating the models for the subset of firms that do not have continuity of leadership is not powerful enough to provide meaningful inferences due to the small sample size of 115 follow-on SEOs with changing leadership relative to the control variables required. We note that no coefficients are significant in models examining the subset of firms with changing leadership.

issue, PREV GEN ∗ PREV NET INVESTMENT is no longer significant in the models in Panel A. In contrast, in Panel B, we find our key variable for PREV GENERAL SEOs [PAR ∗ PREV GENERAL ∗ LN(DAYS)] has a greater magnitude and is more significant.

In Model 4.3, we did not find any evidence of credibility building for our previous DEBT SEO firms. In Panel A, examining firms where leadership is maintained, we now observe a positive and significant relation between debt reduction (or lower debt growth) and better announcement returns when returning to the equity market. We also find a significant relation for the interactive variable with the natural log of days suggesting that credibility dissipates.

In summary, we find some mixed evidence that credibility follows individuals in addition to institutions. Re-estimating our economic impact models (5.2) provides the strongest evidence that the combination of GENERAL SEO firm performance following the equity issue, along with continuity of leadership, is valuable to firms when raising equity. We also find some evidence that credibility matters for our DEBT SEO firms.

C. Alternative Sources of Credibility: Investment Banks and Institutional Investors

Thus far, we have demonstrated that in a repeated game, issuing firms can credibly convey private information regarding the quality of new projects through disclosures of the use of funds, or they can build reputation by deploying the proceeds in a value-increasing manner. In this section, we consider an alternative source of credibility for issuing firms: investment bank reputation and institutional investors.

Investment banks play many important roles in the underwriting and marketing of security issues, including certification of information, so the investment bank's reputation may help mitigate the information asymmetry problem faced by equity issuers. Prestigious investment banks, with valuable reputation capital at stake and superior information about the issues they underwrite, may alleviate any credibility gaps on the part of the issuer (Chemmanur and Fulghieri, 1994). Prior literature on IPOs suggests that investment bank reputation plays a critical role in issuing firm performance. For example, Booth and Smith (1986) posit that issuing firms can send credible signals to outside investors regarding the prospects of their equity issues through their choice of underwriters. Chemmanur and Fulghieri (1994) predict that investment banks acquire reputation as a repeated player in the equity market, which enables them to produce and certify information about the equity issues, thus easing the adverse impact of information asymmetry.[8]

For the case of SEOs, the role of investment banks in certifying the quality of an issue may be less important than in an IPO as there exists an established market price and public information. But McLaughlin, Safieddine, and Vasudevan (2000) still find a positive relationship between investment bank reputation and announcement returns in SEOs. We expect the positive relation between SEO announcement returns and investment bank prestige to be less pronounced since our sample is conditioned on multiple issuer SEOs who are more likely to have established credibility with the equity market in previous SEOs and, as such, are less likely to rely on their investment bank as a source of credibility.

Another important player in equity issuances are institutional investors. Using a large sample of transaction-level institutional trading data, Chemmanur, He, and Hu (2009) find that institutional investors are able to identify and obtain more allocations in SEOs with better long run postissue

[8] For more theoretical studies regarding the role of underwriters in equity issues, see Campbell and Kracaw (1980), Gilson and Kraakman (1984), and Titman and Trueman (1986). For empirical results demonstrating the relation between IPO firms and investment bank reputation, see Beatty and Ritter (1986), Carter, Dark, and Singh (1998), Carter and Manaster (1990), Logue et al. (2002), Loughran and Ritter (2004), and Michaely and Shaw (1994).

stock performance. Likewise, Gibson, Safieddine, and Sonti (2004) confirm that SEOs with the greatest increase in institutional investment prior to the offer outperform their benchmarks. These papers suggest that institutions are able to identify better performing SEO firms and increase their holdings in these issues. We are unable to replicate Chemmanur, He, and Hu's (2009) measures as they use proprietary trading data to infer allocations. However, we are able to include preoffer institutional investments in SEO firms as a potential indicator of the quality of the equity issue.

In Table VII, Models 7.1 and 7.2 present the OLS regressions on announcement returns including investment bank reputation and institutional ownership. Investment bank reputation (IB REP) for an SEO is defined as the reputation ranking of the lead manager, or bookrunner, identified by Thomson One Banker. If an SEO has multiple lead managers, we use the reputation of the most prestigious lead manager. We use the underwriter rankings assigned by Carter and Manaster (1990), as updated by Carter, Dark, and Singh (1998) and Loughran and Ritter (2004). A rank of nine indicates the most prestigious banks.[9] We also create an indicator variable, MULT IB, for those SEOs with multiple investment banks. We obtain institutional ownership data from the Thomson Reuters Institutional Holdings (13F) database. Since 1978, all institutions with more than $100 million under management are required to file 13F forms quarterly for all US equity positions worth over $200,000 or consisting of more than 10,000 shares. INST OWN is institutional ownership in the SEO firm at the quarter-end immediately prior to the SEO announcement date, defined as the total number of shares held by institutions scaled by the number of shares outstanding.

Model 7.1 uses our Model 4.3 as its base specification and Model 7.2 uses Model 5.2. In both models, the coefficients for our investment bank and institutional ownership variables are all insignificant. In unreported results, we estimate these models using all combinations of these three variables and find the coefficients insignificant in all specifications. In contrast, our variables of interest continue to have significant coefficients of similar magnitude as before. Our main results remain robust, suggesting that our results on credibility are not driven by investment bank reputation or institutional ownership.

D. Robustness

We re-examine our results in several ways to ensure that our inferences are not due to our choice of models. We discuss these models below, but do not include them in separate tables in the interest of brevity.

For our analysis in Table V, we estimate various models including other variables that do not follow our specific predictions, but possibly affect our results. For example, we include (IS/TA $*$ PREV GEN) in Model 5.2 and find no significance for the coefficient. All other results remain at similar magnitudes and significance. Our results do not appear to be sensitive to our choice of a particular specification.

Our categorization method denotes SEOs as either INVEST, DEBT, or GENERAL based on the primary stated use of funds. For GENERAL SEOs, this designation is straightforward, as these firms' use of funds statements only include a reference to using the newly raised capital "for general corporate purposes" or a similar phrase. However, our designations of INVEST and DEBT SEOs are less distinct for a minority of these firms. Some SEOs that we have labeled as INVEST or DEBT as their primary use of funds also discuss another use of funds, which

[9] These rankings are based on the underwriter's relative placement in tombstone advertisements for security issues. For a detailed construct of the underwriter reputation rankings, see Carter, Dark, and Singh (1998) and Loughran and Ritter (2004). We thank Jay Ritter for making the underwriter reputation rankings data available on his website at http://bear.warrington.ufl.edu/ritter/ipodata.htm.

Table VII. OLS Regressions on Abnormal Returns Using Alternative Signals

CAR (0,+1) is the dependent variable in all models. All independent variables are for the year preceding the SEO. *CAR (0,+1)* is the cumulative abnormal returns over the two-day event period. Abnormal returns are calculated net of expected returns, which are calculated using a market model where the parameters are estimated from days −250 to −50 using the CRSP equally weighted index as a proxy for the market. *IB REP* are from Jay Ritter's website. *MULT IB* is an indicator variable that is equal to one if the SEO has multiple underwriters. *INVEST* is an SEO announcement where the issue is primarily for specific investments. *GENERAL* is an SEO announcement where the issue is primarily for general corporate purposes. *IS* is the issue size ($ millions). *TA* is total book value of assets ($ millions). *PREV INVEST* is an SEO announcement where the (previous) issue is primarily for specific investments. *PREV GENERAL* is an SEO announcement where the (previous) issue is primarily for general corporate purposes. *PREV DEBT* is an SEO announcement where the (previous) issue is primarily for debt reduction. *PREV NET INVESTMENT* is the sum of capital expenditures, research and development, and cash used for acquisitions the year following the previous SEO divided by the issue size of the previous SEO. *PREV DEBT REDUCTION* is the level of debt in the year prior to the previous SEO divided by the level of debt in the year following the previous SEO. *PAR* is defined as the buy-and-hold abnormal stock returns of the issuer over one year following the initial issue, subtracted by the equally weighted average return of a matched size/book-to-market portfolio over the same period. *LN(DAYS)* is the natural log of days since the last SEO filing. The following control variables are suppressed in the interest of brevity. *Q* is *TA* minus the book value of equity plus the market value of equity, all denominated by *TA*. *LN(TA)* is the natural log of *TA*. *LEV* is the firm's long-term debt plus the short-term portion of the long-term debt divided by *TA*. *EBITDA/TA* is earnings before interest, taxes, depreciation, and amortization denominated by total assets. *CAPX/TA* is capital expenditures denominated by total assets. *RD/TA* is research and development expenses denominated by total assets. *WC/TA* is working capital denominated by total assets. *PPE/TA* is net plant, property, and equipment denominated by total assets. *SECONDARY* is an indicator variable that is equal to one if there are any secondary shares being sold as part of the SEO. *p*-values are reported below each coefficient. Robust standard errors are used. Standard errors are clustered by industry at the two-digit SIC level.

	All Follow-on	**All Follow-on**
	7.1 (4.3)	*7.2 (5.2)*
N	294	285
IB REP	−0.085	−0.069
	(0.143)	(0.272)
MULT IB	0.274	0.152
	(0.715)	(0.857)
INST OWN	2.222	2.479
	(0.176)	(0.137)
INVEST	−1.023	−0.350
	(0.324)	(0.740)
GENERAL	−0.817	0.126
	(0.384)	(0.878)
IS/TA	1.676	−1.257
	(0.149)	(0.205)
PREV INV	1.417	
	(0.210)	
PREV INV ∗ PREV NET INVESTMENT	3.960**	
	(0.012)	
*PREV INV * PREV NET INVESTMENT * LN (DAYS)*	−0.594**	
	(0.022)	
PREV GEN	0.995	
	(0.248)	

(Continued)

Table VII. OLS Regressions on Abnormal Returns Using Alternative Signals *(Continued)*

	All Follow-on	All Follow-on
*PREV GEN * PREV NET INVESTMENT*	2.305*	
	(0.088)	
*PREV GEN * PREV NET INVESTMENT * LN (DAYS)*	−0.339*	
	(0.080)	
*PREV DEBT * PREV DEBT REDUCTION*	2.064	
	(0.435)	
*PREV DEBT * PREV DEBT REDUCTION * LN (DAYS)*	−0.278	
	(0.424)	
*IS/TA * PREV INV*		3.329**
		(0.044)
*IS/TA * PREV INV * LN(DAYS)*		−0.111***
		(0.001)
PAR		1.525
		(0.162)
*PAR * IS/TA*		−2.881***
		(0.000)
*PAR * PREV GENERAL * IS/TA*		6.413***
		(0.007)
*PAR * PREV GENERAL * LN(DAYS)*		−0.343*
		(0.079)
Control Variables	YES	YES
CONSTANT	−7.153**	−4.276
	(0.014)	(0.195)
R^2	0.104	0.113

***Significant at the 0.01 level.
**Significant at the 0.05 level.
*Significant at the 0.10 level.

we designate as the secondary use of funds.[10] We re-estimate our main models, 4.3 and 5.2, adding separate indicator variables for INVEST with DEBT secondary and its opposite, DEBT with INVEST secondary. We also substitute a variation of our primary variable for the previous INVEST SEOs: (PREV ONLY INV) for Model 4.3 and [IS/TA ∗ (PREV ONLY INV)] for Model 5.2. In so doing, we attempt to discern whether having multiple uses of funds matters, or if the primary use of funds on which we focus captures what is most important in explaining market response. We find that the secondary use of funds does not appear to matter. Neither does it materially affect our main results.[11]

To enable a better comparison of our results with prior studies, we follow Hovakimian and Hutton (2010) and use the size and book-to-market benchmark portfolio when calculating PAR.

[10] Almost all INVEST and DEBT SEO firms' use of funds statements include the phrase, "... and for general corporate purposes" following their specific statements regarding the use of funds. Therefore, all SEOs could be viewed as having GENERAL as a secondary use of funds. INVEST and DEBT SEOs are distinct from GENERAL SEOs in that they do provide specifics, where the GENERAL SEOs do not.

[11] The only exception is the coefficient for PREV ONLY INV in Model 4.3 is 1.32 and is not significant at conventional levels. All of the other coefficients that are significant in Models 4.3 and 5.2 retain significance with similar magnitudes.

For robustness, we also include momentum when benchmarking our PAR measure since the prior literature suggests that pre-event stock returns may help predict postevent long run abnormal stock performance in the cross-section (Lyon, Barber, and Tsai, 1999; Rau and Vermaelen, 1998). As before, our inferences do not change.

Finally, we re-estimate Models 4.3 and 5.2 with no clustering of standard errors to control for industry. In much of the SEO literature, industry controls are not included as variables, such as overvaluation and growth opportunities, are often clustered by industry. Including controls for industries might hide the economic relation that is of interest. For our variables of interest, the inferences are generally unchanged whether or not we include clustering of error terms by industry.[12]

IV. Discussion

We argue that our findings are relevant since they provide an expanded view of how information moves between the firm and capital markets. There is expansive literature regarding the motives for SEOs and the interrelated question as to the explanation for the systematically negative reaction to the announcement of a firm's intention to conduct an SEO. Popular explanations include market timing and agency concerns. In fact, some, such as Baker and Wurgler (2002), have argued that market timing considerations might be a primary determinant of capital structure, one of the most written about issues in all of financial economics. Our finding that firms build credibility in the market has a corollary, as alluded to by DeAngelo, DeAngelo, and Stulz (2010). Firms that are market timers or agency driven should be recognized as such when they return to the equity market. This market learning makes a firm's ability to time the market progressively more difficult. Our findings suggest that this is indeed the case.

Hovakimian and Hutton (2010) document a feedback loop from the market. Firms that have higher post-SEO returns are more likely to return to the capital markets. We view our findings as an extension of theirs. We have portrayed the situation as one where the firm is aware of the true value of its assets in place and the value of its growth prospects, but where it is costly to credibly convey this information to the market. Another way to view our results is that the firm only has a noisy estimation regarding these valuations. Following the issue, the market assesses the value of the firm's growth prospects and provides feedback to the firm in the form of stock returns. It is not obvious to us which way information flows, particularly in the case of GENERAL SEO firms. Regardless, our evidence suggests that the market utilizes information from previous SEOs when evaluating subsequent SEOs. This arrangement, whether due to increased credibility or due to market feedback, leads the firm to issue again and leads the market to react more favorably to those that do return for subsequent issues.

As previously noted, Hovakimian and Hutton's (2010) finding that firms that exhibited strong performance following an SEO are more likely to return to the market has implications for our sample. These "dogs that don't bark" (those firms that do not return to the market and, as such, are not in our sample) are likely to be those firms that revealed a low quality project. To broaden our analysis, we re-estimate the models from Table IV with all of our observations (first-in-sample, as well as follow-on issues), where the indicators for PREV INV and PREV GEN are set to zero for all first-in-sample SEOs.[13] To the extent that comparing all other first-in-sample and follow-on

[12] PREV INV loses significance in Model 4.3, but retains the same sign.

[13] We are unable to complete the same analysis for Table V since they require post-SEO abnormal returns, which, by definition, cannot be calculated for first-in-sample SEOs.

issues reduces our focus on the most successful issuers, the inclusion of first-in-sample SEOs in our model should help, albeit imperfectly, shed light on this issue. Our results remain robust.[14]

As we discussed, we do not include IPOs, even though an IPO represents the initial foray into the public equity market. We only include seasoned firms to keep our analysis consistent regarding the status of the firm prior to the previous equity issue. IPOs do not readily fit into our analysis given that the information environment around an IPO is much different when compared to a seasoned firm. We do believe that investigating the relation between information released by the firm prior to the IPO regarding the firm's planned use of funds, the returns associated with the post-IPO period, and the market reaction associated with the firm's first SEO may be fruitful. Along these lines, we only use the SEO immediately preceding (by at least one year) the current SEO as a signal. It seems reasonable that credibility is built over multiple issues rather than just the last SEO. This, however, should bias us against finding significance for our key measures.

V. Conclusion

Using a hand collected data set of the stated purpose of proceeds for 670 SEOs from firms conducting multiple offers from 1995 to 2012, we find results consistent with the hypothesis that repeat SEO firms build credibility through successful prior SEOs. First, we categorize SEO firms in our sample into one of three groupings, INVEST, DEBT, and GENERAL, based on the purpose of the proceeds disclosed in the firms' S-filings. We consider INVEST SEO firms, who state the specific intention of the soon to be raised funds, as revealing firms and the less informative GENERAL SEO firms as nonrevealing firms.

Our evidence provides support for the view that capital markets have a long memory. Firms that reveal specifics about their SEO proceeds have higher abnormal announcement returns when they return to the equity market for a subsequent SEO. We also find higher abnormal announcement returns for follow-on SEOs the greater the post-SEO abnormal returns following the previous issue. This post-SEO abnormal return signal is greatest for nonrevealing firms, where the costs of revealing may be high, and smallest for revealing firms, where the market is better able to immediately incorporate the value of the firm's growth opportunities and assets in place. We also present evidence that credibility may follow, at least to some extent, the top leadership of a firm (managers and boards), in addition to the firm itself.

This study expands the extant literature by viewing a firm's relationship with the capital markets as a multi-period game, rather than a single period one. Firms that appear to be able to deceive the market in a one period game are penalized in subsequent SEOs suggesting that building credibility with the market does pay off in the long run.

References

Allen, F. and G.R. Faulhaber, 1989, "Signaling by Underpricing in the IPO Market," *Journal of Financial Economics* 23, 303–323.

[14] The coefficients for PREV INV and PREV GEN ∗ PREV NET INVESTMENT are positive and significant. The coefficient for (PREV INV) is 1.28 and is significant at the 10% confidence level. The coefficient for (PREV GEN ∗ PREV NET INVESTMENT) is 1.69 and also significant at the 10% confidence level. We also estimate similar 4.3 style models using PREV INVEST ∗ IS/TA (as in Table V) and find the coefficients to be consistently significant and positive in all of the models estimated.

Asquith, R. and D. Mullins, 1986, "Equity Issues and Offering Dilution," *Journal of Financial Economics* 15, 61–89.

Autore, D., D. Bray, and D. Peterson, 2009, "Intended Use of Proceeds and the Long-Run Performance of Seasoned Equity Issuers," *Journal of Corporate Finance* 15, 358–367.

Baker, M. and J. Wurgler, 2000, "The Equity Share in New Issues and Aggregate Stock Returns," *Journal of Finance* 55, 2219–2257.

Baker, M. and J. Wurgler, 2002, "Market Timing and Capital Structure," *Journal of Finance* 57, 1–32.

Beatty, R. and J. Ritter, 1986, "Investment Banking, Reputation, and the Underpricing of Initial Public Offerings," *Journal of Financial Economics* 15, 213–232.

Bloom, N. and J. Van Reenen, 2007, "Measuring and Explaining Management Practices Across Firms and Countries," *Quarterly Journal of Economics* 122, 1351–1408.

Booth, J. and R. Smith, 1986, "Capital Raising, Underwriting and the Certification Hypothesis," *Journal of Financial Economics* 15, 261–281.

Brav, A. and P. Gompers, 1997, "Myth or Reality? The Long-Run Underperformance of Initial Public Offerings: Evidence from Venture and Nonventure Capital-backed Companies," *Journal of Finance* 52, 1791–1821.

Butler, A, J. Cornaggia, G. Grullon, and J. Weston, 2011, "Corporate Financing Decisions, Managerial Market Timing, and Real Investment," *Journal of Financial Economics* 101, 666–683.

Campbell, T. and W. Kracaw, 1980, "Information Production, Market Signaling, and the Theory of Financial Intermediation," *Journal of Finance* 35, 863–882.

Carlson, M., A. Fisher, and R. Giammarino, 2006, "Corporate Investment and Asset Pricing Dynamics: Implications for SEO Event Studies and Long-Run Performance," *Journal of Finance* 61, 1009–1034.

Carter, R., F. Dark, and A. Singh, 1998, "Underwriter Reputation, Initial Returns, and the Long-Run Performance of IPO Stocks," *Journal of Finance* 53, 285–311.

Carter, R. and S. Manaster, 1990, "Initial Public Offerings and Underwriter Reputation," *Journal of Finance* 45, 1045–1067.

Chan, K., N. Nayar, A. Singh, and W. Yu, 2011, "Market Reaction, Managerial Responses, and the Classification of SEOs," University of Hong Kong Working paper.

Chemmanur, T. and P. Fulghieri, 1994, "Investment Bank Reputation, Information Production, and Financial Intermediation," *Journal of Finance* 49, 57–79.

Chemmanur, T., S. He, and G. Hu, 2009, "The Role of Institutional Investors in Seasoned Equity Offerings," *Journal of Financial Economics* 94, 384–411.

Cronqvist, H., A. Low, and M. Nilsson, 2009, "Persistence in Firm Policies, Firm Origin, and Corporate Culture: Evidence from Corporate Spin-Offs," Claremont McKenna College Working paper.

Daniel, K., M. Grinblatt, S. Titman, and R. Wermers, 1997, "Measuring Mutual Fund Performance with Characteristic-Based Benchmarks," *Journal of Finance* 52, 1035–1058.

DeAngelo, H., L. DeAngelo, and R. Stulz, 2010, "Seasoned Equity Offerings, Market Timing, and Corporate Life Cycle," *Journal of Financial Economics* 95, 275–295.

Denis, D.J., 1994, "Investment Opportunities and the Market Reaction to Equity Offerings," *Journal of Financial and Quantitative Analysis* 29, 159–177.

Fama, E. and K. French, 1992, "The Cross-Section of Expected Stock Returns," *Journal of Finance* 47, 427–465.

Fama, E. and K. French, 1993, "Common Risk Factors in the Returns on Stocks and Bonds," *Journal of Financial Economics* 33, 3–56.

Fama, E. and K. French, 1996, "Multifactor Explanations of Asset Pricing Anomalies," *Journal of Finance* 51, 55–84.

Fama, E. and K. French, 2005, "Financing Decisions: Who Issues Stock?" *Journal of Financial Economics* 76, 549–582.

Gibson, S., A. Safieddine, and R. Sonti, 2004, "Smart Investments by Smart Money: Evidence from Seasoned Equity Offerings," *Journal of Financial Economics* 72, 581–604.

Gilson, R. and R. Kraakman, 1984, "The Mechanisms of Market Efficiency," *Virginia Law Review* 70, 549–644.

Hermalin, B., 2001, "Economics and Corporate Culture," in C.L. Cooper, S. Cartwright, and P.C. Earley, Eds., *The International Handbook of Organizational Culture and Climate*, Chichester, UK, John Wiley & Sons, 217–262.

Hovakimian, A.G. and I. Hutton, 2010, "Market Feedback and Equity Issuance: Evidence from Repeat Equity Issues," *Journal of Financial and Quantitative Analysis* 45, 739–762.

Jung, K., Y-C. Kim, and R.M. Stulz, 1996, "Timing, Investment Opportunities, Managerial Discretion and the Security Issue Decision," *Journal of Financial Economics* 42, 159–185.

Kim, E.H. and A. Purnanandam, 2014, "Seasoned Equity Offerings, Corporate Governance, and Investments," *Review of Finance* 18, 1023–1057.

Kim, W. and M.S. Weisbach, 2008, "Motivations for Public Equity Offers: An International Perspective," *Journal of Financial Economics* 87, 281–307.

Leone, A.J., S. Rock, and M. Willenborg, 2007, "Disclosure of Intended Use of Proceeds and Underpricing in Initial Public Offerings," *Journal of Accounting Research* 45, 111–153.

Logue, D., R. Rogalski, J. Seward, and L. Foster-Johnson, 2002, "What's Special About the Role of Underwriter Reputation and Market Activities in IPOs?" *Journal of Business* 75, 213–243.

Loughran, T. and J.R. Ritter, 1995, "The New Issues Puzzle," *Journal of Finance* 50, 23–51.

Loughran, T. and J.R. Ritter, 1997, "The Operating Performance of Firms Conducting Seasoned Equity Offerings," *Journal of Finance* 52, 1823–1850.

Loughran, T. and J.R. Ritter, 2004, "Why Has IPO Underpricing Changed Over Time?" *Financial Management* 33, 5–37.

Lowry, M., 2003, "Why Does IPO Volume Fluctuate So Much?" *Journal of Financial Economics* 67, 3–40.

Lowry, M. and W. Schwert, 2002, "IPO Market Cycles: Bubbles or Sequential Learning?" *Journal of Finance* 57, 1171–1198.

Lyon, J., B. Barber, and C. Tsai, 1999, "Improved Methods for Tests of Long-Run Abnormal Stock Returns," *Journal of Finance* 54, 165–201.

Masulis, R.W. and A.N. Korwar, 1986, "Seasoned Equity Offerings: An Empirical Investigation," *Journal of Financial Economics* 15, 91–118.

McLaughlin, R., A. Safieddine, and G. Vasudevan, 2000, "Investment Banks and Their Role in Seasoned Equity Issues," *Financial Management* 29, 96–110.

Michaely, R. and W.H. Shaw, 1994, "The Pricing of Initial Public Offerings: Tests of Adverse-Selection and Signaling Theories," *Review of Financial Studies* 7, 279–319.

Myers, S.C. and N.S. Majluf, 1984, "Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have," *Journal of Financial Economics* 13, 187–221.

Pan, Y, T.Y. Wang, and M.S. Weisbach, 2014, "Does Uncertainty About Management Affect Firms' Costs of Borrowing?" NBER Working paper No. 20674.

Rau, R. and T. Vermaelen, 1998, "Glamour, Value and the Post-Acquisition Performance of Acquiring Firms," *Journal of Financial Economics* 49, 223–253.

Ritter, J., 1991, "The Long-Run Performance of Initial Public Offerings," *Journal of Finance* 46, 3–27.

Ritter, J. and I. Welch, 2002, "A Review of IPO Activity, Pricing, and Allocations," *Journal of Finance* 57, 1795–1828.

Titman, S. and B. Trueman, 1986, "Information Quality and the Valuation of New Issues," *Journal of Accounting and Economics* 8, 159–172.

Walker, M.D. and K. Yost, 2008, "Seasoned Equity Offerings: What Firms Say, Do, and How the Market Reacts," *Journal of Corporate Finance* 14, 376–386.

Welch, I., 1989, "Seasoned Offerings, Imitation Costs, and the Underpricing of Initial Public Offerings," *Journal of Finance* 44, 421–449.

Zhang, L., 2005, "The Value Premium," *Journal of Finance* 60, 67–103.