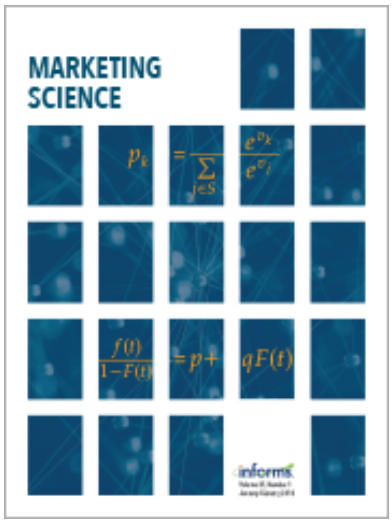

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Myopic Marketing Management: Evidence of the Phenomenon and Its Long-Term Performance Consequences in the SEO Context

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Managers often have incentives to artificially inflate current-term earnings by cutting marketing expenditures, even if it comes at the expense of long-term profits. Because investors rely on current-term accounting measures to form expectations of future-term profits, inflating current-term results can lead to enhanced current-term stock price. We present evidence that some firms engage in this type of "myopic marketing management" at the time of a seasoned equity offering (SEO). In particular, a greater proportion of firms than is typical report earnings higher than normal and marketing expenditures lower than normal at the time of their SEO. Although they realize that firms might be undertaking strategies to artificially inflate current-term earnings, the financial markets are not adequately identifying and properly valuing the firms doing so. Our results indicate that myopic firms are able to temporarily inflate their stock market valuation, but in the long run, as the consequences of cutting marketing spending become manifest, they have inferior stock market performance. We propose some actions that might reduce the incentives for myopic behavior.

Key words: myopic marketing management; marketing strategy; marketing resource allocation; signal jamming; long-term financial performance; abnormal stock returns
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Introduction

At times, managers face incentives that might cause them to emphasize current-term results at the expense of long-term performance. Managers might feel pressure to meet the quarterly earnings expectations of financial analysts, their compensation and job security might be tied to stock market reactions, or they might be evaluated based on current-period accounting performance measures. These conditions can cause an overemphasis on strategic options that generate immediate results at the expense of long-term profits, that is, myopic management. For example, managers might seek to artificially inflate current-term results by cutting "discretionary" spending, such as R&D and advertising. Myopic firms inflate current-term results to give the appearance of enhanced long-term business prospects. This overemphasis on short-term results has long attracted significant interest by academics, practitioners, the financial markets, and government agencies (Hayes and Abernathy 1980, Laverty 1996).

Myopic management is of particular importance to marketers. A host of marketing activities involve expenditures in the near term that have payoffs in the longer term, for example, building customer loyalty (Shugan 2005) and product quality initiatives (Mitra and Golder 2006). Some past research has suggested that firms do engage in myopic marketing management by underspending on marketing or by replacing marketing strategies that produce superior future profits with those that generate an immediate payback.[1] Aaker (1991, p. 10), for example, states that "it is tempting to 'milk' brand equity by cutting back on brand-building initiatives, such as advertising." He notes that a decline in brand equity is not immediately obvious. Furthermore, Aaker (1991) views the increased use of sales promotions (that have immediately observable results, but with potentially deleterious long-term effects) as evidence of managers'

[1] Myopic marketing management has commonalities with the classic concept of "marketing myopia" Levitt (1960). Both deal with a lack of farsightedness. However, while marketing myopia emphasizes problems with defining the business too narrowly, myopic marketing management relates to an overemphasis on the current-term financial performance and the use of marketing tools to inflate current profitability measures.

short-term bias. Pauwels et al. (2004) advance similar arguments and show empirically that sales promotions by automobile manufacturers have had negative long-term effects on firm value. Hauser et al. (1994) state that "all employees (managers, product designers, service providers, production workers, etc.) allocate their effort between actions that influence current period sales and actions that influence sales in the future. Unfortunately, employees are generally more focused on the short term than the firm would like." To change this short-term mindset, the authors advocate the use of customer satisfaction measures in employee performance evaluation as a means to motivate employee effort directed toward increasing profit in the long run. Lehmann (2004, p. 74) highlights a general "overconcern about short-term results" and advocates use of multiple metrics at all levels.

Although some past research has empirically explored myopic management, past research has been sparse (and primarily theoretical or anecdotal),[2] not focused on marketing management per se, and has not addressed its impact on financial performance. Are firms engaging in myopic marketing management? What implications does this have both for those firms undertaking these behaviors and for the financial markets? Our study seeks to answer these questions.

Our analysis focuses on firm and financial market behavior around a seasoned equity offering (SEO), that is, when a firm issues additional equity to collect additional capital. Because the amount of capital collected by the firm depends on the stock price on the day of equity issue, managers have an interest in current-term stock price and might be tempted to cut marketing spending to temporarily enhance profitability. The incentive to engage in myopic management stems from the fact that investors rely on current-term accounting performance measures to form their expectations of the future-term performance and, as such, to value equity.

We find that firms do inflate current-term accounting profits at the time of an SEO by reducing marketing expenditures. Although they are aware that earnings inflation is taking place, the financial markets appear temporarily fooled by myopic managers. Our research shows that firms with a greater likelihood to have engaged in more myopic behavior are overvalued at the time of the SEO and are subsequently devalued in later periods. Only over time, when the longer-term implications of engaging in myopic marketing management materialize in inferior performance, are the consequences of these actions impounded into stock prices. The long-term consequence of myopic marketing management is significantly lower firm value.

[2] Past research has provided some empirical insights into myopic management. For example, Dechow and Sloan (1991) found that executives tend to reduce R&D spending in their final year before retirement. Bushee (1998) reports that having a large proportion of institutional investors exhibiting transient ownership characteristics increases the probability of decreases in R&D expenditures. Roychowdhury (2006) reports evidence of firms giving price discounts to temporarily boost sales and increase earnings when they are close to a zero earnings benchmark.

I. Market Signaling in the Presence of Asymmetric Information: The Theory of Myopic Management

Traditional rational expectations, efficient financial market theories predict that if managers care about stock prices, they will make efficient investment decisions, that is, they will not behave myopically. These traditional efficient market models assume that investors and managers have identical information. Introducing asymmetric information (i.e., when managers have an advantage over investors in distinguishing the true state of a firm's earnings and future prospects) changes the fundamental outcomes of traditional analysis. Managers who possess information about firm performance that is not available to the stock market have incentives to behave myopically. The extent of the myopic behavior increases with the importance managers attach to current-term stock price.

Stein (1989) provides an illustrative theoretical model showing how asymmetric information induces myopic managerial behavior. He starts with a traditional framework: (i) stock price is a function of expected future earnings; (ii) current-term stock price is a component in the managers' utility function; and (iii) current-term earnings serve as a signal of long-term performance (i.e., current earnings contain information about future earnings).[3] Under these three conditions, incentives for myopic management do not exist. However, Stein (1989) also introduces asymmetric information in the form of managers' ability to engage in intertemporal allocation of earnings that investors cannot accurately discern. That is, observed earnings are equal to "natural" earnings plus the amount of earnings borrowed from a future period, less the cost of past borrowed earnings: $Earnings_t = \text{"}Natural\text{"}\ Earnings_t + \text{"}Borrowed\text{"}\ Earnings_t - cost(\text{"}Borrowed\text{"}\ Earnings_{t-1})$. Investors observe $Earnings_t$ but cannot decompose the observed amount into "natural" versus "borrowed" earnings. In other words, investors cannot distinguish whether enhanced current-term earnings are indicative of enhanced future-term performance or come at the expense of future profits.

[3] The results of numerous time series studies confirm both that abnormal earnings do not dissipate immediately but exhibit some persistence and that investors are aware of this.

In this setting, the managerial discount rate is determined not just by the cost of capital (as it would be in the absence of asymmetric information). Instead, it rises with the importance managers attach to current stock price and with the importance the investors place on current-term earnings as signals of long-term profits. The resulting managerial discount rate, which is higher than is justified by the cost of capital considerations, leads to a short-run bias: Managers are selecting strategies with greater current-term results over strategies with overall superior long-term profits. Managers engage in this "intertemporal borrowing" of earnings to inflate current-term results. They seek to fool the stock market into expecting higher future earnings and, thus, to increase current stock price.

The market realizes that managers have myopic incentives and that current-term earnings may be artificially inflated. Stein (1989) emphasizes that this market awareness and response does not prevent or lessen managers' incentives to behave myopically but actually further exacerbates the situation. The problem is that the market cannot distinguish between managers who engage in myopic management and those who do not (or do so to a lesser extent) and thus downgrades all firms. This, in turn, puts pressure on all managers who care about their stock price to inflate current-term earnings.

Stein (1989) posited that the assets the myopic managers are most likely to sacrifice in their attempts to inflate earnings will be those that are not on the company's balance sheet (i.e., intangible assets) and not directly related to production. Most of a firm's marketing assets would arguably fall into this category and, as such, would be likely candidates for reductions by firms engaging in myopic management. As such, myopic management is of particular importance to marketing managers.

II. Study Context: The SEO

Theoretical models allowing for asymmetric information indicate that incentives for myopic behavior increase with the importance managers place on current-period stock price. Although managers generally pay attention to stock price, certain events are likely to increase its importance. For example, the importance of the stock price will be greater to a manager when his or her compensation is linked to the stock price (e.g., option exercise dates) or on the day of a reverse leveraged buyout (LBO). An SEO—the issuing of additional stock by a public company—is another event where the current stock price is of increased importance to managers. Because the amount of capital collected by an SEO-issuing firm is determined by its stock price on the day of the issue, managers have incentives to inflate earnings to maximize SEO proceeds. An SEO provides a well-identified period of significantly increased importance of the current stock price. As such, it provides an ideal setting for studying myopic marketing management and the financial market response.

Although we are not aware of any marketing research that has focused on SEOs, because of its properties, a great deal of work in finance and accounting has been based on the SEO context. With respect to the intent and the positioning of our study, it is useful to group some of the relevant past SEO research into three categories. The first category is the initial research that highlighted an apparent anomaly in SEO pricing (e.g., Loughran and Ritter 1995, Spiess and Affleck-Graves 1995). These studies reported that SEO firms exhibited below-average long-term stock market performance in the years following the issuing.

A second category of SEO studies built on these initial findings and sought to delineate the characteristics of the SEOs being misvalued by the financial markets. These studies (e.g., Rangan 1998, Teoh et al. 1998) focused on managers' attempts to inflate reported earnings at the time of an SEO by taking (i.e., manipulating) income-increasing accrual adjustments. Rather than SEOs being generally misvalued (as implied by the first category of studies), these studies concluded that it was only those SEO firms that had unusually large accruals (motivated presumably by a desire to induce higher net income) that experienced negative long-run abnormal stock returns.

A subsequent third wave of studies (e.g., Brav et al. 2000, Eckbo et al. 2000, Shivakumar 2000) challenged the conclusions of studies reporting an SEO pricing anomaly. These studies concluded that the SEO returns were not anomalous but rather could be explained by additional risk considerations; that is, the abnormal returns vanished with alternative calculations of expected or "normal return." Fama (1998) summarized the conclusions of this wave of studies by stating that "if there is an IPO-SEO anomaly, it seems to be largely restricted to tiny firms."

Our study is in the spirit of the second category of SEO studies but differs in that we focus on changes in management practices (as opposed to accounting practices). Past research has focused on earnings management, which involves managers using judgment in financial reporting and in structuring transactions to alter financial reports with the intent to mislead some stakeholders about the underlying economic performance of the company (Healy and Wahlen 1999). Earnings management most commonly takes place via contingencies and reserve allocations and the timing of revenue recognition. A fundamental distinction

between earnings management and myopic management is that although earnings management affects only the accounting numbers in financial reports and has no impact on firm actions, myopic management impacts financial results through *real actions* (or inaction) firms undertake. As such, our study differs from previous work in that we assess whether management is changing expenditure patterns (as opposed to accounting reporting) at the time of an SEO and the reaction of the financial markets to such changes in real activity.

In light of issues and concerns regarding assessment of long-term abnormal stock returns highlighted in general and in the third category of SEO studies specifically, our assessment of the financial market reaction involves tests and controls geared to minimize pitfalls associated with "the bad-model problem" (Fama 1998).[4] For example, we make use of the matched-firm approach to compute abnormal returns (Barber and Lyon 1997). This approach, in contrast to some alternatives, has been shown to generate well-specified test statistics in analyses involving long-term return horizons. Furthermore, we also make extensive use of sensitivity analysis to determine that our findings are not dependent on, for example, assumptions of normality, specific approaches for calculating abnormal returns, or changes in risk characteristics.

III. Hypotheses

A. Myopic Marketing Management

Given the heightened importance of current-period stock price at the time of an SEO, managers have added incentive to engage in myopic marketing management. That is, models such as Stein's (1989) show that the more managers care about current-period return, the greater the degree and extent of myopic management. This leads to the first hypothesis.

Hypothesis 1. *Managers will seek to inflate current-term earnings at the time of an SEO by cutting marketing expenditure.*

Hypothesis 1 predicts that at the time of an SEO, we would observe firms decreasing activities with current-term costs that exceed their current-term benefits, even if these activities have future-term benefits that justify their undertaking. As such, we will observe a greater-than-usual number of firms reporting a combination of higher-than-normal earnings and lower-than-normal marketing expenditures.

The null hypothesis is that management practices are not changed to coincide with an SEO. Under the null, we would not observe any difference in earnings or marketing expenditure patterns at the time of an SEO, compared with other periods.[5]

B. Valuation of Firms Engaging in Myopic Marketing Management

Although managers have incentives to behave myopically, investors can be expected to realize that these incentives exist, so investors might not be fooled by managerial attempts to inflate earnings and, as such, properly value firms based on their long-term value. This is what would be implied by efficient markets. However, there is a body of work that suggests, in contrast to the efficient markets hypothesis, that the financial markets could be slow to incorporate the financial implications of strategic decisions (e.g., Eberhart et al. 2004). Daniel and Titman (2003) summarize this literature stream by concluding, "There is considerable evidence that investors under-react to information conveyed in management decisions." Rather than immediately impounding these implications into the price of the stock, some research suggests that it might take years for the market to correctly price some types of strategic decisions.[6]

Are myopic firms able to fool the financial market into assigning them a higher valuation at the time of an SEO? If the financial markets are not accurately identifying those firms engaging in myopic marketing management, we would observe myopic firms being overvalued initially. Then, when the consequences of unwarranted cuts in marketing spending are reflected in future performance falling below expectations, this unjustified overvaluation will be corrected in future time periods. The delay in the market's ability to identify myopic firm behavior until its consequences are

[4] Any test of efficient markets depends on assumptions about expected return. "The bad-model problem" interpretation of stock return anomalies is that they are due to a mis-specification of the risk characteristics of the firm and the pricing of this risk; that is, the estimate of expected return is inaccurate. Fama and French (1996) show, for example, that the overreaction anomaly reported by De Bondt and Thaler (1985) vanishes in a three-factor risk model. This "bad-model" consideration dictates that it is critical in studies assessing long-run abnormal returns to make use of properly benchmarked measures (e.g., Barber and Lyon 1997) and to assess the sensitivity of the results to alternative abnormal returns calculations. We undertake both steps in our study.

[5] Another hypothesis is that marketing expenditures are being inflated at the time of an SEO. This might occur if managers are attempting to signal their commitment to the market (Trueman 1986) or if they are utilizing marketing activities specifically geared toward enhancing current-term results (i.e., engaging in myopic marketing management by overutilizing certain types of marketing, e.g., promotions). Finding evidence for Hypothesis 1 would indicate that the tendency to engage in myopic marketing management stemming from reducing marketing expenditures with longer-term paybacks dominates this alternative strategy.

[6] A competing interpretation to explain these results inconsistent with efficient markets is that expected return is not being properly calculated in these studies, that is, "the bad-model problem."

more fully reflected in terms of accounting performance leads to Hypothesis 2.

HYPOTHESIS 2. *Stock returns subsequent to an SEO will be lower for firms that inflated earnings by reducing marketing expenditures below-normal levels.*

C. Long-Term Consequences of Myopic Marketing Management

Hypothesis 2 suggests that investors are not able to fully distinguish myopic firms and will correct the initial overvaluation only in future periods. An additional question, however, is whether the potential negative future outcomes of temporarily decreasing marketing spending overweigh the positive benefits of bringing in more funding from SEO proceeds that can be used to pursue new opportunities. In other words, what are the implications of myopic marketing management for the long-run value of a firm? We hypothesize that even a temporary unwarranted disruption in marketing spending can have substantial negative consequences on future performance. This leads to Hypothesis 3.

HYPOTHESIS 3. *The long-term (total) financial consequences of inflating earnings by cutting marketing expenditures are negative.*

IV. Hypothesis Testing

A. Testing Hypothesis 1

To test Hypothesis 1, we first develop and estimate forecasting models for size-adjusted earnings and size-adjusted marketing expenditure series. We then forecast values for the series at the time of the SEO. The difference between the actual value of the series and the forecasted values allows us to determine whether the firm reports above- or below-normal size-adjusted earnings and marketing expenditures. Under Hypothesis 1, at the time of an SEO, we would observe a significantly greater proportion of firms jointly having earnings above forecast and marketing expenditures below forecast. That is, the proportion of firms with $(\mathrm{ROA}_{i\tau} - \widehat{\mathrm{ROA}}_{i\tau|i\tau-1}) > 0$ and $(\mathrm{Mktg}_{i\tau} - \widehat{\mathrm{Mktg}}_{i\tau|i\tau-1}) < 0$ will be significantly greater at the time of an SEO than at other periods. The null hypothesis is that there will be no significant differences in performance and resource allocation patterns at the time of an SEO than is observed at other periods.

We find that the following fixed-effects multivariate time-series panel data models provide a good approximation of the earnings and marketing expenditure series in our data sample:

$$\begin{aligned}(\mathrm{ROA}_{it} - \overline{\mathrm{ROA}}_t) &= \alpha_{ei} + \phi_1 * (\mathrm{ROA}_{it-1} - \overline{\mathrm{ROA}}_{t-1}) \\ &\quad + \phi_2 * (\mathrm{ROA}_{it-2} - \overline{\mathrm{ROA}}_{t-2}) \\ &\quad + \phi_3 * (\mathrm{Mktg}_{it-1} - \overline{\mathrm{Mktg}}_{t-1}) \\ &\quad + \phi_4 * (\mathrm{Mktg}_{it-2} - \overline{\mathrm{Mktg}}_{t-2}) + \varepsilon_{it}, \qquad (1)\end{aligned}$$

$$\begin{aligned}(\mathrm{Mktg}_{it} - \overline{\mathrm{Mktg}}_t) &= \alpha_{mi} + \delta_1 * (\mathrm{ROA}_{it-1} - \overline{\mathrm{ROA}}_{t-1}) \\ &\quad + \delta_2 * (\mathrm{ROA}_{it-2} - \overline{\mathrm{ROA}}_{t-2}) \\ &\quad + \delta_3 * (\mathrm{Mktg}_{it-1} - \overline{\mathrm{Mktg}}_{t-1}) \\ &\quad + \delta_4 * (\mathrm{Mktg}_{it-2} - \overline{\mathrm{Mktg}}_{t-2}) + \nu_{it}, \qquad (2)\end{aligned}$$

where ROA_{it} and Mktg_{it} are the values of return on assets (ROA) and marketing intensity series for firm i at time period t; ROA_{it-1}, ROA_{it-2}, Mktg_{it-1}, and Mktg_{it-2}, are their one- and two-year lagged values; and $\overline{\mathrm{ROA}}_t$ and $\overline{\mathrm{Mktg}}_t$ are the means for the ROA_{it} and Mktg_{it} series at time period t.

Equation (1) indicates that the deviation of the ROA series from the economy-wide mean depends on a firm-specific amount, the extent to which the series deviated from the economy-wide mean in the previous two periods, and the values of the deviations of the marketing series from the economy-wide mean in the previous two periods. The coefficient α_{ei} is the firm-specific constant in the ROA equation, parameters ϕ_1 and ϕ_2 are the coefficients depicting the persistence of the ROA series, and the parameters ϕ_3 and ϕ_4 depict the impact of marketing intensity on ROA.[7] Similarly, in Equation (2) the coefficient α_{mi} is

[7] To obtain estimates of the parameters α_{1i} and ϕs in the ROA forecast model Equation (1), we follow the Anderson and Hsiao (1982) procedure, to estimate an autoregressive coefficient in the presence of fixed effects. We begin by taking first differences of the data to remove firm-specific fixed effects α_{1i}. We then use $(\mathrm{ROA}_{it-2} - \overline{\mathrm{ROA}}_{t-2})$ and $(\mathrm{ROA}_{it-3} - \overline{\mathrm{ROA}}_{t-3})$ to form an instrumental variable estimate of $[(\mathrm{ROA}_{it-1} - \overline{\mathrm{ROA}}_{t-1}) - (\mathrm{ROA}_{it-2} - \overline{\mathrm{ROA}}_{t-2})]$ to address its correlation with the error $[\varepsilon_{it} - \varepsilon_{it-1}]$ induced by first differencing of the data. This estimation procedure generates consistent (i.e., asymptotically unbiased) estimates of the parameters ϕ. Once we obtain estimates of $\hat{\phi}$s, we can calculate $\hat{\alpha}_{1i}$ as the mean of $[(\mathrm{ROA}_{it} - \overline{\mathrm{ROA}}_t) - \hat{\phi}_1 * (\mathrm{ROA}_{it-1} - \overline{\mathrm{ROA}}_{t-1}) - \hat{\phi}_2 * (\mathrm{ROA}_{it-2} - \overline{\mathrm{ROA}}_{t-2}) - \hat{\phi}_3 * (\mathrm{Mktg}_{it-1} - \overline{\mathrm{Mktg}}_{t-1}) - \hat{\phi}_4 * (\mathrm{Mktg}_{it-2} - \overline{\mathrm{Mktg}}_{t-2})]$ over firm i's observations series. We follow the same approach to estimate marketing forecast Equation (2).

To ensure that our estimates would not be sensitive to outliers, we set 1% of the extreme observations for the accounting variables to missing. In this way, the estimates would be representative of the typical dynamic behavior of the accounting series. Other estimation approaches, which would similarly minimize the impact of extreme data points, generated similar estimates to those we report. To the extent that our estimates are inaccurate, this would lead to a potential misclassification of firms as having positive versus negative surprises to ROA or marketing expenditures. A consequence of misclassification is that tests of differences in abnormal returns between groupings (i.e., Hypotheses 2 and 3) would be biased toward zero; that is, the tests would tend not to find a stock return differential among firm groupings.

the firm-specific constant in the Mktg series, parameters δ_3 and δ_4 are the coefficients depicting the persistence of the Mktg series, and the parameters δ_1 and δ_2 depict the impact of past ROA on marketing intensity.

After obtaining the parameter estimates, we can form forecasts and categorize firms into four groupings based on the forecast error pattern for size-adjusted earnings and marketing expenditures:

	$(\text{Mktg}_{i\tau} - \widehat{\text{Mktg}}_{i\tau\mid i\tau-1}) > 0$	$(\text{Mktg}_{i\tau} - \widehat{\text{Mktg}}_{i\tau\mid i\tau-1}) < 0$
$(\text{ROA}_{i\tau} - \widehat{\text{ROA}}_{i\tau\mid i\tau-1}) > 0$	Group 1	Group 2
$(\text{ROA}_{i\tau} - \widehat{\text{ROA}}_{i\tau\mid i\tau-1}) < 0$	Group 3	Group 4

The four groupings are:

- Group 1: Firms with positive ROA and positive marketing intensity shocks at the time of an SEO
- Group 2: Firms with positive ROA and negative marketing intensity shocks at the time of an SEO
- Group 3: Firms with negative ROA and positive marketing intensity shocks at the time of an SEO
- Group 4: Firms with negative ROA and negative marketing intensity shocks at the time of an SEO.

Under Hypothesis 1, the proportion of Group 2 firms will be greater at the time of an SEO than is typical.

B. Testing Hypothesis 2

Under Hypothesis 2, the financial markets are not fully impounding the consequences of myopic management into the price of the stock when it occurs, but only after the consequences have impacted accounting financial performance. As a consequence, myopic firms will tend to have lower stock returns in the periods following an SEO. We test this hypothesis by examining abnormal (i.e., risk-adjusted) stock returns for myopic and nonmyopic firms in the periods following an SEO. We estimate the following model:

$$\begin{aligned}\text{abnStkR}_{i\tau+k\mid\tau} &= \lambda_{1k} * d_{i\tau}^{\text{ME}^{(+)}\text{ROA}^{(+)}} + \lambda_{2k} * d_{i\tau}^{\text{ME}^{(-)}\text{ROA}^{(+)}} \\ &\quad + \lambda_{3k} * d_{i\tau}^{\text{ME}^{(+)}\text{ROA}^{(-)}} + \lambda_{4k} * d_{i\tau}^{\text{ME}^{(-)}\text{ROA}^{(-)}} + \eta_{i\tau+k} \quad (3)\end{aligned}$$

for $k = 1$, 2, 3, and 4, where $\text{abnStkR}_{i\tau+k\mid\tau}$ is the k-period ahead (i.e., future multiperiod) risk-adjusted (i.e., abnormal) cumulative stock return for firm i, with an SEO occurring at time τ; $d_{i\tau}^{\text{ME}^{(+)}\text{ROA}^{(+)}}$ is a categorical variable that takes on the value of 1 if firm i was categorized as a Group 1 firm and 0 otherwise; $d_{i\tau}^{\text{ME}^{(-)}\text{ROA}^{(+)}}$ is a categorical variable that takes on the value 1 if firm i was categorized as a Group 2 firm and 0 otherwise; $d_{i\tau}^{\text{ME}^{(+)}\text{ROA}^{(-)}}$ is a categorical variable that takes on the value 1 if firm i was categorized as a Group 3 firm and 0 otherwise; and $d_{i\tau}^{\text{ME}^{(-)}\text{ROA}^{(-)}}$ is a categorical variable that takes on the value 1 if firm i was categorized as a Group 4 firm and 0 otherwise.

Under Hypothesis 2 we would expect the myopic group to underperform other firms in the post-SEO periods (i.e., $\lambda_{2k} < 0$). Under the efficient markets hypothesis (which is the basis for the null hypothesis for Hypothesis 2), no differences in the post-SEO stock returns should exist for any grouping of firms defined based on information available at the time of an SEO. As such, under the null hypothesis we would be unable to reject $\lambda_{1k} = \lambda_{2k} = \lambda_{3k} = \lambda_{4k} = 0$.

C. Testing Hypothesis 3

Hypothesis 2 assesses the degree of "punishment" a myopic firm will endure in the post-SEO periods. It does not answer the question of what the total net impact of myopic marketing management is. To assess that, we need to modify Equation (3) to include the SEO period, when the myopic firms presumably commandeer the benefits of their earnings inflation strategies. To examine the total returns to firms that engaged in myopic marketing management versus those that did not, we estimate the following model:

$$\begin{aligned}\text{abnStkR}_{i\tau+j\mid\tau} &= \gamma_{1j} * d_{i\tau}^{\text{ME}^{(+)}\text{ROA}^{(+)}} + \gamma_{2j} * d_{i\tau}^{\text{ME}^{(-)}\text{ROA}^{(+)}} \\ &\quad + \gamma_{3j} * d_{i\tau}^{\text{ME}^{(+)}\text{ROA}^{(-)}} + \gamma_{4j} * d_{i\tau}^{\text{ME}^{(-)}\text{ROA}^{(-)}} + \eta_{i\tau+j} \quad (4)\end{aligned}$$

for $j = 0$, 1, 2, 3, and 4, where $d_{i\tau}^{\text{ME}^{(+)}\text{ROA}^{(+)}}$, $d_{i\tau}^{\text{ME}^{(-)}\text{ROA}^{(+)}}$, $d_{i\tau}^{\text{ME}^{(+)}\text{ROA}^{(-)}}$, and $d_{i\tau}^{\text{ME}^{(-)}\text{ROA}^{(-)}}$ are defined as previously and $\text{abnStkR}_{i\tau+j\mid\tau}$ is the multiperiod risk-adjusted stock return for firm i, with an SEO occurring at time τ.

Hypothesis 2 addresses the future-term effects of myopic marketing management. That is, to what extent do the financial markets adjust the valuation of myopic firms subsequent to the year of an SEO? Hypothesis 3 seeks to assess the total effect of myopic marketing management, taking into account the financial market reaction at the time of an SEO. Under Hypothesis 3, we expect $\gamma_{20} > 0$, $\gamma_{20} \geq \gamma_{21} \geq \gamma_{22} \geq \gamma_{23} \geq \gamma_{24}$, and $\gamma_{24} < 0$.

V. Data

We obtained our sample of firms issuing an SEO between January 1970 and December 2001 and the issue date from the Thomson Financial Securities database. We accessed the primary, full coverage, and researched COMPUSTAT databases for annual accounting information for 1966–2002 and the University of Chicago's Center for Research in Security Prices (CRSP) data tapes for monthly stock returns data for 1970–2004. Our data treatment and merging procedure closely parallel those in the prior SEO

Table 1 Descriptive Statistics

	No. of Observations	Mean	Standard error of the mean	5%	Median	95%
ROA	69,107	0.099	0.0006	−0.170	0.121	0.279
Marketing intensity	29,779	0.290	0.0012	0.052	0.245	0.693
Stock return	61,541	0.028	0.0022	−0.924	0.067	0.812

Notes. The sample includes all available 1966–2002 COMPUSTAT data for those firms that had at least one SEO reported in the Thomson Financial Securities database for the January 1970–December 2001 period. Variable definitions with respective COMPUSTAT data numbers are presented below. The stock returns data represent continuously compounded annualized stock returns for the SEO firms and come from the University of Chicago's Center for Research in Security Prices monthly returns data tapes.

Variable definitions with respective COMPUSTAT data numbers for firm i in year t:

$$\text{ROI}_{it} = \frac{\text{Operating income before depreciation}_{it}}{\text{Assets}_{it}} = \frac{(\text{data13})_{it}}{(\text{data6})_{it}}$$

$$\text{Marketing intensity}_{it} = \frac{\text{SG\&A expense}_{it} - \text{R\&D expense}_{it}}{\text{Assets}_{it}} = \frac{(\text{data189})_{it} - (\text{data46})_{it}}{(\text{data6})_{it}}$$

$$\text{Stock return}_{it} = \log \prod_{month=1}^{12} (1 + \text{holding period return}_{imonth})$$

research (e.g., Teoh et al. 1998). Merging the SEO, COMPUSTAT, and CRSP data samples yielded an unbalanced pooled cross-sectional time series panel with a total of 2,238 SEO year events where sufficient accounting data are available to form forecasts based on our Equation (1) and (2) models.[8] The overall loss of observations after merging the three databases is consistent with that in the prior SEO research (e.g., Teoh et al. 1998, Shivakumar 2000).

Table 1 provides descriptive statistics for variables used in our analysis. We used operating income before depreciation divided by assets as our measure of ROA (i.e., COMPUSTAT Data13/Data6). However, to assess the robustness of our findings, we replicated our analysis with alternative accounting measures of firm performance (e.g., net income and income before extraordinary items) and found results very similar to those we report.[9]

We used selling and general administrative (SG&A) expenditures minus R&D expenditures divided by assets (COMPUSTAT [Data189-Data46]/Data6) as our proxy for marketing expenditure intensity. SG&A has been used in past research (e.g., Dutta et al. 1999, Kim et al. 2005) as a proxy for marketing spending. We refine the measure to better capture its marketing-related portion by excluding R&D expenses. Analysis based on our marketing expenditure measure SG&A − R&D can be expected to provide more powerful tests than an analysis based on a single marketing spending item (e.g., advertising), because it includes more expenditure items (such as sales force costs and promotional spending) that firms may seek to limit in an attempt to inflate earnings at the time of an SEO. Furthermore, SG&A − R&D analysis will better delineate myopic firms because it is able to separate firms that reduced expenditures from firms that merely shifted expenditures from one marketing-related SG&A item to another. We do, however, also perform sensitivity analysis based on alternative marketing intensity proxies (e.g., a more broad SG&A [COMPUSTAT Data189]) and a narrower advertising ([COMPUSTAT Data45] intensity) and find results in close correspondence to those we report.

Testing Hypotheses 2 and 3 involves a comparison of abnormal stock returns for longer-term horizons and thus requires a measure of expected return to calculate abnormal return. Research in finance (e.g., Barber and Lyon 1997) has documented biases in tests associated with some of the commonly used approaches for computing abnormal returns over a long-term horizon. Test statistics based on abnormal return benchmarks using, for example, the market model or the three-factor model developed by Fama and French (1993) are misspecified because of problems associated with, for example, new listing, rebalancing, and skewness biases. To overcome these issues, Barber and Lyon (1997) recommend a procedure for assessing abnormal returns that involves matching sample firms to control firms of similar sizes and book-to-market ratios. They note that this control firm approach yields "well-specified test statistics in virtually all sampling situations considered." Because of its advantageous properties, this matched-firm approach has been widely advocated and used in more recent empirical finance and accounting studies. Indeed, Shivakumar (2000) highlighted this approach as a means to overcome limitations in long-horizon tests in previous SEO research.

Following Barber and Lyon (1997), we choose the control firm among all firms in the same year and in the same two-digit standard industrial classification (SIC) group not issuing SEOs, with a market value of equity between 70% and 130% of that of the sample firm, and whose book-to-market ratio is clos-

[8] Because all our data are at the annual level, following prior SEO research (e.g., Teoh et al. 1998), we do not distinguish between single and multiple SEO issues within a year. Neither do we distinguish between different types of SEO (e.g., rights versus cash offers) because of the extremely small proportion of rights offers in our data sample. We did, however, undertake additional analysis to make sure that our results are not affected by these choices and found no evidence to the contrary.

[9] See Kothari (2001), for example, for a discussion of the financial market response to accounting profitability measures.

Table 2 Fixed Effects Multivariate Panel Data Forecast Models

	ROA equation	Marketing equation
$(ROA_{it-1} - \overline{ROA}_{t-1})$	0.512$^{**\pm}$	0.012*
	(0.026)	(0.006)
	19.97	2.08
$(ROA_{it-2} - \overline{ROA}_{t-2})$	0.014	0.00003
	(0.009)	(0.006)
	1.55	0.06
$(Mktg_{it-1} - \overline{Mktg}_{t-1})$	0.224**	0.473$^{**\pm}$
	(0.009)	(0.040)
	26.19	11.69
$(Mktg_{it-2} - \overline{Mktg}_{t-2})$	0.057**	0.017
	(0.008)	(0.01)
	7.05	1.68
Number of observations	21,366	20,935
F-statistic	350.88	66.99

Notes. ROA equation: $(ROA_{it} - \overline{ROA}_t) = \alpha_{ei} + \phi_1 * (ROA_{it-1} - \overline{ROA}_{t-1}) + \phi_2 * (ROA_{it-2} - \overline{ROA}_{t-2}) + \phi_3 * (Mktg_{it-1} - \overline{Mktg}_{t-1}) + \phi_4 * (Mktg_{it-2} - \overline{Mktg}_{t-2}) + \varepsilon_{it}$.

Marketing equation: $(Mktg_{it} - \overline{Mktg}_t) = \alpha_{mi} + \delta_1 * (ROA_{it-1} - \overline{ROA}_{t-1}) + \delta_2 * (ROA_{it-2} - \overline{ROA}_{t-2}) + \delta_3 * (Mktg_{it-1} - \overline{Mktg}_{t-1}) + \delta_4 * (Mktg_{it-2} - \overline{Mktg}_{t-2}) + \varepsilon_{it}$.

The number of observations differs across the series as not all firms reported all measures across all time periods. Standard errors are in parentheses, *t*-statistics in brackets. Significance levels: $^{**}p < 0.01$, $^{*}p < 0.05$. $^{\pm}$denotes the use of instrumental variable estimation.

est to that of the sample firm.[10] We then calculate the abnormal return measure as the difference in the multiyear-ahead stock return for the firm undertaking an SEO versus the multiyear-ahead stock return for the matched firm:[11] $abnStkR_{i\tau+k|\tau} = StkR_{i\tau+k|\tau} - StkR_{mi\tau+k|\tau}$, where $StkR_{i\tau+k|\tau}$ is the k period ahead (i.e., future multi-period) cumulative stock return for firm i, with an SEO occurring at time τ, and $StkR_{mi\tau+k|\tau}$ is the k period ahead cumulative stock return for firm i's control firm.

VI. Empirical Analysis

We begin our analysis by estimating fixed-effects multivariate panel data forecast models (Equations (1) and (2)) for ROA and marketing intensity. As depicted in Table 2, ROA and marketing intensity series exhibit significant persistence: The first-order own lags are 0.512 and 0.473, respectively, and the second-order own lags are insignificant for both series. Neither series has unit roots (which we formally document through additional tests), nor do they dissipate immediately. The estimated persistence coefficients suggest that these series decay over a number of periods. This result means that deviations occurring in a given year contain information about the future term. In addition, as evidenced in Table 2, marketing intensity has highly significant positive long-term effects on ROA. The first-year effect is 0.224 and the second-year effect is 0.057. Thus, we find empirical evidence that marketing expenditures have long-term effects on business performance.[12] We also find some evidence of feedback effects from ROA to marketing expenditures in Equation (2). Although the estimated two-year lagged effect is indistinguishable from zero, ROA lagged one year has a statistically significant, albeit quite small, impact on marketing intensity (0.012).

Table 3 The Prevalence of Myopic Marketing Management at the Time of an SEO

	Proportion of firms in the year when an SEO was issued (%) ($N = 2{,}238$)	Proportion of firms in years when SEO was *not* issued (%) ($N = 21{,}129$)
Group 1		
$(ROA_{i\tau} - \widehat{ROA}_{i\tau|i\tau-1}) > 0$, $(Mktg_{i\tau} - \widehat{Mktg}_{i\tau|i\tau-1}) > 0$	19.7	23.8
Group 2		
$(ROA_{i\tau} - \widehat{ROA}_{i\tau|i\tau-1}) > 0$, $(Mktg_{i\tau} - \widehat{Mktg}_{i\tau|i\tau-1}) < 0$	**36.4**	**29.2**
Group 3		
$(ROA_{i\tau} - \widehat{ROA}_{i\tau|i\tau-1}) > 0$, $(Mktg_{i\tau} - \widehat{Mktg}_{i\tau|i\tau-1}) > 0$	14.5	26.1
Group 4		
$(ROA_{i\tau} - \widehat{ROA}_{i\tau|i\tau-1}) > 0$, $(Mktg_{i\tau} - \widehat{Mktg}_{i\tau|i\tau-1}) < 0$	29.3	20.9
Total	100	100

A. Assessing the Prevalence of Myopic Marketing Management at the Time of an SEO

Our test of the prevalence of myopic marketing management involves examination of the proportion of Group 2 firms at the time of an SEO, that is, firms with $(ROA_{i\tau} - \widehat{ROA}_{i\tau|i\tau-1}) > 0$ and $(Mktg_{i\tau} - \widehat{Mktg}_{i\tau|i\tau-1}) < 0$ Under the hypothesis that managers have a tendency to engage in myopic management at the time of an SEO, a greater proportion of firms will be in Group 2 than is typical. We use our sample—but for periods other than the year of an SEO—as our benchmark of "typical." However, our findings are in near exact correspondence if we use a benchmark of all COMPUSTAT firms. Table 3 reports the results of this analysis.

[10] In the few cases where we were unable to identify a matching firm at the two-digit SIC level, we searched for a match at a one-digit SIC level. In the cases where no match was found at the one-digit SIC level, we searched for a matching firm with no SIC constraint.

[11] We replicated all our analyses using alternative returns measures (e.g., raw, market-adjusted returns, market-, size-, and book-to-market-adjusted returns) and found results very closely corresponding to those we report.

[12] For discussions of the long-term effects of marketing expenditures see, for example, Lodish et al. (1995) and Dekimpe and Hanssens (1995, 1999).

In non-SEO years, 29.2% of our sample firms typically fall into the Group 2 category. This proportion is significantly different ($p < 0.0001$) at the time of an SEO. Approximately 36.4% of firms are categorized in Group 2 at the time of an SEO. This finding is consistent with Hypothesis 1 and the prediction of Stein's (1989) model—a significant number of firms appear to be inflating earnings at the time of an SEO through a reduction in marketing expenditures.

By examining the proportion of firms in the other groupings, it can be ascertained where this increase in the proportion of Group 2 firms is coming from. Compared with the norm, we see a dramatic reduction in Group 3 firms (i.e., firms with $[\mathrm{ROA}_{i\tau} - \widehat{\mathrm{ROA}}_{i\tau\,|\,i\tau-1}] < 0$ and $[\mathrm{Mktg}_{i\tau} - \widehat{\mathrm{Mktg}}_{i\tau\,|\,i\tau-1}] > 0$) at the time of an SEO. Only 14.5% of firms are classified as Group 3, compared with 26.1% of SEO firms in non-SEO years. We also see a drop in the proportion of Group 1 firms. At the time of an SEO, 19.7% of firms are classified as Group 1, compared with 23.8% for SEO firms in non-SEO years. As such, during the period of an SEO we observe a statistically significant and substantial rise in the proportion of firms that decrease marketing expenditures above their expected value (i.e., Groups 2 and 4 together). At the time of an SEO, 65.8% of firms (compared with a norm of 50.1%) are decreasing marketing expenditures below predicted values.

B. Firm Valuation at the Time of an SEO

The Table 3 results are consistent with firms trying to artificially inflate current-term results by decreasing marketing expenditures. Are the financial markets fooled by this behavior? Or are market participants able to fully distinguish between the firms behaving myopically and those that are not, and do they impound this information into the price of the stock? Shivakumar (2000) finds evidence consistent with the financial markets being aware that some firms are engaging in earnings inflation at the time of an SEO; that is, the markets react less to earnings announcements at the time of an SEO compared with other periods. We too undertook such analysis and found that the earnings response coefficient is lower at the SEO time than at other periods (see Table X1 in the appendix). This is consistent with Stein's (1989) proposition that the market will be aware that there are times when managers are more likely to engage in myopic management and will thus discount the performance signals reported at these times. At issue, however, is whether the financial markets correctly determine which firms are engaging in myopic management and whether they are able to properly value the financial implications of engaging in this type of behavior.

Table 4A presents a test of Hypothesis 2, suggesting that myopic firms will have lower stock return in the years subsequent to an SEO because they are not properly valued at the time of the SEO. Firms are categorized into the four groupings based on ROA and marketing expenditure shocks occurring at the time of an SEO. For one, two, three, and four years after an SEO, we observe no abnormal stock returns for Groups 1, 3, and 4. This finding is consistent with these firms being properly valued at the time of an SEO. We do not observe a systematic adjustment in the valuation of these firms subsequent to the year of an SEO.

Table 4A Are Firms Properly Valued at the Time of an SEO? The Role of Marketing Intensity and ROA Shocks

	One year after an SEO: One-year abnormal stock return $k=1$	Two years after an SEO: Cumulative two-year abnormal stock return $k=2$	Three years after an SEO: Cumulative three-year abnormal stock return $k=3$	Four years after an SEO: Cumulative four-year abnormal stock return $k=4$
λ_1	0.049	−0.017	−0.023	0.030
	(0.038)	(0.055)	(0.069)	(0.080)
	[1.28]	[−0.30]	[−0.33]	[0.37]
λ_2	**−0.179****	**−0.310****	**−0.364****	**−0.390****
	(0.028)	(0.040)	(0.049)	(0.058)
	[−6.44]	[−7.69]	[−7.40]	[−6.76]
λ_3	−0.000	−0.019	0.059	0.172
	(0.045)	(0.067)	(0.082)	(0.097)
	[−0.01]	[−0.29]	[0.72]	[1.77]
λ_4	−0.004	−0.011	−0.041	0.007
	(0.031)	(0.045)	(0.054)	(0.064)
	[−0.12]	[−0.25]	[−0.76]	[0.10]
No. of observations	1,779	1,674	1,558	1,370
F-statistic	10.79	14.86	13.98	12.23

Notes. Abnormal $\mathrm{StkR}_{i\tau+k\,|\,\tau} = \lambda_{1k} * d_{i\tau}^{\mathrm{ME}(+)\mathrm{ROA}(+)} + \lambda_{2k} * d_{i\tau}^{\mathrm{ME}(-)\mathrm{ROA}(+)} + \lambda_{3k} * d_{i\tau}^{\mathrm{ME}(+)\mathrm{ROA}(-)} + \lambda_{4k} * d_{i\tau}^{\mathrm{ME}(-)\mathrm{ROA}(-)} + \eta_{i\tau+k}$, where $k = 1, 2, 3$, and 4. Standard errors are in parentheses, *t*-statistics in brackets. Significance levels: $^{**}p < 0.01$.

We see dramatically different results for Group 2. One year after an SEO, Group 2 firms underperform their matched counterparts by −17.9%. The differential is −31.0% for the two-year cumulative return subsequent to an SEO. Then it is −36.4% for the three years and −39.0% for four years subsequent to an SEO. All these differences are highly statistically significant. These firms, which are categorized based on an increased likelihood of having engaged in myopic marketing management, appear not to be properly valued by the stock market at the time of an SEO. The eventual underperformance of myopic firms in the years subsequent to an SEO attests to the market's not appreciating the implications underlying a combined positive ROA shock, with a negative marketing intensity shock (i.e., a greater likelihood of myopic marketing management). Only over time, when the financial implications resulting from undertaking this strategy are realized, do the financial

Table 4B Are Firms Properly Valued at the Time of an SEO? The Role of Marketing Intensity and ROA Shocks: Nonparametric Tests

	One year after an SEO: One-year abnormal stock return $k=1$	Two years after an SEO: Cumulative two-year abnormal stock return $k=2$	Three years after an SEO: Cumulative three-year abnormal stock return $k=3$	Four years after an SEO: Cumulative four-year abnormal stock return $k=4$
Group 1				
$(ROA_{i\tau} - \widehat{ROA}_{i\tau \mid i\tau-1}) > 0,$	0.063	−0.023	−0.09	−0.081
$(Mktg_{i\tau} - \widehat{Mktg}_{i\tau \mid i\tau-1}) > 0$	[14.5]	[−5.5]	[−10.0]	[−6.0]
	(0.13)	(0.58)	(0.30)	(0.50)
Group 2				
$(ROA_{i\tau} - \widehat{ROA}_{i\tau \mid i\tau-1}) > 0,$	**−0.14****	**−0.309****	**−0.397****	**−0.418****
$(Mktg_{i\tau} - \widehat{Mktg}_{i\tau \mid i\tau-1}) < 0$	**[−61.0]**	**[−67.5]**	**[−72.5]**	**[−68.0]**
	(<0.001)	**(<0.001)**	**(<0.001)**	**(<0.001)**
Group 3				
$(ROA_{i\tau} - \widehat{ROA}_{i\tau \mid i\tau-1}) < 0,$	−0.001	0.029	0.033	0.109
$(Mktg_{i\tau} - \widehat{Mktg}_{i\tau \mid i\tau-1}) > 0$	[−1.0]	[−4.5]	[5.0]	[4.0]
	(0.95)	(0.59)	(0.53)	(0.60)
Group 4				
$(ROA_{i\tau} - \widehat{ROA}_{i\tau \mid i\tau-1}) < 0,$	0.019	−0.008	−0.063	−0.011
$(Mktg_{i\tau} - \widehat{Mktg}_{i\tau \mid i\tau-1}) < 0$	[4.0]	[−3.5]	[−8.5]	[−2.5]
	(0.76)	(0.79)	(0.46)	(0.85)

Notes. The results are presented as median, [M-statistic], (p-value). Significance levels: $^{**}p < 0.01$.

markets impound the value implications of engaging in myopic marketing management. As the four-year abnormal return is approximately the same as the three-year abnormal return, it appears that it takes approximately three years for the financial markets to fully impound the value implications of myopic marketing management into the price of the stock.

Although the matched-firm approach for calculating abnormal returns has been shown to yield test statistics mirroring those of conventional tests, we also undertook nonparametric tests to assess Hypothesis 2. These nonparametric tests do not rely on the normality assumption. The nonparametric analysis, reported in Table 4B, is in close correspondence to the Table 4A results. In particular, the estimated median abnormal returns are close to the estimated mean abnormal returns. In the first year after an SEO, we observe a significant negative median abnormal return of −0.140 for Group 2. The median abnormal return for these firms becomes more negative over time. By year four, the median abnormal return for Group 2 is −0.418. In contrast to the Group 2 results, the median returns for each of the other groupings are statistically insignificant for all years. As such, nonparametric tests are fully supportive of Hypothesis 2.

A potential issue in assessing SEO abnormal returns is that the matched firm used as the standard to calculate expected return did not engage in an SEO. Thus, SEO risk characteristics might be postulated to differ from non-SEO firms (Eckbo et al. 2000). We can, however, control for this using a related test of Hypothesis 2. Rather than testing whether myopic firms exhibit long-term abnormal returns, we can test whether the returns to the myopic group differ from the other SEO groupings, all of which undertook an SEO. That is, rather than testing that $\lambda_{2k} < 0$, we can test whether $\lambda_{2kl} < \lambda_{lk}$ $(l \neq 2)$. Because all firms undertook an SEO, this test controls not only for SEO-specific risk but for all SEO-specific issues, for example, SEO endogeneity. The results of this test are fully supportive of Hypothesis 2 (see Table X2 in the appendix). Group 2 significantly underperforms each of the other groupings both individually and as an aggregate. For example, for the myopic grouping compared to the aggregate of the other three other groupings, the one-year after-SEO performance differential is −0.191; the two-year differential is −0.295; the three-year differential is −0.349; the four-year differential is −0.438. All these differentials are significant at $p < 0.001$. Thus, we can conclude that firms that enhance earnings at the time of an SEO by reducing marketing expenditures are overvalued by the market at the time of the SEO relative to other firms issuing an SEO. Use of alternative returns measures does not alter these results (see appendix, Table X3).

C. Long-Term Consequences of Myopic Marketing Management

We examine the total impact of myopic marketing management on the value of the firm by assessing cumulative abnormal stock returns computed from the year of an SEO. Does the benefit of higher stock return in the year of an SEO outweigh the loss in

Table 5A Total Financial Returns to Myopic Marketing Management Over the Long Term

	The year of an SEO: Current-year abnormal stock return $j = 0$	One year after an SEO: Cumulative two-year abnormal stock return $j = 1$	Two years after an SEO: Cumulative three-year abnormal stock return $j = 2$	Three years after an SEO: Cumulative four-year abnormal stock return $j = 3$	Four years after an SEO: Cumulative five-year abnormal stock return $j = 4$
γ_1	0.131**	0.188**	0.129*	0.126	0.160
	(0.030)	(0.051)	(0.065)	(0.077)	(0.088)
	[4.34]	[3.67]	[1.98]	[1.64]	[1.82]
γ_2	**0.136****	**−0.046**	**−0.169****	**−0.214****	**−0.246****
	(0.022)	(0.037)	(0.047)	(0.055)	(0.063)
	[6.13]	[−1.22]	[−3.57]	[−3.90]	[−3.89]
γ_3	−0.004	0.002	−0.002	0.103	0.190
	(0.035)	(0.061)	(0.080)	(0.093)	(0.107)
	[−0.10]	[0.04]	[−0.02]	[1.11]	[1.78]
γ_4	0.081**	0.079	0.079	0.042	0.081
	(0.024)	(0.041)	(0.052)	(0.060)	(0.070)
	[3.34]	[1.92]	[1.50]	[0.69]	[1.17]
No. of observations	1,837	1,774	1,669	1,553	1,365
F-statistic	16.88	4.66	4.74	4.89	5.74

Notes. Abnormal $\text{StkR}_{i\tau+j|\tau} = \gamma_{1j} * d_{i\tau}^{\text{ME}(+)\text{ROA}(+)} + \gamma_{2j} * d_{i\tau}^{\text{ME}(-)\text{ROA}(+)} + \gamma_{3j} * d_{i\tau}^{\text{ME}(+)\text{ROA}(-)} + \gamma_{4j} * d_{i\tau}^{\text{ME}(-)\text{ROA}(-)} + \eta_{i\tau+j}$, where $j = 1, 2, 3$, and 4. Standard errors are in parentheses, *t*-statistics in brackets. Significance levels: $^{**}p < 0.01$.

value in the subsequent years? Table 5A presents the results of this analysis.

In the year of an SEO, the myopic firms realize abnormal returns of 13.6%. The market response is approximately the same as to that of Group 1 firms (13.1%). Thus, we do not observe any discounting on the part of the financial markets of the earnings that may be artificially inflated through a reduction in marketing spending. That is, the markets react the same to firms with positive earnings shocks, regardless of whether the marketing expenditure shock is positive or negative. We observe no abnormal returns to firms with a negative earnings and positive marketing shock and positive abnormal returns to firms that have a negative ROA shock combined with a negative marketing shock (8.1%); that is, if a firm has earnings below expectations, the financials markets react positively to cuts in discretionary spending.

In the years subsequent to an SEO, we observe a statistically significant reversal in abnormal returns only for Group 2. One year after an SEO, the total two-year cumulative returns for this group fall to −4.6%, which is not statistically significant from zero. However, the negative returns in the subsequent years become more prominent. Two years after an SEO, the three-year cumulative abnormal return is −16.9% and is statistically significant. The positive returns realized at the time of the SEO become dominated by the negative returns in the subsequent two years. The pattern continues with the Group 2 firms realizing a four-year abnormal cumulative stock return of −21.4% three years after an SEO. The five-year cumulative abnormal return is about the same (−24.6%). The short-term gains of implementing a myopic strategy are overcome by the future-term negative consequences. The long-term consequence is a substantial drop in market value of about 25%.

Table 5B presents nonparametric median tests of Hypothesis 3. The results from this analysis are in close correspondence to the analysis reported in Table 5A. For example, we see a positive return for the median Group 2 firm at the time of the SEO (13.1%) that is overcome by loses in subsequent years; for example, the five-year median return for Group 2 firms is −26.4%. As such, not only are Group 2 firms losing on average approximately 25% of their value (Table 5A), but the median Group 2 firm is losing 25% of its value.

To further illustrate the consequences of myopic behavior, we can follow the market value of SEO firms (Figure 1). Suppose we have two investors. At the beginning of the year that an SEO is issued, one investor bought a portfolio of firms that turned out to be Group 2 firms, and the other investor bought a portfolio of firms that would be categorized in Groups 1, 3, and 4. The two investors had the same amount of money initially ($100), so the two portfolios are valued the same at the start of the SEO year. At the end of the SEO year, the Group 2 investor's portfolio outperformed the Groups 1, 3, 4 portfolio as a consequence of the favorable market response to the positive earnings shock. At the end of the first year subsequent to an SEO, however, the Groups 1, 3, 4 portfolio is valued at $109.57 and significantly overperforms Group 2 portfolio, which is valued at $95.43. In subsequent years, the value of the Group 2 portfolio continues to decline. Two years after an SEO it is

Table 5B The Total Financial Returns to Myopic Marketing Management Over the Long Term: Nonparametric Tests

	The year of an SEO: Current-year abnormal stock return $j=0$	One year after an SEO: Cumulative two-year abnormal stock return $j=1$	Two years after an SEO: Cumulative three-year abnormal stock return $j=2$	Three years after an SEO: Cumulative four-year abnormal stock return $j=3$	Four years after an SEO: Cumulative five-year abnormal stock return $j=4$
Group 1					
$(ROA_{i\tau} - \widehat{ROA}_{i\tau \mid i\tau-1}) > 0$,	0.125**	0.156**	0.089	0.055	0.065
$(Mktg_{i\tau} - \widehat{Mktg}_{i\tau \mid i\tau-1}) > 0$	[47.0]	[25.0]	[12.0]	[10.5]	[5.5]
	(<0.001)	(0.01)	(0.20)	(0.24)	(0.53)
Group 2					
$(ROA_{i\tau} - \widehat{ROA}_{i\tau \mid i\tau-1}) > 0$,	**0.131****	**0.006**	**−0.112***	**−0.256****	**−0.264****
$(Mktg_{i\tau} - \widehat{Mktg}_{i\tau \mid i\tau-1}) < 0$	**[58.0]**	**[1.5]**	**[−26.0]**	**[−39.0]**	**[−36.5]**
	(<0.001)	**(0.94)**	**(0.04)**	**(0.001)**	**(0.001)**
Group 3					
$(ROA_{i\tau} - \widehat{ROA}_{i\tau \mid i\tau-1}) < 0$,	−0.016	−0.021	−0.022	0.063	0.083
$(Mktg_{i\tau} - \widehat{Mktg}_{i\tau \mid i\tau-1}) > 0$	[−4.0]	[−2.0]	[−3.5]	[12.0]	[5.0]
	(0.66)	(0.85)	(0.69)	(0.11)	(0.50)
Group 4					
$(ROA_{i\tau} - \widehat{ROA}_{i\tau \mid i\tau-1}) < 0$,	0.071	0.013	0.032	0.000	0.000
$(Mktg_{i\tau} - \widehat{Mktg}_{i\tau \mid i\tau-1}) < 0$	[34.5]	[5.5]	[6.0]	[0.0]	[2.0]
	(0.004)	(0.67)	(0.62)	(1.0)	(0.88)

Notes. The results are presented as median, [M-statistic], (p-value). Significance levels: $^{*}p < 0.05$, $^{**}p < 0.01$.

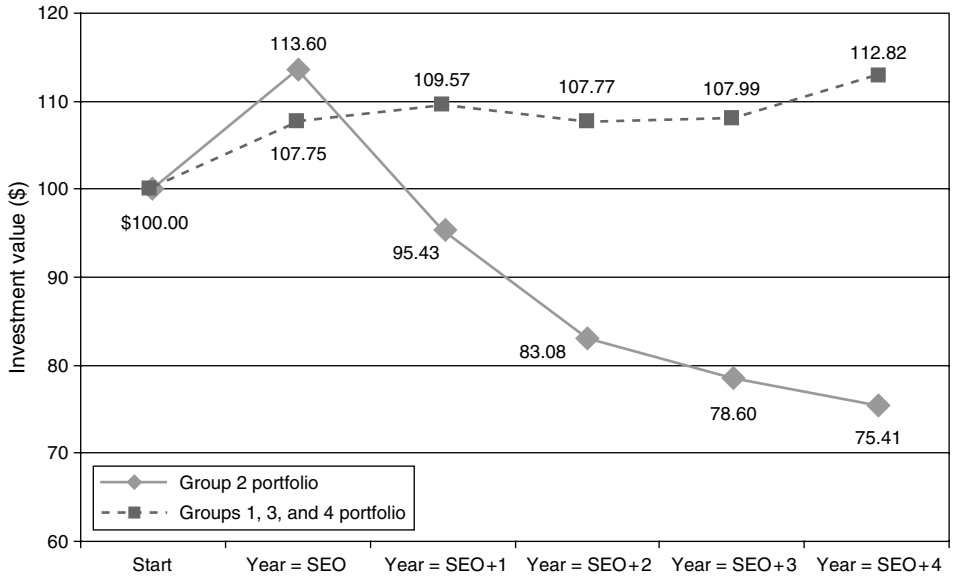
\$24.69 below the Groups 1, 3, 4 portfolio (i.e., \$83.08 versus \$107.77) and continues to decline to \$29.30 and \$37.41 below the value of the Groups 1, 3, 4 portfolio. Each of these differences is highly significant. At the end of the four years following an SEO, the investor with the Group 2 portfolio has only 75.41% of his or her initial investment, compared with 112.82% for the investor with the Groups 1, 3, 4 portfolio. The management practices of Group 2 firms are destroying value relative to the management practices of the other SEO firms.

VII. Myopic Marketing Management as a Component of an Earnings Inflation Strategy

A. Earnings Inflation Through Accounting Earnings Managament vs. Myopic Management

Earnings can be inflated by both earnings management and myopic management. Discriminating between the two approaches is often difficult. The reductions in reported marketing expenditures might be posited to stem from accounting manipulation of

Figure 1 Performance of SEO Firm Portfolios: Group 2 Portfolio vs. Groups 1, 3, and 4 Portfolio



expense figures (earnings management) rather than real cuts, that is, myopic management. However, a number of considerations suggest that the reductions we observe stem from actual reductions in marketing expenditures.

In particular, we observe for our data sample that at the time of an SEO, firms are making cuts in R&D expenditures. That is, similar to our Table 2 results for marketing expenditures, we observe much the same pattern of results for R&D. Approximately 38% (as opposed to the "typical" proportion of 31.9%) of firms have negative R&D and positive ROA shocks at the time of an SEO. This is consistent with managers engaging not just in myopic marketing management but in a more general strategy of myopic management to inflate earnings at the time of an SEO. As Financial Accounting Standards Board (FASB) requires that R&D expenditures be expensed as incurred and firms have little ability and rarely attempt to manipulate R&D numbers (Nelson et al. 2000), we can conclude with an extremely high degree of certainty that R&D is being cut. Managers do not regard marketing expenditures as more sacrosanct than R&D, so these cuts in R&D provide additional support for the proposition that the observed decreases in reported marketing expenditures represent real cuts, as opposed to being merely accounting manipulations.[13]

Moreover, we observe that a disproportionally large number of firms that are cutting R&D at the time of an SEO are also cutting marketing spending. That is, the dominant behavior is not one of a shifting strategic emphasis between R&D and marketing (Mizik and Jacobson 2003), but rather is an overall reduction in discretionary expenditures. At the time of an SEO, firms with a positive ROA shock combined with a negative R&D shock are 2.86 times more likely to have a negative marketing expenditures shock than a positive marketing expenditures shock. Indeed, firms having a positive ROA, negative R&D, and negative marketing expenditures shock account for 26% of the total sample, which is by far the largest of the eight (ROA/R&D/Mktg) groupings. Approximately 43% of firms have both negative R&D and negative marketing expenditures shocks at the time of an SEO. As a point of comparison, only 20% of firms have both a positive R&D and a positive marketing expenditure shock. This is all consistent with firms having a tendency to engage in myopic management, that is, a more general strategy that encompasses myopic marketing management, at the time of an SEO.

We should also note that previous studies report that managers say they do cut discretionary spending to inflate earnings. A recent survey of CFOs (Graham et al. 2005) reports that managers say they undertake value-decreasing real economic actions when facing short-term pressure to meet earnings targets. CFOs also state that they are more likely to make real cuts than engage in accounting number manipulation. Indeed, fully 80% of respondents (the most frequently reported item) say they would decrease discretionary spending such as advertising. Managers are more likely to make real cuts than to undertake accounting manipulations, both because the extent of the earnings inflation is constrained by feasible accounting manipulations and because utilizing misleading accounting reporting engenders lawsuits and affects the settlement amount of the suits (DuCharme et al. 2004). In sum, past research supports the notion that managers make real cuts in marketing, as opposed to merely engaging in accounting manipulation, to inflate earnings.

B. Do Cuts in Marketing Have Effects on Performance Incremental to Cuts in R&D Expenditures?

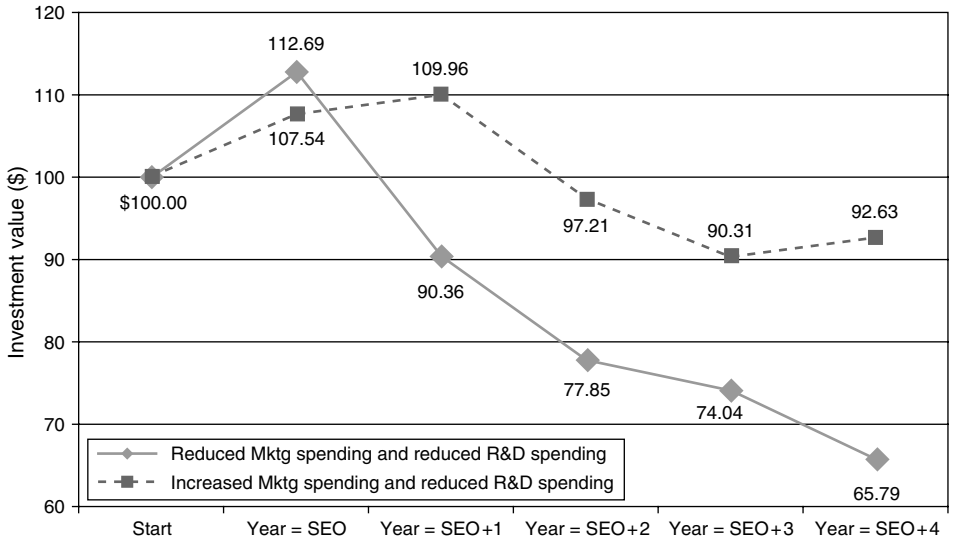
The fact that R&D expenditures are being cut at the time of an SEO raises the possibility that the lower abnormal returns observed for the myopic grouping stem not from myopic management associated with marketing expenditures but rather from cuts in R&D. Thus, we want to test whether our results might be driven by the omission of R&D from the analysis. To assess this possibility, we compared abnormal returns for the grouping of firms that had a positive ROA, negative R&D, and positive marketing shock at the time of the SEO versus the grouping of firms that had a positive ROA, negative R&D, and negative marketing shock. That is, we control for R&D and assess whether abnormal returns depend on whether a firm had positive or negative marketing expenditure shocks. Figure 2 displays the results of this analysis. The group of firms that decreased marketing expenditures at the time of the SEO significantly underperformed the group that had similar other characteristics but increased marketing expenditures. For example, four years subsequent to the SEO, the group that decreased marketing expenditures at the time of the SEO underperformed the group that increased marketing expenditures at the time of the SEO by \$26.84 (i.e., a portfolio value of \$92.63 versus \$65.79). As such, we conclude that cutting marketing expenditures indeed leads to negative long-term consequences and that our results cannot be attributed to myopic management of R&D.

VIII. Sensitivity Analysis

We took a number of steps to check the validity of our results and to investigate whether our conclusions could be further substantiated, challenged,

[13] See Mizik and Jacobson (2006) for a more extensive discussion of this issue.

Figure 2 **Performance of SEO Firm with Increased ROA and Decreased R&D Spending: Portfolio of Firms with Increased Marketing Spending vs. Portfolio of Firms with Decreased Marketing Spending**



or refined. In all cases, we found no evidence that calls our results into question. For example, issues related to data truncation (i.e., survival bias) have been advanced to explain what might appear to be anomalous returns (Kothari et al. 2005). This explanation, however, cannot account for our findings, as we do not observe substantive differences in the firm survival rates between myopic and nonmyopic groups (e.g., four years after an SEO, 76.51% of myopic firms and 73.06% of nonmyopic firms remain in the sample, $\chi^2 = 2.569$, $p = 0.110$). We also investigated whether the results of testing Hypothesis 2 can be related to the mispricing of small firms, which was highlighted in prior research as the major driver of the SEO pricing anomaly (e.g., Brav et al. 2000). We found that the mispricing of myopic firms was not limited to small firms or explained by a general mispricing of small firms. For example, we observed no differences in size characteristics of myopic firms versus nonmyopic firms, and we find negative stock return differentials for the myopic group even when we exclude the smallest 20% of the firms. We also undertook a simulation study to assess the sensitivity of our conclusions to the grouping assignment procedure. Here, too, we found no evidence that would call our conclusions into question. These additional analyses further substantiate the myopic marketing management phenomenon and are available in the Technical Appendix at http://mktsci.pubs.informs.org.

IX. Limitations and Directions for Future Research

While our analysis is certainly consistent with and suggestive that managers engage in myopic management that has a deleterious long-term effect on firm value, our study has limitations that provide directions for future research.

Our empirical analysis was based solely on the context of SEO. The question remains whether myopic management is taking place in other contexts and, if so, what the effect of this behavior on long-term performance is. Because current stock price is so important at the time of an SEO, it is possible that myopic management is particularly prevalent in this context. On the other hand, there might be other contexts where myopic management is even more prevalent, because at the time of an SEO, management behaviors are more closely examined: external monitoring makes it difficult for firms to engage in myopic management when they are under such close scrutiny.

We make use of a marketing expenditure measure, that is, SG&A − R&D that is quite coarse. It includes not only marketing expenditures but also items such as engineering and legal expenses. Our ability to isolate just marketing expenditures was limited by the use of COMPUSTAT data, which do not separate out all the SG&A expense items. Future research may well wish to make use of different data sources so as to better isolate the marketing expenditure component. This would allow for a better assessment of myopic marketing management as opposed to myopic management. Also, future research might endeavor to develop a measure that depicts the degree of myopic marketing undertaken by the firm. Such a measure, which may well depend on the magnitude of the reduction in marketing expenditures, would allow for analyses offering insights beyond those depicted by our discrete measure.

In addition, alternative myopic marketing strategies might exist. For example, firms might offer discounts to increase current sales at the expense of future sales, which can lead to decreased future-term profitability (Pauwels et al. 2004). We would speculate that discounting of this type is taking place, as it is fully consistent with myopic marketing management (and there is anecdotal evidence of such behaviors), but cannot document this possibility with the data we have. Subsequent research looking at different types of myopic marketing strategies is warranted.

Finally, firms wishing to inflate earnings might engage in both myopic management and earnings management. Future research might well wish to incorporate, for example, abnormal accruals into the analysis. Are firms using myopic management and earnings management as complementary tools, or are they using them as substitute methods for inflating earnings? What is the relative effect of these earnings-inflation methods on long-term firm value?

X. Discussion

Although conclusions of marketplace inefficiency must be made cautiously (all too often an alternative explanation consistent with efficient markets provides a better depiction of apparent anomalies), our results indicate that the financial markets are not properly valuing at the time of an SEO those firms engaged in myopic marketing management. This finding is invariant to, for example, alternative measures of abnormal stock returns. Only over time are the financial implications of myopic management fully impounded into firm valuation. The inability of the financial markets to correctly price firms engaging in myopic management provides an incentive for some managers to undertake strategies that enhance current-term earnings at the expense of long-term profitability to temporally inflate the firm's stock price.

A question with every finding inconsistent with efficient markets is, "Why is the mispricing anomaly not arbitraged away?" The most common explanation is that the lack of a sufficiently close substitute stock for the firm undertaking the SEO allows for idiosyncratic risk that might not be sufficiently dissipated in an arbitrage strategy (Pontiff 1996). This makes it risky for arbitraguers to attempt to profit from the mispricing and explains why market inefficiencies (i.e., mispricing) may be present and continue to be present in the future. The experience of Long-Term Capital Management (i.e., a hedge fund that folded in 1998, losing $4.6 billion) illustrates the principle that arbitrage is not riskless and reinforces the John Maynard Keynes warning that "the market can stay irrational longer than you can stay solvent."

Our analysis focused on myopic marketing management at the time of an SEO, but myopic marketing management is likely to be taking place at other times as well. The same types of incentives that induce myopic marketing management at the time of an SEO also exist in many other situations. In general, models such as Stein (1989) posit that managers have incentives to behave myopically when (i) performance evaluation depends on a current-term outcome measure and (ii) they can engage in an intertemporal shifting of expenditures that cannot be fully discerned by the evaluator. Furthermore, in addition to myopic marketing management, other forms of myopic management (e.g., cutting R&D) are also likely practiced. The survey evidence of Graham et al. (2005) supports the view that myopic management may indeed be commonplace and might take various forms. Our results showing that firms have a tendency to cut both marketing and R&D at the time of an SEO are consistent with a broad strategy of myopic management that is not limited to marketing. As Figure 2 shows, it is those firms engaging in this broader myopic management strategy that experience the most dramatic negative abnormal future-term returns.

The long-term financial consequences to the firm of artificially inflating earnings by cutting marketing expenditures outweigh the short-term benefits. The one who gains from myopic management is the manager who is evaluated based on current-term performance and is able to move on before the negative consequences of myopic strategies transpire. Unfortunately, it is our view that a quick and simple fix to alleviate myopic management is unlikely. The attitudes and practices of the financial markets and of managers need to be changed. This is a slow process. However, certain steps can help to facilitate this transformation.

First, managers need to improve their information disclosure strategies, that is, what and how they communicate to the financial community (Lev 1992). If managers want the financial markets to appreciate the implications of investing in marketing assets, they need to better articulate their marketing strategy (and its intangible outcomes) to the financial community. Because the corporate entity has an indefinite life, its value is determined not just by the current-term results, but also by its future expected performance. Thus, investors have an incentive to appreciate a strategy that has favorable long-term profit implications and to downgrade the stock price of firms that avoid making expenditures with longer-term payoffs.

It is common for managers to labor under the belief that their voluntary disclosures have no impact. Yet theory and empirical evidence indicate that voluntary disclosures can have significant and long-lasting consequences. Information disclosures (e.g.,

new product announcements (Chaney et al. 1991) "explaining" financial results) have been shown empirically to affect financial market outcomes (e.g., share price, trading volume, and bid-ask spreads). Firms that send credible signals about their marketing strategy and future prospects will be freer to undertake those strategies that improve long-term performance. Conversely, firms unable to provide these signals will be viewed less favorably by the financial markets. We are, however, appreciative of the difficulty of firms managing for the long-term being able to distinguish themselves from myopic firms. Myopic firms are going to engage in signal jamming and will be making "disinformative" disclosures in an attempt to conceal their strategy from the financial markets. To be credible firms need to back up their information disclosures with verifiable performance-relevant marketing metrics.

Second, firms need to improve the internal monitoring of marketing assets and resource allocation. It has been shown that formal organizational processes can help mitigate opportunistic management behaviors. For example, Cheng (2004) showed that CEO compensation committees are successful in reducing myopic cuts in R&D spending. Managers will be less likely to manage firm resources myopically if they are held accountable and are evaluated based not only on the accounting earnings measures, but also based on the health of the marketing assets (brand equity, customer satisfaction, etc.). Although a jump in earnings occurring jointly with a reduction in marketing expenditures might at times be the result of a firm benefiting from previous investments, Bayus et al. (2003) find that this occurs subsequent to a new product introduction, in that products that lag behind the technology frontier require more intensive demand-creating expenditures; it could also signal myopic marketing management. As such, the rationale for the cut in marketing expenditures needs to be more fully examined rather than applauded.

XI. Conclusion

We find evidence consistent with managers engaging in myopic marketing management at the time of an SEO. Some managers limit marketing expenditures in an effort to inflate current-term earnings, and thereby stock price. The financial markets appear not to be properly valuing the firms engaging in myopic marketing management. In particular, myopic firms are overvalued at the time of an SEO; that is, they have negative abnormal returns in subsequent years. Although myopic marketing management has some short-term benefits in terms of higher current-term earnings and stock price, it has a detrimental long-term impact on firm value. Myopic firms have long-term stock returns significantly lower than other firms. Myopic cuts of marketing spending impair marketing function, harm intangible marketing assets, and ultimately destroy shareholder value.

Rust et al. (2004, p. 76) state that "marketers have not been held accountable for showing how marketing expenditures add to shareholder value." This lack of accountability can lead to a misallocation of resources directed toward marketing assets. It also breeds an environment where some managers will seek to artificially inflate business prospects by cutting back on marketing expenditures. Our analysis shows that the long-term negative repercussion of engaging in this type of myopic marketing management is considerable. It is time for the financial markets and managers to appreciate that marketing assets are essential in the process of wealth creation and that marketing spending should not be treated as discretionary.

Acknowledgments

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Appendix

Earnings Response Coefficient at the Time of an SEO

Tables A.1 and A.2 present results of testing the relative information content of reported earnings in the year of an SEO issue versus other time periods. We find that the interaction of unanticipated ROA and the SEO event is negative and significant. This indicates that, in formulating the expectations of future firm performance, market participants perceive the earnings reported at the time of an SEO as less informative than earnings reported in other periods. This finding is invariant to how risk-adjusted stock return is calculated.

In Table A.1 Abnormal $\mathrm{StkR}_{i\tau}$ (Abnormal $\mathrm{StkR}_{it} = \beta_0 + \beta_1 * \Delta\mathrm{ROA}_{it} + \beta_2 * \Delta\mathrm{ROA}_{it} * d_{it}^{\mathrm{SEO}} + \beta_3 * d_{it}^{\mathrm{SEO}} + \eta_{it}$) is matched firm differential stock return and is equal to the difference between stock return that accrued to the sample firm and the control firm. We choose the control firm among all firms in the same year and in the same two-digit SIC group not issuing SEOs, with a market value of equity between 70% and 130% of that of the sample firm, and whose book-to-market ratio is closest to that of the sample firm. d_{it}^{SEO} is a categorical variable that takes on the value of 1 if firm i had an SEO at time t and 0 otherwise; $\Delta\mathrm{ROI}_{it}$ is the unanticipated change in accounting business performance (i.e., it is the difference between the expected and realized performance) and is operationalized as the time series residual from Equation (1).

In Table A.2, StkR_{it} ($\mathrm{StkR}_{it} = \beta_1 * \Delta\mathrm{ROA}_{it} + \beta_2 * \Delta\mathrm{ROA}_{it} * d_{it}^{\mathrm{SEO}} + \beta_3 * d_{it}^{\mathrm{SEO}} + \beta_4 * \mathrm{Momentum}_{it} + \sum_{j=1}^{J} \gamma_{0j} * \mathrm{Industry}(j) +$

Table A.1 Earnings Response Coefficient at the Time of an SEO Using Matched Firm Differential Returns

	Estimate	Standard error	*t*-statistic
β_1	1.38871**	(0.05361)	[25.90]
β_2	**−0.41335***	(0.17820)	[−2.32]
β_3	0.10648**	(0.01366)	[7.80]

Notes. β_1 is the earnings response coefficient at periods other than the SEO. β_2 depicts the extent to which the earnings response coefficient at the time of the SEO differs from other time periods. β_3 reflects the extent to which stock return the year of the SEO differs from other periods. Our focus is not on this effect (which past research has found to be positive and is explained by the fact that firms engage in an SEO when their stock price is relatively high). Rather, we control for this effect and assess whether the financial markets place a differential weight on earnings information reported at the time of an SEO. Significance levels: $^*p < 0.05$, $^{**}p < 0.01$. # observations = 18,753; *F*-statistic = 259.72.

$\sum_{t=1}^{T}(\gamma_{1t} + \gamma_{2t} * \log \mathrm{MV}_{it-1} + \gamma_{3t} * \log \mathrm{BMV}_{it-1}) * \mathrm{Time}_t + \eta_{it})$, is the continuously compounded return for security i at time t; d_{it}^{SEO} is a categorical variable that takes on the value of 1 if firm i had an SEO at time t and 0 otherwise; $\Delta\mathrm{ROI}_{it}$ is the unanticipated change in accounting business performance (i.e., the difference between the expected and realized performance) and is operationalized as the time series residual from Equation (1). Industry(j) is the indicator function that takes on the value 1 if the firm is in industry j, 0 otherwise. The model also includes momentum (operationalized as StkR_{it-1}) and firm-specific time-varying risk characteristics: Size, operationalized as log of lagged market cap ($\log \mathrm{MV}_{it-1}$) and log of lagged book-to-market equity ($\log \mathrm{BMV}_{it-1}$). The model allows for time-period specific intercepts (γ_{1t}) and industry-specific intercepts γ_{0j}.

Controlling for "SEO Endogeneity" in Assessing Myopic Firm Underperformance: Matched Firm Differential Returns

The tests shown in Tables A.3 and A.4 assess the differences in the stock returns between the "myopic" grouping of firms compared to the other SEO firms. This tests controls for the special types of risk associated with seasoned equity issuing as all comparisons are made within the set of firms issuing an SEO. We find that the "myopic" grouping

Table A.2 Earnings Response Coefficient at the Time of an SEO Using Risk Characteristics Approach

	Estimate	Standard error	*t*-statistic
β_1	1.94105**	(0.04356)	[44.56]
β_2	**−0.97747****	(0.15152)	[−6.45]
β_3	0.23920**	(0.01186)	[20.17]

Notes. β_1 is the earnings response coefficient at periods other than the SEO. β_2 depicts the extent to which the earnings response coefficient at the time of the SEO differs from other time periods. β_3 reflects the extent to which stock the year of the SEO differs from other periods. Our focus is not on this effect (which past research has found to be positive and explained by the fact that firms engage in an SEO when their stock price is relatively high). Rather, we control for this effect and assess whether the financial markets place a differential weight on earnings information reported at the time of an SEO. Significance levels: $^{**}p < 0.01$. # observations = 20, 794; *F*-statistic = 81.87.

Table A.3 Post-SEO Performance of Myopic SEO Grouping vs. Nonmyopic SEO Groupings, Matched Firm Results

	One year after an SEO: One-year abnormal stock return $k=1$	Two years after an SEO: Cumulative two-year abnormal stock return $k=2$	Three years after an SEO: Cumulative three-year abnormal stock return $k=3$	Four years after an SEO: Cumulative four-year abnormal stock return $k=4$
δ_0	0.01312	−0.01463	−0.01441	0.04827
	(0.02103)	(0.03084)	(0.03773)	(0.04436)
	[0.62]	[−0.47]	[−0.38]	[1.09]
δ_2	**−0.19192****	**−0.29491****	**−0.34913****	**−0.43807****
	(0.035)	(0.051)	(0.062)	(0.073)
	[−5.51]	[−5.82]	[−5.64]	[−6.02]
No. of observations	1,779	1,674	1,558	1,370
F-statistic	30.38	33.87	31.77	36.23

Notes. Standard errors are in parentheses, *t*-statistics in brackets. Significance levels: $^{**}p < 0.01$.

underperforms other firms undertaking an SEO. As such, "SEO endogeneity" cannot explain the underperformance of the myopic grouping.

Table A.3 depicts Abnormal $\mathrm{StkR}_{i\tau+k|\tau} = \delta_{0k} + \delta_{2k} d_{i\tau}^{\mathrm{ME}^{(-)}\mathrm{ROA}^{(+)}} + \eta_{i\tau+k}$, where $k = 1$, 2, 3, and 4. Abnormal $\mathrm{StkR}_{i\tau}$ is matched firm differential stock return and is equal to the difference between stock return that accrued to the sample firm and the control firm. We choose the control firm among all firms in the same year and in the same two-digit SIC group not issuing SEOs, with a market value of equity between 70% and 130% of that of the sample firm, and whose book-to-market ratio is closest to that of the sample firm. $d^{\mathrm{ME}^{(-)}\mathrm{ROA}^{(+)}}$ is a categorical variable that takes on the value of 1 if firm i had below-normal levels of marketing spending and above-normal earnings, and 0 otherwise. The coefficient δ_2 depicts the differential between the "myopic" firms and all other firms issuing an SEO.

Table A.4 depicts Abnormal $\mathrm{StkR}_{i\tau+j|\tau} = \kappa_{0j} + \kappa_{2j} * d_{i\tau}^{\mathrm{ME}^{(-)}\mathrm{ROA}^{(+)}} + \eta_{i\tau+j}$, where $j = 0$, 1, 2, 3, and 4. Abnormal $\mathrm{StkR}_{i\tau}$ is matched firm differential stock return and is equal

Table A.4 Total Financial Returns to Myopic Marketing Management: Myopic SEO Grouping vs. Nonmyopic SEO Groupings, Matched Firm Results

	The year of an SEO: Current-year abnormal stock return $j=0$	One year after an SEO: Cumulative two-year abnormal stock return $j=1$	Two years after an SEO: Cumulative three-year abnormal stock return $j=2$	Three years after an SEO: Cumulative four-year abnormal stock return $j=3$	Four years after an SEO: Cumulative five-year abnormal stock return $j=4$
κ_0	0.07748	0.09566	0.07773	0.07987	0.12815
	(0.01672)	(0.02838)	(0.03636)	(0.04221)	(0.04868)
	[4.63]	[3.37]	[2.14]	[1.89]	[2.63]
κ_2	**0.05853****	**−0.14139****	**−0.24696****	**−0.29384****	**−0.37406****
	(0.028)	(0.047)	(0.059)	(0.069)	(0.080)
	[2.10]	[−3.01]	[−4.14]	[−4.24]	[−4.69]
No. of observations	1,837	1,774	1,669	1,553	1,365
F-statistic	4.43	9.06	17.11	18.00	21.97

Notes. Standard errors are in parentheses, *t*-statistics in brackets. Significance levels: $^{**}p < 0.01$.

Table A.5 Post-SEO Performance of Myopic SEO Grouping vs. Nonmyopic SEO Groupings, Controlling for Expected Return Using Firm Characteristics

	One year after an SEO: One-year abnormal stock return $k=1$	Two years after an SEO: Cumulative two-year abnormal stock return $k=2$	Three years after an SEO: Cumulative three-year abnormal stock return $k=3$	Four years after an SEO: Cumulative four-year abnormal stock return $k=4$
δ_2	**−0.15769**** **(0.02661)** **[−5.93]**	**−0.35498**** **(0.03739)** **[−9.49]**	**−0.45588**** **(0.04821)** **[−9.46]**	**−0.46115**** **(0.05562)** **[−8.29]**
No. of observations	1,996	1,806	1,587	1,405
F-statistic	7.29	8.98	6.32	4.78

Notes. Standard errors are in parentheses, *t*-statistics in brackets. Significance levels: $^{**}p < 0.01$.

to the difference between stock return that accrued to the sample firm and the control firm. We choose the control firm among all firms in the same year and in the same two-digit SIC group not issuing SEOs, with a market value of equity between 70% and 130% of that of the sample firm, and whose book-to-market ratio is closest to that of the sample firm. $d^{\mathrm{ME}^{(-)}\mathrm{ROA}^{(+)}}$ is a categorical variable that takes on the value of 1 if firm i had below-normal levels of marketing spending and above-normal earnings, and 0 otherwise. The coefficient κ_2 depicts the differential between the "myopic" firms and all other firms issuing an SEO.

Controlling for "SEO Endogeneity" in Assessing Myopic Firm Underperformance, Controlling for Expected Return Using Firm Characteristics

The tests shown in Tables A.5 and A.6 assess the differences in the stock returns between the "myopic" grouping of firms compared with the other SEO firms, when momentum, economy-wide effects, industry effects, and year-specific firm size and growth effects are directly modeled. This tests controls for the special types of risk associated with seasoned equity issuing, as all comparisons are made within the set of firms issuing an SEO. We find that the "myopic" grouping underperforms other firms undertaking an SEO. As such, "SEO endogeneity" cannot explain the underperformance of the myopic grouping. Further, the manner in which expected return is modeled does not alter the results. Consistent with matched-firm differential returns (Table X2), we find that the "myopic" grouping significantly underperforms other SEO firms when expected return is modeled on firm characteristics.

Table A.5 depicts $\mathrm{StkR}_{i\tau+k|\tau} = \delta_{2j} * d_{i\tau}^{\mathrm{ME}^{(-)}\mathrm{ROA}^{(+)}} + \beta_4 * \mathrm{Momentum}_{i\tau} + \sum_{j=1}^{J} \gamma_{0j} * \mathrm{Industry}(j) + \sum_{t=1}^{T}(\gamma_{1t} + \gamma_{2t} * \log \mathrm{MV}_{it-1} + \gamma_{3t} * \log \mathrm{BMV}_{it-1}) * \mathrm{Time}_t + \eta_{it}$, where $k = 1$, 2, 3, and 4. StkR_{it} is continuously compounded return for security i at time t. $d^{\mathrm{ME}^{(-)}\mathrm{ROA}^{(+)}}$ is a categorical variable that takes on the value of 1 if firm i had below-normal levels of marketing spending and above-normal earnings and 0 otherwise. Industry(j) is the indicator function that takes on the value 1 if the firm is in industry j, 0 otherwise. The model also includes momentum (operationalized as $\mathrm{StkR}_{i\tau}$) and firm-specific time-varying risk characteristics: size, operationalized as log of lagged market cap ($\log \mathrm{MV}_{it-1}$), and log of lagged book-to-market equity ($\log \mathrm{BMV}_{it-1}$). The model allows for time period-specific intercepts (γ_{1t}) and industry-specific intercepts γ_{0j}. The coefficient δ_2 depicts the differential between the "myopic" firms and all other firms issuing an SEO.

Table A.6 depicts $\mathrm{StkR}_{i\tau+j|\tau} = \kappa_{2j} * d_{i\tau}^{\mathrm{ME}^{(-)}\mathrm{ROA}^{(+)}} + \beta_4 * \mathrm{Momentum}_{i\tau-1} + \sum_{j=1}^{J} \gamma_{0j} * \mathrm{Industry}(j) + \sum_{t=1}^{T}(\gamma_{1t} + \gamma_{2t} * \log \mathrm{MV}_{it-1} + \gamma_{3t} * \log \mathrm{BMV}_{it-1}) * \mathrm{Time}_t + \eta_{it}$, where $j = 0$, 1, 2, 3, and 4. StkR_{it} is continuously compounded return for security i at time t. $d^{\mathrm{ME}^{(-)}\mathrm{ROA}^{(+)}}$ is a categorical variable that takes on the value of 1 if firm i had below-normal levels of marketing spending and above-normal earnings and 0 otherwise. Industry(j) is the indicator function that takes on the value 1 if the firm is in industry j, 0 otherwise. The model also includes momentum (operationalized as $\mathrm{StkR}_{i\tau-1}$) and firm-specific time-varying risk characteristics: size, operationalized as log of lagged market cap ($\log \mathrm{MV}_{it-1}$), and log of lagged book-to-market equity ($\log \mathrm{BMV}_{it-1}$). The model allows for time period-specific intercepts (γ_{1t}) and industry-specific intercepts γ_{0j}. The coefficient κ_2 depicts the differential between the "myopic" firms and all other firms issuing an SEO.

Table A.6 Total Financial Returns to Myopic Marketing Management: Myopic SEO Grouping vs. Nonmyopic SEO Groupings, Controlling for Expected Return Using Firm Characteristics

	The year of an SEO: Current-year abnormal stock return $j=0$	One year after an SEO: Cumulative two-year abnormal stock return $j=1$	Two years after an SEO: Cumulative three-year abnormal stock return $j=2$	Three years after an SEO: Cumulative four-year abnormal stock return $j=3$	Four years after an SEO: Cumulative five-year abnormal stock return $j=4$
κ_2	**0.04730*** **(0.02585)** **[1.83]**	**−0.13533**** **(0.03837)** **[−3.53]**	**−0.32729**** **(0. 04534)** **[−7.22]**	**−0.41581**** **(0 .05328)** **[−7.80]**	**−0.42635**** **(0.06086)** **[−7.01]**
No. of observations	2,035	1,968	1,779	1,553	1,380
F-statistic	11.96	7.06	8.75	5.15	5.42

Notes. Standard errors are in parentheses, *t*-statistics in brackets. Significance levels: $^{*}p < 0.1$, $^{**}p < 0.01$.

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