International Journal of Hospitality Management 76 (2019) 71–82

Contents lists available at ScienceDirect

International Journal of Hospitality Management

journal homepage: www.elsevier.com/locate/ijhm

From finance to marketing: Initial public offering ownership overhang and marketing in the hospitality industry

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ARTICLE INFO

JEL Classifications:
M30
G14

Keywords:
Marketing-finance interface
Hospitality
Marketing intensity
Initial public offering (IPO) overhang

ABSTRACT

Hospitality firms spend significant amounts on marketing activities post-IPO. It is critical to understand the driving force behind these firms' aggressive marketing strategies. This study examines the impact of Initial Public Offering (IPO) overhang on the marketing activity of newly public firms in the U.S. hospitality industry. IPO overhang measures the ownership retained by pre-existing shareholders who are mostly corporate insiders. Our results indicate that IPO overhang is positively associated with post-IPO marketing intensity up to three years post-IPO. Further, the marketing activity by newly public firms is associated with higher equity market liquidity, consistent with the view that marketing activity promotes equity market liquidity and thus facilitates insiders' exit. Our findings provide an avenue for IPO firms to manage the negative price impact of corporate insiders' cash-out, and a partial explanation for newly public firms' aggressive investments in marketing.

1. Introduction

With a significant capital infusion from Initial Public Offerings (IPOs), hospitality firms spend aggressively on marketing during the post-IPO period, including advertising, market research, communications, and other marketing efforts. For example, Las Vegas Sands Corporation spent over $120 million on marketing after its IPO in 2004 to "advertise in many types of media…, promote general market awareness of our properties…, and actively engage in direct marketing as allowed in various geographic regions (Las Vegas Sands Corp. Annual Report, 2004)." The marketing expenditures can be critical to newly public firms' development. For example, Hsu and Jang (2008) examine the relation between advertising expenditures, risk, and intangible value of restaurant firms. Their results suggest that marketing activities are critical in generating intangible value for restaurant firms.

However, despite the aggressive investments in marketing and its value implication, few studies have examined IPO and marketing activities of hospitality firms post-IPO. Jang and Park (2010) find that less than 2% of hospitality financial research has focused on IPOs out of the 113 articles they investigated. Further, we find that none of these studies address the marketing activities surrounding the critical event of going public. Along the same line, Jang et al. (2013) point out that "contemporary management strategies increasingly seek to enhance shareholder value via marketing strategies, which suggests the need for further exploration of the connections between marketing efforts and financial metrics." Despite this increased attention, "little research in the academic fields of tourism and hospitality has focused on bridging the marketing and finance." Similarly, Downie (1997) stressed the seriousness of conflicts between marketing and finance functions in the hotel industry. With a marketing-finance interface, a firm can better understand and reconcile the conflicts between these two internal functions.

We aim to be in the first cohort to investigate post-IPO marketing activities in the hospitality industry. While Kurt and Hulland (2013) find that newly public firms generally "adopt a more aggressive marketing strategy" shortly after an IPO, a more recent study by Saboo et al. (2016) documents that 37% of IPO firms engage in the myopic practice of "curtailing their marketing budgets." Therefore, it would be natural to explore how these young firms make decisions regarding their marketing budgets and strategies.

Marketing spending, like investments in research and development, can be largely agency-driven (Saboo et al., 2016). A central premise of the agency theory is that managerial decisions, including marketing-related ones, are strongly influenced by the ownership status of each decision maker (Jensen, 1998). We investigate the impact of share ownership retained by pre-IPO shareholders on post-IPO marketing

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https://doi.org/10.1016/j.ijhm.2018.03.019
Received 17 June 2017; Received in revised form 21 March 2018; Accepted 31 March 2018

strategies. Ownership retained by pre-IPO shareholders relative to outside shareholders is measured by IPO overhang, and these pre-IPO shareholders are influential in the corporate decision making process, including executives, directors, founders, venture capitalists and other blockholders. We hypothesize that pre-IPO shareholders with high share retention have a strong motive to pursue aggressive post-IPO marketing activities.

First, post-IPO marketing activity enhances secondary market liquidity by increasing visibility among investors and resolving information asymmetry. For example, Grullon et al. (2004) argue that investors build their portfolio at least in part based on their familiarity with the portfolio firms. Luo (2008) shows that pre-IPO marketing activity can provide more information about the true value of the firms and resolve information asymmetry.

Further, the equity market liquidity facilitates the exit of pre-IPO shareholders with retained ownership post-IPO. Pre-IPO shareholders include high-level executives and directors whose personal wealth is primarily tied up in the firm, and they are more influenced by the ease of exit and the negative price impact at the time of cash-out. We thus argue that a higher share overhang leads to more aggressive marketing activity post-IPO, and the post-IPO marketing activity is in turn associated with higher secondary market liquidity which benefits pre-IPO shareholders' exit.

We are now in a position to preview our empirical findings regarding post-IPO marketing activity. We find that, in the hospitality industry, IPO share overhang is significantly related to post-IPO marketing intensity for up to three years after an IPO. In addition, post-IPO marketing intensity is positively associated with the equity market liquidity, consistent with the view that marketing activity serves as an information channel and increases visibility among investors.

Our findings provide an avenue for IPO firms to reduce the negative price impact of corporate insiders' cash-out. By heavily marketing, firms can increase their secondary market liquidity to facilitate the cash-out. Further, our findings provide a partial explanation as to why newly public firms aggressively invest in marketing. These young hospitality firms devote over $19 million, on average, to marketing activities in the first year post-IPO, and more in the following years. The aggressive marketing can be partially explained by the fact that the marketing investment is utilized to increase stock liquidity and to facilitate influential corporate insiders' exit upon the stock's lockup expiration.

The rest of the paper is structured as follows. In Section 2, we review the literature with a view to provide the appropriate background for our research and develop the two major hypotheses tested herein. Then, we describe our data and sample characteristics. Next, we present results pertaining to the empirical test of our key theoretical proposition. Finally, we provide a summary and discuss the implications and limitations of our research.

2. Hypotheses

2.1. A glossary of pre-IPO shareholders, overhang, and lockup

Pre-IPO shareholders include executives, directors, founders, venture capitalists and other blockholders (see Fig. 1). An IPO provides the first opportunity for some pre-IPO shareholders to sell shares to the public, and then cash out.

However, as indicated by Field and Hanka (2001, p. 476), during their sample period of 1988–1992, on average 95 percent of the shares held by pre-existing shareholders were locked up. Thus, they could not sell their shares before the unlock date. Officers and directors as well as blockholders who hold 5% or more ownership are normally locked up for a certain period of time. The exempted parties who are not subject to the lockup provisions are mostly atomistic shareholders, which include, for example, "low-level employees as well as recipients of friends and family shares." The pre-IPO shareholders with shares retention are mostly officers, directors, founders, and blockholders who all possibly have an influence on the firm's corporate strategic decision making, including the marketing strategies.

Consistent with the previous literature on IPO lockup provisions, the lockup periods in our sample are typically for six months, and can also be as long as two to three years. Pre-IPO shareholders have a strong desire to sell their shares upon the expiration of lockup periods. Cao et al. (2004) posit that the sales upon lockup expiration can be driven either by pre-existing shareholders' belief that the stock is over-valued ("information trades"), or by their own need to diversify their wealth ("diversification trades"). As pre-existing shareholders' wealth is largely tied up in the firm, most sales may be defined as "diversification trades." "Information trades" also exist as pre-existing shareholders can take advantage of the first opportunity to cash out based on their estimate of the firm valuation.

2.2. Share overhang and demand for equity market liquidity

Fig. 2 demonstrates the development of our hypotheses. Pre-IPO shareholders with share retention sell aggressively in the post-IPO stage, especially upon the expiration of lockup periods. Cao et al. (2004) find that 23% of lockup expirations are followed by disclosure of insider selling. Similarly, Field and Hanka (2001) report a permanent 40 percent increase in trading volume upon the expiration of lockup periods.

When more shares become available to the public, there is normally a drop in share price as documented by Bradley et al. (2001), Brav and Gompers (2003), and Field and Hanka (2001). For example, Field and Hanka (2001) report an abnormal return of −1.5 percent within three days around the lockup expiration which is non-trivial.

Although shareholders generally all value equity liquidity (e.g., Booth and Chua, 1996), a liquid equity market is especially preferable for pre-IPO shareholders who have strong incentives to cash out when their shares become available for trading. Equity market liquidity facilitates the exit of pre-IPO shareholders who retain their ownership following the IPO. Because they have locked-up significant wealth in the firm, these shareholders would find it more difficult to sell their shares if the market for the stock is not sufficiently liquid at the time of their post-IPO cash-out, as doing so would lead to a greater negative price impact. Therefore, we argue that pre-IPO shareholders value and benefit from enhanced equity market liquidity more than other investors as pre-IPO shareholders' personal wealth is largely tied up in the firm, and they are more influenced by the ease of exit and the negative price impact at the time of cash-out.[1]

At the same time, pre-IPO shareholders, compared with other shareholders, are typically influential in making corporate policies, including marketing-related one, as they are powerful venture capitalists, blockholders, high-level executives, directors, and founders. These shareholders provide funding, leadership, and advice from very early stages of the firm's life and often occupy board positions, influencing managerial compensation and career outcomes (Hellmann and Puri, 2000, 2002).

We, hence, argue that more share retention by pre-IPO shareholders is associated with higher demand for a liquid equity market after an IPO.

[1] An anonymous referee points out that investors all value and benefit from equity market liquidity as it is synonymous with the demand for its assets in the market, and this demand is dictated by the current and expected future performance of the firm, which is influenced by firm's marketing activity. Acknowledging this, we posit that pre-IPO shareholders may have an even stronger motive and ability to pursue a more liquid market as they aggregately hold two to three times as much ownership as the rest shareholders (Dolvin and Jordan, 2008).

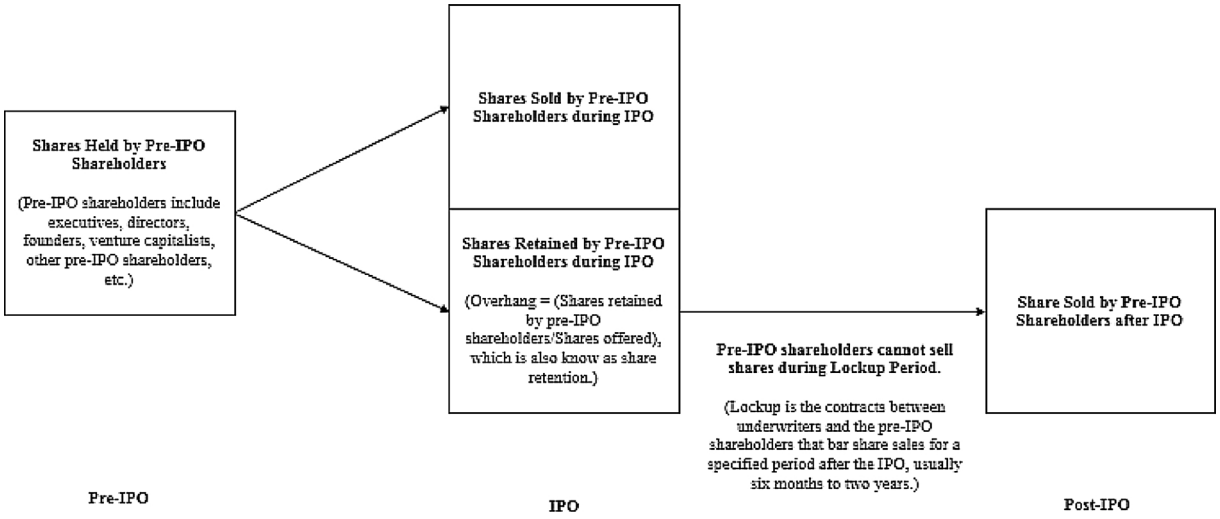

Fig. 1. A Glossary of Pre-IPO Shareholders, Overhang and Lockup.

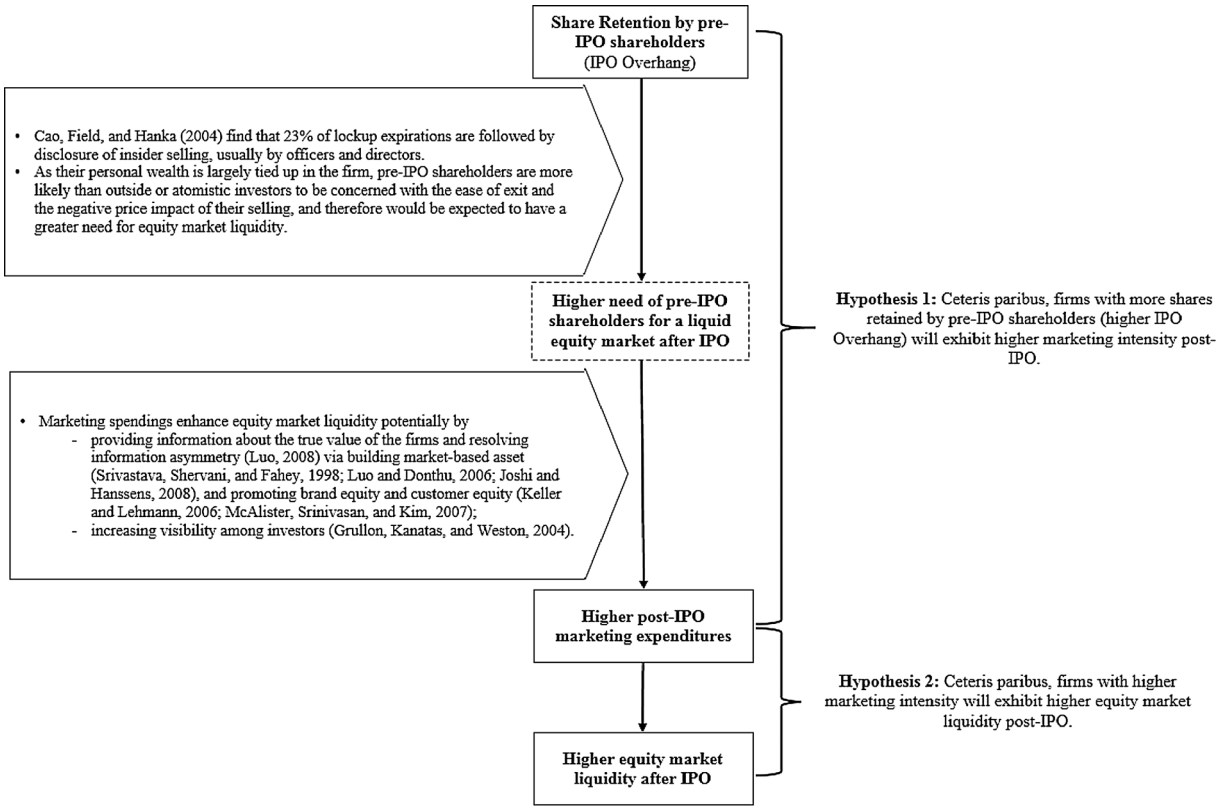

Fig 2. Conceptual Framework.

2.3. Post-IPO marketing intensity and equity market liquidity

We posit that marketing expenditures enhance equity market liquidity via two possible channels. First, marketing expenditures might facilitate resolving information asymmetry by building the market-based asset, and promoting brand equity and customer equity. Second, marketing expenditures increase a firm's overall visibility with investors.

For the first channel that we propose, Luo (2008) shows that pre-IPO marketing activity can provide information about the true value of the firms and resolve information asymmetry. According to the market-based asset theory (Srivastava et al., 1998), long-term asset building requires committed marketing spending on a variety of activities, including communications, market research, advertising, and other marketing efforts in today's highly competitive marketplace (e.g., Joshi and Hanssens, 2008; Pauwels, 2004). Also, firm advertising and communication spending can "promote product differentiation, distributor loyalty, repurchases intention, and price insensitivities that directly affect firm sales and profit (Joshi and Hanssens, 2008, p. 9)", thus increasing and accelerating cash flows.

Turning our attention to brand equity, it is a truism that marketing spending may build brand equity (Keller and Lehmann, 2006; Torres et al., 2012) that can "function as financial hedging contracts when entering new markets, act as a barrier to competition, and serve as a high-quality information channel that leads to higher liquidity and increased breadth of investor ownership (McAlister et al., 2007, p. 38),"

thus reducing the volatility/risk of cash flows for the firm.

The customer equity theory (Gupta et al., 2004; Rust et al., 2004) also posits that satisfied customers with positive word-of-mouth communications directly affect the level and volatility of firm cash flows (Anderson et al., 2004; Gruca and Rego, 2005; Luo, 2008). To improve customer relationships and lifetime value, firms must invest in many marketing areas (Mizik and Jacobson, 2008; Venkatesan et al., 2007).

As such, these documented interactions between marketing spending, market-based assets, and brand/customer equity indicate that marketing spending may help improve equity market liquidity.

For the second link between marketing expenditures and equity market liquidity, Grullon et al. (2004) argue that investors build their portfolio at least in part based on their familiarity with the portfolio firms. "Buy what you know," advises Peter Lynch, the legendary portfolio manager. Similarly, Warren Buffet advises investors to buy "great brands." The visibility among investors built by marketing activity generally positively contributes to ownership breadth in the stock market.

Based on our argument of (1) higher IPO share overhang indicates higher demand for secondary market liquidity, and (2) marketing activity enhances equity market liquidity, we propose Hypotheses 1 and 2.

Hypothesis 1. *Ceteris paribus, firms with more shares retained by pre-IPO shareholders (higher IPO overhang) will exhibit higher marketing intensity post-IPO.*

Hypothesis 2. *Ceteris paribus, firms with higher marketing intensity will exhibit higher equity market liquidity post-IPO.*

3. Data, variable, and summary statistics

3.1. Sample

The sample of hospitality IPOs from 1980 to 2010 is derived from SDC's new issue database, for which SDC or hand-collected data for calculating overhang are available and Compustat or hand-collected data are available for at least five years post-IPO. As in prior research (Borghesi et al., 2015; Canina, 1996; Canina et al., 2008), we use SIC codes to identify restaurants (5810, 5811, and 5812) and hotels and motels (7010 and 7011). The Appendix A displays representative issuer, issue date, offer price, underpricing of each year in the hospitality industry.

As there is a significant amount of missing or incorrect data for items such as shares retained, marketing/advertising expenditures and relevant test/control variables, fill-ins of missing data and corrections are based on Jay Ritter's identification, CRSP, Compustat, and hand collection. Common filters in the IPO literature (e.g., Liu and Ritter, 2011; Loughran and Ritter, 2004) are applied. Specifically, we exclude observations in which the offering is not underwritten, limited partnerships, spinoffs, previous leverage buyouts, units, ADRs, shares of beneficial interest, best efforts offers, SPACs, and IPOs which are not original. Our final sample consists of 196 hospitality IPOs.

Fig. 3 presents a plot of the IPOs under study across the sample years, as well as their primary proceeds and marketing expenses during the first year after their IPO. The variation of hot versus cold IPO markets as measured by offer frequency is largely consistent with the IPO literature (e.g., Liu and Ritter, 2011). Even after inflation adjustment, we observe that the size of IPO offerings, as well as marketing expenses, have increased dramatically in recent years.

For variables used in our research, we adjust inflation for the dollar-denominated variables and winsorize the continuous variables.

3.2. IPO overhang

As in previous studies (e.g., Bradley and Jordan, 2002; and Loughran and Ritter, 2004), we measure share retention using *Overhang*, which is the ratio of shares retained to shares offered (public float). Table 1 reports the definitions and data resources for all variables used in this study.

$$Overhang = 100x\frac{Shares\ Retained\ by\ Pre-IPO\ Shareholders}{Public\ Float} \quad (1)$$

In Table 2, we report an average overhang of 2.81 for hospitality firms, which is comparable to the IPO literature reporting an average overhang of 2.50, 2.61, 4.40, and 2.57 for the periods of 1986–1989, 1990–1998, 1999–2000, and 2001–2004, respectively (see, for example, Dolvin and Jordan, 2008, p. 435).

3.3. Marketing intensity

Data for marketing expenses were collected from Compustat. In line with Mizik and Jacobson's approach (2007, p. 367), *Marketing Intensity* was calculated annually for each firm as follows.

$$Marketing\ Intensity = 100x\frac{Selling,\ General\ \&\ Administrative\ Expenses - Research\ \&\ Development\ Expenses}{Total\ Assets} \quad (2)$$

There is a significant amount of research that pioneers the use of *SG &A Expenses – R&D Expenses* scaled by total assets (measured pre-IPO) as a proxy for measuring marketing activity (e.g., Dutta et al., 1999; Kurt and Hulland, 2013; Luo, 2008; Mizik and Jacobson, 2007). Specifically, Dutta et al. (1999, p. 556) argue that SG&A is "a good proxy for the amount the firm spends on its marketing research, sales effort, trade promotion expenses, and other related activities." Furthermore, R &D expense is not considered as a marketing effort, and it is not meaningful in the hospitality industry as the hospitality industry is not considered as a high-tech industry, and removing R&D expenditures from the raw SG&A expense thus yields a more accurate measure of marketing spendings than using the raw SG&A expense on its own; this is also in line with Mizik and Jacobson's (2007) and Luo's (2008) empirical study. Thus, the proxy is grounded in the marketing science literature and the characteristics of the hospitality industry.

In Table 2, we report an average marketing intensity of 32.19% for hospitality firms which is higher than general industrial firms around an IPO. For example, Luo (2008) reports the marketing intensity of IPO firms to be 23.5% during the period of 1996–2005.

3.4. Equity market liquidity

We apply *Amihud Illiquidity Measure* (Amihud, 2002) as the proxy for equity market illiquidity. The higher the *Amihud Illiquidity Measure*, the less liquid the equity is. It is the average ratio of the daily absolute return to the daily (dollar) trading volume as follows.

$$Amihud\ Illiquidity\ Measure_i = 1{,}000{,}000x\frac{\sum_{t=1}^{n}\frac{|r_{it}|}{Volumn_{it}}}{n} \quad (3)$$

where r_{it} is the stock return on day t for stock i and $Volumn_{it}$ is the dollar

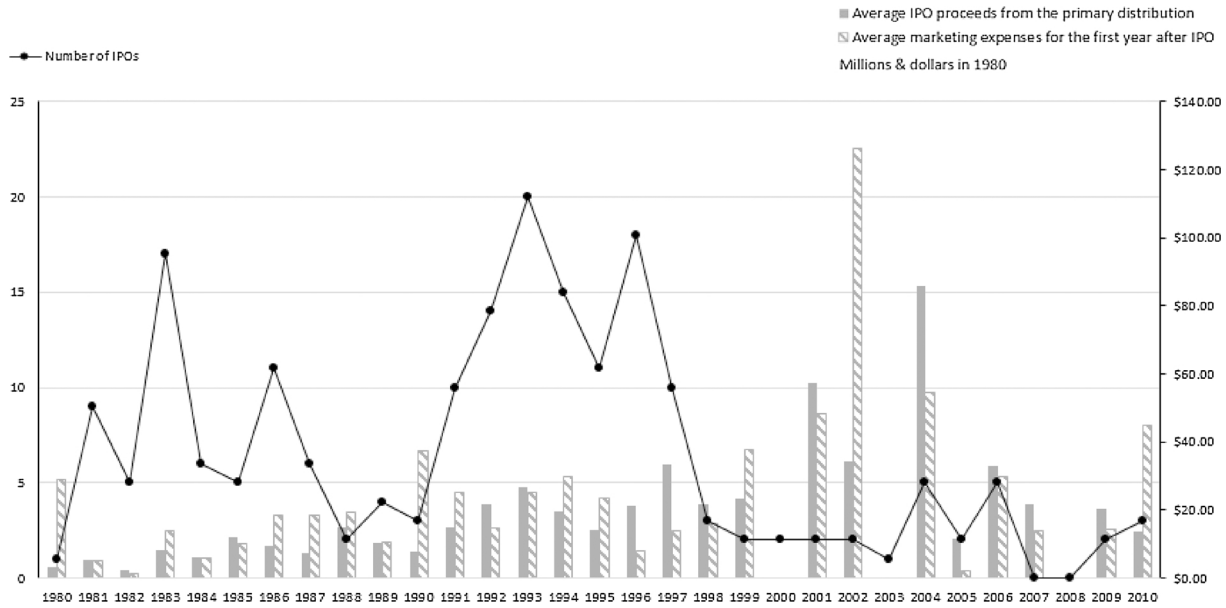

Fig. 3. Plot of Initial Public Offerings (IPOs) Across Sample Years (1980–2010).

volume on day t for stock i. The average is calculated for the three-year period post-IPO.

4. Empirical design and results

4.1. The impact of IPO overhang on post-IPO marketing intensity

To test *Hypothesis 1* on the relation between IPO overhang and post-IPO marketing intensity, we follow the specification as follows.

$$Marketing\ \ Intensity_{i,t} = \alpha_0 + \beta_1\ \ Overhang_i + \beta_2\ \ Sales\ \ Growth_{i,t} + \gamma\ \text{Control Variables}_{i,t} + \text{YEAR}_t + \varepsilon_{i,t}, \quad (4)$$

where our focus is on β_1, the coefficient of IPO *Share Overhang*, and we expect a significant positive β_1. The control variables include key IPO characteristics and firm characteristics which are shown to influence post-IPO growth strategies (Celikyurt et al., 2010).

Table 3 presents the results of the impact of IPO overhang on post-IPO marketing intensity. The regressions are estimated for each of the five years post-IPO. The findings reveal that, as conceptualized, IPO overhang is significantly and positively related to post-IPO *Marketing Intensity* in the first-year post-IPO ($p < .05$), second-year post-IPO ($p < .01$) and third-year post-IPO ($p < .05$). Further away from the IPO year, the magnitude and significance level of overhang both diminishes possibly due to the fact that pre-IPO shareholders can cash out immediately upon the expiration of lockup periods, which are typically no longer than three years.

The relation between *Overhang* and *Marketing Intensity* is also economically significant. Specifically, for a typical sample IPO firm, a one-standard-deviation increase in *Overhang* is associated with an additional $2.32 million, $2.53 million, and $1.92 million being spent on marketing in the three years post-IPO, respectively (in 2010 dollars).

Lastly, the R-squared of the model is 0.759 for the first year after the IPO, falling to 0.646 and 0.515 for the second year and the third year post-IPO, respectively. This seems to suggest that, as a firm grows further away from its initial issuance and becomes more seasoned, the IPO structure as a whole, naturally will lose its power to predict the firm's future corporate policies. Among the control variables, the positive and significant coefficient on *Pre-IPO Marketing Intensity* shows the continuum of marketing spendings pre- and post-IPO, demonstrating the importance of controlling for pre-IPO marketing intensity. In untabulated results, we also see that this continuum is even stronger in magnitude with higher overhang, potentially suggesting that these influential shareholders with more shares retained are more incentivized to at least maintain (or increase) previous levels of investment in marketing post-IPO.

In sum, *Hypothesis 1* is supported, and firms with more shares retained by pre-IPO shareholders (higher *IPO Overhang*) will exhibit higher marketing intensity for three years post-IPO. After that, the effect diminishes.

The diminished effects after the first three years are also evidenced in Fig. 4 where we partition the samples above and below the sample median of *Overhang*. We find that the marketing intensity post-IPO exhibit an inverse U-shape, consistent with the fact that pre-IPO shareholders heavily cash out when lockups expire. When these shareholders exit, they no longer have the same incentive or power to influence corporate decisions.

Next, we construct two subsamples – restaurants and hotels, and run the same specification in these subsamples, respectively. We find that *Overhang* is positively significantly associated with post-IPO marketing intensity in both subsamples. Although the coefficient on *Overhang* in the hotel subsample is larger in magnitude, we do not find a statistically significant difference in the effects of *Overhang* between these two subsamples (the test of equality of regression coefficients fails to reject the null). Interestingly, we find that the coefficient of *Underpricing* is only significant and positive in the restaurant subsample. Consistent with the argument by Luo (2008) that underpricing can reflect the level of information asymmetry and marketing spendings can help resolve this issue, a positive and significant link between underpricing and post-IPO marketing intensity potentially suggests that restaurant IPO firms are more eagerly pursuing policies post-IPO to resolve the information asymmetry (Nayyar, 1993) (Table 4).

Table 1
Variables, datasets, and rationale.

Variables	Definition	Purpose	Dataset	Supporting Literature
Marketing Intensity	100x (Selling, General & Administrative (SG&A) Expenses – Research & Development (R&D) Expenses)/ Total Assets, which includes expenses in communications, market research, advertising, and other marketing efforts.	Dependent variable	COMPUSTAT	Mizik and Jacobson (2007); Luo (2008)
Advertising Intensity	100x (Advertising (XAD) Expenses)/Total Assets.	Dependent variable	COMPUSTAT	Mizik and Jacobson (2007); Luo (2008)
Overhang	100x (Shares retained by pre-IPO shareholders/Shares offered), which is also known as share retention.	Principal independent variable	SDC Platinum	Loughran and Ritter (2004); Dolvin and Jordan (2008)
Underpricing	100x (First Trading Day Closing Price − IPO Offer Price)/IPO Offer Price.	Control variable	SDC Platinum	Loughran and Ritter (2004); Liu and Ritter (2011)
Sales Growth	100x (Sales − Lagged Sales)/Lagged Sales in the first year after IPO.	Control variable	COMPUSTAT	Malshe and Agarwal (2015)
Pre-IPO Marketing Intensity	The IPO firm's Marketing Intensity before going public.	Control variable	COMPUSTAT	Mizik and Jacobson (2007); Luo (2008)
Primary Proceeds	IPO proceeds from the primary distribution/Total Assets, where IPO proceeds from the primary distribution are sent directly to the issuing company.	Control variable	SDC Platinum	Loughran and Ritter (2004); Liu and Ritter (2011)
Secondary Proceeds	IPO Proceeds from the secondary distribution/Total Assets, where IPO proceeds from the secondary distribution are taken by the pre-IPO shareholders.	Control variable	SDC Platinum	Loughran and Ritter (2004); Liu and Ritter (2011)
Prestigious Underwriter	Whether the underwriter is top-tier based on Carter and Manaster's (1990) rankings.	Control variable	Jay Ritter's website	Carter and Manaster's (1990)
Analyst Coverage	Whether the IPO firm is followed by analysts post IPO.	Control variable	Jay Ritter's website	Loughran and Ritter (2004); Liu and Ritter (2011)
Venture Capital Backing	Whether the IPO firm has previously been funded primarily by venture capitals.	Control variable	SDC Platinum	Loughran and Ritter (2004); Liu and Ritter (2011)
Firm Size (millions & dollars in 1980)	The IPO firm's total assets in the first year post IPO.	Control variable	COMPUSTAT	Luo (2008)
Firm Age	The IPO firm's age at the time of IPO.	Control variable	Jay Ritter's website	Loughran and Ritter (2004); Liu and Ritter (2011)
Amihud Illiquidity Measure	1000,000x The average ratio of the daily absolute return to the trading volume, which is proposed in Amihud (2002), and follows Kyle's (1985) concept of illiquidity and Silber's (1975) measure of thinness.	Dependent variable	CRSP	Amihud (2002); Goyenko et al. (2009)
Industry Return Volatility	The variance of the weekly returns of the Fama and French 49 industry index during the year.	Control variable	CRSP	Hutton et al. (2009)
Log(Market Value of Equity)	The natural log of the market value of equity at the beginning of the fiscal year.	Control variable	COMPUSTAT	Hutton et al. (2009)
Market-to-Book	The ratio of the market value of equity to the book value of equity measured at the beginning of the fiscal year.	Control variable	COMPUSTAT	Hutton et al. (2009)
Book Leverage	The book value of all liabilities scaled by total assets, measured at the beginning of the fiscal year. ROE is the contemporaneous return on equity defined as net income divided by the book value of equity.	Control variable	COMPUSTAT	Hutton et al. (2009)
ROE	The contemporaneous return on equity defined as net income divided by the total book value of equity.	Control variable	COMPUSTAT	Hutton et al. (2009)

The sample of hospitality IPOs from 1980 to 2010 is derived from SDC's new issue database. Fill-ins of missing data and corrections are based on Jay Ritter's identification, CRSP, COMPUSTAT, and hand collection. Common filters in the IPO literature (e.g., Loughran and Ritter (2004) and Liu and Ritter (2011)) are applied. Specifically, we exclude observations in which the offering is not underwritten, limited partnerships, spinoffs, previous leverage buyouts, units, ADRs, shares of beneficial interest, best efforts offers, SPACs, and IPOs which are not original.

Table 2
Descriptive statistics.

Variables	N	Mean	Median	Standard Deviation	25%	75%
Marketing Intensity	196	32.19	25.05	25.66	11.04	49.87
Advertising Intensity	196	3.89	1.11	8.30	0.00	4.00
Overhang	196	2.81	1.93	4.06	1.33	2.78
Underpricing	196	15.75	7.95	22.05	1.04	24.02
Sales Growth	196	0.76	0.27	1.80	0.13	0.69
Pre-IPO Marketing Intensity	196	29.56	19.96	28.26	8.13	42.63
Primary Proceeds	196	0.41	0.36	0.27	0.22	0.55
Secondary Proceeds	196	0.07	0.00	0.12	0.00	0.09
Prestigious Underwriter	196	0.54	1.00	0.50	0.00	1.00
Analyst Coverage	196	0.48	0.00	0.50	0.00	1.00
Venture Capital Backing	196	0.23	0.00	0.42	0.00	0.00
Firm Size (millions & dollars in 1980)	196	84.73	35.19	149.07	15.76	78.39
Firm Age	196	17.09	10.00	18.43	4.00	22.50
Amihud Illiquidity Measure	196	2.00	0.27	4.87	0.05	1.55
Industry Return Volatility	196	0.0009	0.0008	0.0005	0.0005	0.0012
Market Value of Equity	196	198.92	98.40	318.14	33.52	234.13
Market-to-Book	196	3.79	2.76	4.36	1.75	4.43
Book Leverage	196	0.22	0.16	0.21	0.03	0.33
ROE	196	0.03	0.06	0.23	−0.04	0.13

The sample of hospitality IPOs from 1980 to 2010 is derived from SDC's new issue database. Fill-ins of missing data and corrections are based on Jay Ritter's identification, CRSP, COMPUSTAT, and hand collection. Common filters in the IPO literature (e.g., Loughran and Ritter (2004) and Liu and Ritter (2011)) are applied. Specifically, we exclude observations in which the offering is not underwritten, limited partnerships, spinoffs, previous leverage buyouts, units, ADRs, shares of beneficial interest, best efforts offers, SPACs, and IPOs which are not original.

4.2. Does marketing spending enhance equity market liquidity? the impact of post-IPO marketing intensity on the Amihud illiquidity measure

Our argument on the relation between IPO share retention and post-IPO marketing spending is built upon the premise that marketing spending enhances equity market liquidity. Our premise derives from existing literature on the relation between marketing activity and information asymmetry (Joshi and Hanssens, 2008; Keller and Lehmann, 2006; Luo, 2008; Luo and Donthu, 2006; McAlister et al., 2007; Srivastava et al., 1998) and the relation between marketing activity and visibility among investors (Grullon et al., 2004). We test this premise to close the loop of our argument as follows.

We estimate the following specification to test *Hypothesis 2*.

$$\textit{Post-IPO Amihud Illiquidity Measure}_{i,t} = \alpha_0 + \beta_1\ \textit{Post-IPO Marketing Intensity}_i + \beta_2\ \textit{Industry Return Volatility}_i + \beta_3\ \text{Log}(\textit{Market Value of Equity}_i) + \beta_4\ \textit{Market-to-Book}_i + \beta_5\ \textit{Book Leverage}_i + \beta_6\ \textit{ROE}_i + \text{YEAR}_{it} + \varepsilon_{it}, \quad (5)$$

where *Amihud Illiquidity Measure* was introduced by Amihud (2002) to measure the equity market illiquidity. The higher the *Amihud Illiquidity Measure*, the less liquid the equity is. Thus, we expect β_1 to be negative and significant, if our *Hypothesis 2* is valid. Post-IPO marketing intensity is the sum of marketing expenses within three fiscal years after an IPO scaled by total assets.

Table 5 presents the results of the impact of post-IPO marketing intensity on *Amihud Illiquidity Measure* within three fiscal years after IPO. The findings reveal that, as conceptualized, *Post-IPO Marketing Intensity* enhances equity liquidity significantly ($p < .05$), which supports *Hypothesis 2*.

4.3. Robustness tests using alternative measure – advertising intensity

Although previous studies have generally adopted the marketing intensity measure of *SG&A Expenses – R&D Expenses* scaled by total assets, we appreciate that an anonymous referee points out that this commonly-used measure is not perfect but could be biased, as it also includes other non-marketing expenses (e.g., administrative overhead and legal expenditures). Thus, in this section, we use an alternative measure of marketing efforts – *Advertising Intensity* (XAD expense scaled by total assets), and report the results in Table 6.[2]

Panel A of Table 6 presents results of the impact of *IPO Overhang* on post-IPO advertising intensity. We find consistent results using this alternative measure that *IPO Overhang* is positively and significantly associated with post-IPO *Advertising Intensity* at 10% significance level up to two years following the IPO (the effect diminishes in year 3 and after). Panel B shows results of the impact of *IPO Overhang* on post-IPO advertising intensity in sub-samples of restaurants and hotels. We find qualitatively similar results that *Overhang* is positively significantly associated with post-IPO advertising intensity in both subsamples, suggesting insiders with ownership retention have incentives and positive impacts on post-IPO advertising activities in both hotels and restaurants. Finally, Panel C displays results of the impact of post-IPO advertising intensity on *Amihud Illiquidity Measure*, and the negative and significant coefficient of advertising intensity implies the liquidity enhancement effect of advertising expenditures. This is consistent with Grullon et al. (2004) who show that firms with higher advertising expenditures, ceteris paribus, attract more individual and institutional investors, and yield better secondary market liquidity.

A caveat is that the magnitude and significance level of the coefficients of test variables in the robustness tests are generally smaller than those in the specifications using the main marketing intensity measure, possibly due to the fact that advertising only covers one perspective of marketing efforts (e.g., Luo (2008, p. 104) posits that advertising is "a single marketing spending item"). In the hospitality industry, building intangibles via a multitude of marketing is especially critical. Dutta et al. (1999), Luo (2008), and Mizik and Jacobson (2007) show that advertising itself omits a multitude of marketing spending items surround IPOs, such as "market research, trade promotion, communications, and other marketing instruments." Without considering the multitude of marketing spending items, Luo (2008) argues that "subsequent empirical analyses would be narrower and less powerful and thus would not reveal the full strategic importance of marketing spendings in IPOs."

5. Conclusion, managerial implications, and limitations

Examining hospitality IPOs, we demonstrate the significant impact of IPO overhang, which measures pre-IPO shareholders' ownership, in regards to post-IPO marketing spending for up to three years post-IPO. Additionally, marketing spending increases dramatically during these three years and is diminished thereafter. Finally, marketing spending enhances equity market liquidity. These findings are consistent with the view that marketing activities facilitate insiders' exit by reducing the price impact of their cash-out.

Our findings are potentially meaningful for at least three reasons. First, we are among the first cohort to investigate how the IPO process

[2] Missing adverting expense (Compustat Item XAD) is set to zero. Bansal, Joseph, Ma, and Wintoki (2017) find that public firms do not have discretion with respect to disclosing advertising expenditures, and are required to disclose "material" advertising expenses (per FASB Statement of Position (SOP) 93-7 (1993), "Reporting on Advertising Costs"). However, a caveat is that "the aforementioned standards do allow for some exceptions and the very definition of 'material' may, on the margin, be subject to auditor judgment." Multiple studies (e.g., Bansal et al., 2017; and Chauvin and Hirschey 1993) test the assumption of setting the value of missing advertising expenses to zero in large samples and conclude that it generally has little to no effect on empirical analyses involving advertising expenditures.

Table 3
Results of the Impact of IPO Overhang on Post-IPO Marketing Intensity.

Dependent Variable	Marketing Intensity = 100 x (SGA Expenses – R&D Expenses)/Total Assets					
Time Window	First Year Post-IPO	Second Year Post-IPO	Third Year Post-IPO	Fourth Year Post-IPO	Fifth Year Post-IPO	Implication
	(1)	(2)	(3)	(4)	(5)	
Overhang	**0.6745****	**0.7362*****	**0.5593****	0.0876	0.0103	**Hypothesis 1 is supported.**
	(0.0134)	**(0.0086)**	**(0.0441)**	(0.7485)	(0.9691)	
Underpricing	−0.0030	−0.0316	0.0056	0.0424	−0.1180	
	(0.9343)	(0.5640)	(0.9527)	(0.6886)	(0.1514)	
Sales Growth	0.5952*	1.4197*	1.9140**	1.1238*	0.5752**	
	(0.0976)	(0.0605)	(0.0346)	(0.0710)	(0.0401)	
Pre-IPO Marketing Intensity	0.7804***	0.7778***	0.7758***	0.7913***	0.8363***	
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	
Primary Proceeds	7.0446	6.0078	8.3843	3.2805	7.5445	
	(0.3405)	(0.6297)	(0.5943)	(0.7849)	(0.3453)	
Secondary Proceeds	−5.0975	−8.9512	−15.0707	−16.0584	−21.4868	
	(0.5815)	(0.4305)	(0.2973)	(0.2751)	(0.2872)	
Prestigious Underwriter	1.5054	−0.7664	−0.7706	1.3213	−5.1815	
	(0.5956)	(0.8284)	(0.8571)	(0.7875)	(0.2580)	
Analyst Coverage	0.7625	−1.9792	0.1327	10.8333	11.6123	
	(0.8794)	(0.7096)	(0.9839)	(0.2918)	(0.2932)	
Venture Capital Backing	0.8963	4.0833	8.0389*	4.2866	−0.5026	
	(0.6977)	(0.2007)	(0.0826)	(0.4819)	(0.9187)	
Log(Firm Size)	−1.5816**	−2.6120*	−3.8440**	−3.0388**	0.6953*	
	(0.0230)	(0.0826)	(0.0434)	(0.0200)	(0.0896)	
Log(Firm Age)	0.0787	−0.4870	−1.6313	−2.6543	−2.8083	
	(0.9415)	(0.7043)	(0.2870)	(0.1456)	(0.1764)	
Observations	196	196	196	196	196	
R-squared	0.759	0.646	0.515	0.471	0.546	

This table presents the results of the impact of *IPO Overhang* on post-IPO *Marketing Intensity* in the hospitality industry. *Overhang* is 100x (Shares retained by pre-IPO shareholders/Shares offered), which is also known as share retention. *Marketing Intensity* is 100x (SGA Expenses – R&D Expenses)/Total Assets, which includes expenses in communications, market research, advertising, and other marketing efforts. See Table 1 for other variable definitions. The sample of hospitality IPOs from 1980 to 2010 is derived from SDC's new issue database. Fill-ins of missing data and corrections are based on Jay Ritter's identification, CRSP, COMPUSTAT, and hand collection. Common filters in the IPO literature (e.g., Loughran and Ritter (2004) and Liu and Ritter (2011)) are applied. Specifically, we exclude observations in which the offering is not underwritten, limited partnerships, spinoffs, previous leverage buyouts, units, ADRs, shares of beneficial interest, best efforts offers, SPACs, and IPOs which are not original. We adjust inflation for the dollar-denominated variables and winsorize the continuous variables. The regressions also include year dummies and a constant that are not reported. p-values based on robust standard errors clustered by firm are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

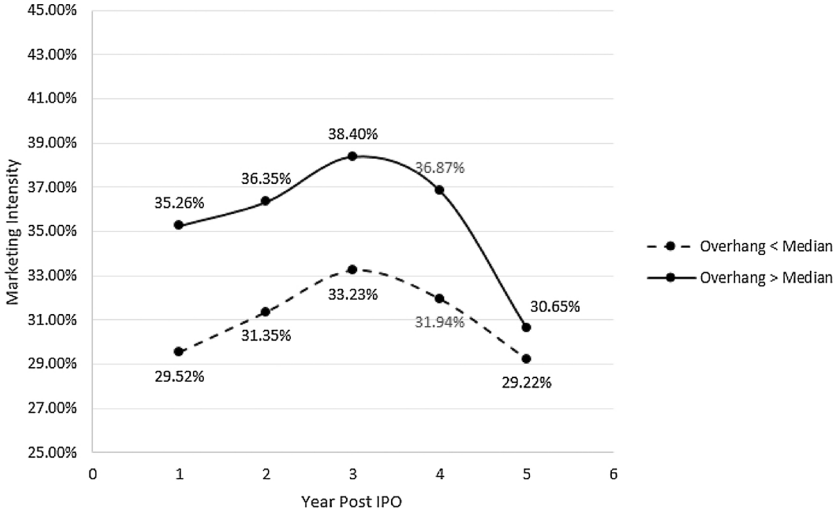

Fig. 4. Post-IPO Marketing Intensity Partitioned by Overhang. This figure displays post-IPO *Marketing Intensity* partitioned by *Overhang* > sample median vs. *Overhang* < sample median in the hospitality industry. *Overhang* is 100 x (Shares retained by pre-IPO shareholders/Shares offered), which is also known as share retention. *Marketing Intensity* is 100 x (SGA Expenses – R&D Expenses)/Total Assets, which includes expenses in communications, market research, advertising, and other marketing efforts. See Table 1 for other variable definitions. The sample of hospitality IPOs from 1980 to 2010 is derived from SDC's new issue database. Fill-ins of missing data and corrections are based on Jay Ritter's identification, CRSP, COMPUSTAT, and hand collection. Common filters in the IPO literature (e.g., Loughran and Ritter (2004) and Liu and Ritter (2011)) are applied. Specifically, we exclude observations in which the offering is not underwritten, limited partnerships, spinoffs, previous leverage buyouts, units, ADRs, shares of beneficial interest, best efforts offers, SPACs, and IPOs which are not original. We adjust inflation for the dollar-denominated variables and winsorize the continuous variables.

Table 4
Results of the Impact of IPO Overhang on Post-IPO Marketing Spendings: Using Sub-samples of Restaurants and Hotels.

Dependent Variable	Marketing Intensity = 100 x (SGA Expenses − R&D Expenses)/Total Assets	
Time Window	Restaurants (1)	Hotels (2)
Overhang	**0.5684*** **	**0.6902*** **
	(0.0000)	**(0.0014)**
Underpricing	0.0891***	−0.0582
	(0.0021)	(0.5375)
Sales Growth	0.0689*	1.5145*
	(0.0940)	(0.0623)
Pre-IPO Marketing Intensity	0.5594***	0.6180***
	(0.0000)	(0.0000)
Primary Proceeds	3.8451	13.7371
	(0.7016)	(0.1862)
Secondary Proceeds	3.5900	3.1463
	(0.7664)	(0.7951)
Prestigious Underwriter	0.1073	0.8173
	(0.9868)	(0.8508)
Analyst Coverage	1.8208	8.5416
	(0.7216)	(0.3541)
Venture Capital Backing	0.6220	1.8625
	(0.1014)	(0.4770)
Log(Firm Size)	−1.9087*	−2.9824**
	(0.0968)	(0.0404)
Log(Firm Age)	−2.4970	2.1893*
	(0.2068)	(0.0924)
Observations	138	58
R-squared	0.733	0.676

This table presents the results of the impact of *IPO Overhang* on *Marketing Intensity* within the first year post-IPO in the hospitality industry using the sub-samples of restaurants and hotels. As in prior research (Borghesi et al., 2015; Canina, 1996; Canina et al., 2008), we use SIC codes to identify restaurants (5810, 5811, and 5812) and hotels and motels (7010 and 7011). *Overhang* is 100x (Shares retained by pre-IPO shareholders/Shares offered), which is also known as share retention. *Marketing Intensity* is 100x (SGA Expenses – R&D Expenses)/Total Assets, which includes expenses in communications, market research, advertising, and other marketing efforts. *Advertising Intensity* is 100x XAD Expenses/Total Assets. See Table 1 for other variable definitions. The sample of hospitality IPOs from 1980 to 2010 is derived from SDC's new issue database. Fill-ins of missing data and corrections are based on Jay Ritter's identification, CRSP, COMPUSTAT, and hand collection. Common filters in the IPO literature (e.g., Loughran and Ritter (2004) and Liu and Ritter (2011)) are applied. Specifically, we exclude observations in which the offering is not underwritten, limited partnerships, spinoffs, previous leverage buyouts, units, ADRs, shares of beneficial interest, best efforts offers, SPACs, and IPOs which are not original. We adjust inflation for the dollar-denominated variables and winsorize the continuous variables. The regressions also include year dummies and a constant that are not reported. p-values based on robust standard errors clustered by firm are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

and its outcomes affect hospitality firms' post-IPO marketing spending. At a broad level, the theoretical scope of our research is to advance the understanding of IPO ownership structure on post-IPO investments. More specifically, our research highlights a statistically significant and economically meaningful impact on marketing expenditures by IPO overhang. Baloglu and Assante (1999) divided hospitality research into six fields: (1) marketing; (2) finance; (3) administration/strategy; (4) operations; (5) research and development; and (6) human resources.

Table 5
Do Marketing Spendings Enhance Equity Market Liquidity? Results of the Impact of Post-IPO Marketing Spendings on Amihud Illiquidity Measure.

Dependent Variable	Post-IPO Amihud Illiquidity Measure	Implication
Post-IPO Marketing Intensity	**−0.0021****	**Hypothesis 2 is supported.**
	(0.0499)	
Industry Return Volatility	510.6640	
	(0.4374)	
Log(Market Value of Equity)	−2.2543***	
	(0.0000)	
Market-to-Book	0.0632	
	(0.1782)	
Book Leverage	−0.9585	
	(0.4311)	
ROE	−2.7343	
	(0.2243)	
Observations	196	
R-squared	0.385	

This table presents the results of the impact of post-IPO *Marketing Intensity* on *Amihud Illiquidity Measure* within three fiscal years after IPO in the hospitality industry. Post-IPO *Marketing Intensity* is the sum of marketing expenses within three fiscal years after IPO scaled by Total Assets, which represents expenses in communications, market research, advertising, and other marketing efforts. *Amihud Illiquidity Measure* is 1000,000 x The average ratio of the daily absolute return to the trading volume, which is proposed in Amihud (2002), and follows Kyle's (1985) concept of illiquidity and Silber's (1975) measure of thinness. See Table 1 for other variable definitions. The sample of hospitality IPOs from 1980 to 2010 is derived from SDC's new issue database. Fill-ins of missing data and corrections are based on Jay Ritter's identification, CRSP, COMPUSTAT, and hand collection. Common filters in the IPO literature (e.g., Loughran and Ritter (2004) and Liu and Ritter (2011)) are applied. Specifically, we exclude observations in which the offering is not underwritten, limited partnerships, spinoffs, previous leverage buyouts, units, ADRs, shares of beneficial interest, best efforts offers, SPACs, and IPOs which are not original. We adjust inflation for the dollar-denominated variables and winsorize the continuous variables. The regressions also include year dummies and a constant that are not reported. p-values based on robust standard errors clustered by firm are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

The growing body of research for industrial firms and the need for further exploration of the connections for hospitality firms between the first two fields—marketing and finance—were an important motivator for us to focus on this particular industry.

Second, given that corporate insiders cash out heavily upon the expiration of their stocks' lockup provisions, our findings provide an avenue for firms to reduce the negative price impact of insiders' exit. With regard to practice, it builds a case for how CMOs can communicate the value of marketing on equity market to CFOs and CEOs, and adopt proper marketing strategies accordingly. A permanent 40 percent increase in average trading volumes when lockups expire suggests the necessity for these young firms to prepare for the upcoming significant negative price impact (Field and Hanka, 2001).

Finally, hospitality firms spend significant amounts on marketing post-IPO. It is critical to understand the driving force behind firms' aggressive marketing strategies. In addition to taking advantage of growth opportunities, facilitating pre-IPO shareholders' cash-out can be a partial explanation.

The limitation of this study is two-fold. As discussed earlier, although

Table 6
Robustness Tests with Alternative Measure of Marketing Spendings: Using Advertising Intensity.

Panel A. Results of the Impact of IPO Overhang on Post-IPO Marketing Spendings: Using Advertising Intensity

Dependent Variable	Advertising Intensity		
Time Window	First Year Post-IPO (4)	Second Year Post-IPO (5)	Third Year Post-IPO (6)
Overhang	**0.0839***	**0.0712***	0.0762
	(0.0704)	**(0.0630)**	(0.1390)
Underpricing	0.0143*	0.0126	0.0177
	(0.0801)	(0.1264)	(0.3843)
Sales Growth	0.1298*	0.1089**	0.2532**
	(0.0905)	(0.0315)	(0.0215)
Pre-IPO Advertising Intensity	0.8625***	0.7290***	0.8169***
	(0.0000)	(0.0000)	(0.0000)
Primary Proceeds	0.2190	−2.0772	−0.0190
	(0.8103)	(0.2078)	(0.9933)
Secondary Proceeds	−1.1853	−0.3962	−1.6527
	(0.5785)	(0.8509)	(0.5796)
Prestigious Underwriter	0.2106	0.1504	0.2725
	(0.7144)	(0.8190)	(0.7431)
Analyst Coverage	0.9792	1.8785	0.2386
	(0.3584)	(0.1384)	(0.8603)
Venture Capital Backing	0.0003	0.0421	1.9981**
	(0.9995)	(0.9472)	(0.0385)
Log(Firm Size)	−0.4759**	−0.2201*	−0.3951**
	(0.0170)	(0.0523)	(0.0462)
Log(Firm Age)	−0.0589	−0.2239	−0.0550
	(0.7372)	(0.3745)	(0.8499)
Observations	196	196	196
R-squared	0.805	0.691	0.586

Panel B. Results of the Impact of IPO Overhang on Post-IPO Marketing Spendings in Sub-samples of Restaurants and Hotels: Using Advertising Intensity

Dependent Variable	Advertising Intensity	
Time Window	Restaurants (1)	Hotels (2)
Overhang	**0.0825****	**0.1096***
	(0.0274)	**(0.0878)**
Underpricing	0.0233	0.0012
	(0.2643)	(0.9147)
Sales Growth	0.4560*	0.0746
	(0.0835)	(0.6286)
Pre-IPO Advertising Intensity	0.9839***	0.4885***
	(0.0000)	(0.0005)
Primary Proceeds	2.5427***	0.1130
	(0.0081)	(0.4247)
Secondary Proceeds	1.2844	−0.7022
	(0.3083)	(0.7970)
Prestigious Underwriter	0.9785	0.5389
	(0.3993)	(0.6451)
Analyst Coverage	−0.4608	1.0874
	(0.8610)	(0.3099)
Venture Capital Backing	0.0807	0.0006
	(0.2948)	(0.1482)
Log(Firm Size)	−1.9155**	−0.3082*
	(0.0220)	(0.0906)
Log(Firm Age)	−0.2329*	−0.0539
	(0.0860)	(0.4097)
Observations	138	58
R-squared	0.708	0.665

Table 6 (*continued*)

Panel C. Results of the Impact of Post-IPO Marketing Spendings on Amihud Illiquidity Measure: Using Advertising Intensity

Dependent Variable	Post-IPO Amihud Illiquidity Measure
Post-IPO Advertising Intensity	**−0.0568****
	(0.0274)
Industry Return Volatility	324.8152
	(0.2348)
Log(Market Value of Equity)	−4.2258***
	(0.0002)
Market-to-Book	−0.0368
	(0.7928)
Book Leverage	3.0780
	(0.3796)
ROE	−8.2166*
	(0.0940)
Observations	196
R-squared	0.373

This table presents the results of the robustness tests using an alternative measure of marketing spendings − advertising intensity. Panel A presents results of the impact of IPO Overhang on post-IPO advertising intensity; Panel B shows results of the impact of IPO Overhang on post-IPO advertising intensity in sub-samples of restaurants and hotels; and Panel C displays results of the impact of post-IPO advertising intensity on Amihud Illiquidity Measure. *Overhang* is 100 x (Shares retained by pre-IPO shareholders/Shares offered), which is also known as share retention. *Advertising Intensity* is 100 x XAD Expenses/Total Assets. See Table 1 for other variable definitions. The sample of hospitality IPOs from 1980 to 2010 is derived from SDC's new issue database. Fill-ins of missing data and corrections are based on Jay Ritter's identification, CRSP, COMPUSTAT, and hand collection. Common filters in the IPO literature (e.g., Loughran and Ritter (2004) and Liu and Ritter (2011)) are applied. Specifically, we exclude observations in which the offering is not underwritten, limited partnerships, spinoffs, previous leverage buyouts, units, ADRs, shares of beneficial interest, best efforts offers, SPACs, and IPOs which are not original. We adjust inflation for the dollar-denominated variables and winsorize the continuous variables. The regressions also include year dummies and a constant that are not reported. p-values based on robust standard errors clustered by firm are in parentheses. ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively.

previous studies (e.g., Dutta et al., 1999; Kurt and Hulland, 2013; Luo, 2008; Ma et al., 2017; Mizik and Jacobson, 2007) have widely adopted SG&A purged of R&D expenditures as the measure of marketing spendings, we acknowledge that this commonly-used measure can be biased and still includes non-marketing expenses (e.g., administrative overhead and legal expenditures). However, as Kurt and Hulland (2013) point out, while it is technically impossible to perfectly disentangle marketing expenditures with existing Compustat data, Compustat serves as one of the most comprehensive databases for financial data, and it provides data on marketing expenditures for most hospitality firms, consistent with the view that "a key advantage of using Compustat is that it provides comprehensive data on SG &A and R&D expenditures (Kurt and Hulland, 2013, p. 72)."

A second limitation and area for future research is that we do not include the full spectrum of agency issues and bonding mechanisms associated with post-IPO marketing spendings. For example, like research&development investments, marketing spendings can be used to manipulate earnings temporarily, and like acquisition and capital expenditures, marketing spendings can also be affected by agency issues such as empire-building (e.g., Harford and Li, 2007; Jensen and Ruback, 1983) and hubris (e.g., Roll, 1986). Thus, future research agenda should explore a broader spectrum of other aspects of marketing investments.

Appendix A. Representative Hospitality Issuer, Issue Date, Offer Price, Underpricing of Each Year

This Appendix displays representative issuer, issue date, offer price, underpricing of each year in the hospitality industry. The representative hospitality issuer each year is selected based on offer size, and data availability. The sample of hospitality IPOs from 1980 to 2010 is derived from SDC's new issue database. Fill-ins of missing data and corrections are based on Jay Ritter's identification, CRSP, COMPUSTAT, and hand collection. Common filters in the IPO literature (e.g., Loughran and Ritter (2004) and Liu and Ritter (2011)) are applied. Specifically, we exclude observations in which the offering is not underwritten, limited partnerships, spinoffs, previous leverage buyouts, units, ADRs, shares of beneficial interest, best efforts offers, SPACs, and IPOs which are not original.

	Restaurants				Hotels and motels			
Issue Year	Representative Issuer	Issue Date	Offer Price	Underpricing	Representative Issuer	Issue Date	Offer Price	Underpricing
1980	Sea Galley Stores Inc	12/2/1980	8.13	1.54	N/A			
1981	Kelly-Johnston Enterprises Inc	7/1/1981	11.00	23.86	N/A			
1982	Godfather's Pizza Inc	4/6/1982	9.75	1.28	N/A			
1983	TGI Friday's Inc	12/8/1983	17.50	0.71	Circus Circus Enterprises Inc	10/25/1983	15.00	8.33
1984	Chilis Inc	1/6/1984	15.00	0.83	Club Med Inc	9/25/1984	17.00	0.00
1985	Ark Restaurants Corp	12/12/1985	7.50	21.67	Days Inns Corp	12/31/1985	12.00	14.58
1986	Perkins Family Restaurant LP	10/9/1986	13.00	0.00	Motel 6 LP(Kohlberg Kravis & Roberts Co)	10/31/1986	13.50	0.00
1987	Hard Rock Cafe PLC	4/23/1987	16.00	0.78	Carnival Cruise Lines Inc	7/24/1987	15.50	1.61
1988	Homestyle Buffet Inc	5/12/1988	6.50	17.31	International Leisure Enterprises Inc	2/12/1988	2.50	10.00
1989	Rally's Hamburger	10/12/1989	15.00	13.33	Microtel Franchise and Development Corp	4/6/1989	6.00	35.42
1990	O'Charley's Inc	7/19/1990	9.00	4.17	N/A			
1991	IHOP Corp	7/12/1991	10.00	0.00	Grand Casinos Inc	10/9/1991	5.00	75.00
1992	Lone Star Steakhouse & Saloon Inc	3/12/1992	13.50	44.44	Boomtown Casino	10/23/1992	10.00	7.50
1993	Papa Johns International Inc	6/8/1993	13.00	34.62	Primadonna Resorts Inc	6/22/1993	18.00	13.89
1994	Rock Bottom Restaurants Inc	7/21/1994	8.00	12.50	Doubletree Corp	7/1/1994	13.00	13.46
1995	Jerry's Famous Deli Inc	10/20/1995	6.00	25.00	Renaissance Hotel Group NV (Diamond Hotel Investments NV/ New World)	9/26/1995	17.00	0.00
1996	Fine Host Corp	6/19/1996	12.00	−2.08	Wyndham Hotel Corp	5/20/1996	16.00	41.41
1997	Il Fornaio America Corp	9/18/1997	11.00	31.82	Four Seasons Hotels Inc	2/6/1997	20.75	8.43
1998	PF Chang's China Bistro Inc	12/4/1998	12.00	54.17	Cavanaughs Hospitality Corp	4/3/1998	15.00	15.83
2000	California Pizza Kitchen Inc	8/2/2000	15.00	35.00	N/A			
2001	Smith & Wollensky Restaurant Group Inc	5/22/2001	8.50	−8.59	N/A			
2002	Red Robin Gourmet Burgers Inc	7/18/2002	12.00	1.83	Wynn Resorts Ltd	10/25/2002	13.00	0.08
2003	Buffalo Wild Wings Inc	11/20/2003	17.00	35.00	N/A			
2004	Domino's Pizza Inc	7/12/2004	14.00	−3.57	Las Vegas Sands Corp	12/14/2004	29.00	60.55
2005	Ruths Chris Steak House Inc	8/8/2005	18.00	15.00	N/A			
2006	Chipotle Mexican Grill Inc	1/25/2006	22.00	100.00	Melco PBL Entertainment (Macau) Ltd	12/18/2006	19.00	13.42
2009	N/A				Hyatt Hotels Corp	11/4/2009	25.00	12.00
2010	Country Style Cooking Restaurant Chain Co Ltd	9/27/2010	16.50	47.27	China Lodging Group Ltd	3/25/2010	12.25	13.63

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