Acta Oeconomica 73 (2023) 3, 469–480
DOI: 10.1556/032.2023.00026

AKADÉMIAI KIADÓ

Determinants of advertising expenditures: Role of stock prices in an emerging market

OMAR FAROOQ[1] and NEVEEN AHMED[2*]

[1] School of Business, ADA University, Baku AZ 1008, Azerbaijan

[2] Institute of National Planning and American University of Beirut, Cairo, Egypt

Received: May 2, 2022 • Revised manuscript received: September 13, 2022 • Accepted: October 24, 2022

ABSTRACT

This paper documents the relationship between advertising expenditures and stock prices. Using the data of non-financial firms from India, the paper shows that advertising expenditures of a firm are sensitive to its own stock prices and to stock prices of its peer firms during the period between 2000 and 2021. These findings remain qualitatively the same when we use different estimation procedures. The paper also shows that the relationship between advertising expenditures and stock prices depends on the level of product market competition. This relationship becomes more pronounced as product competition increases.

KEYWORDS

advertising expenditures, stock prices, information, emerging markets

JEL CLASSIFICATION INDICES

M31, M37, G31

1. INTRODUCTION

Prior literature documents that corporate investments are an increasing function of stock prices (Foucault – Frésard 2012; Farooq – Amin 2017; Farooq – Ahmed 2018). This strand of literature is built on two assumptions. First, the stock price changes reflect the marginal

* Corresponding author. E-mail: nahussei@alumni.ncsu.edu

product of capital. The stock prices, usually, increase when the quality of investment opportunities improve to reflect positive net present values (NPV) of such opportunities. It should, therefore, lead to a positive correlation between investments and stock prices. Second, stock prices constitute an important channel via which managers can obtain information possessed by informed investors. Trivially, value-maximizing managers have incentives to use all available information while making investment decisions. This information should include not only the information already possessed by them, but also the information that is not already known to them. Foucault and Frésard (2014) maintained that stock prices reflect private information of informed investors, and this information is usually new to the value-maximizing managers. The value-maximizing managers can use this information along with the information already possessed by them to forecast the cash flows and risks associated with their investment projects. One outcome of using information revealed via stock prices in investment decisions is that it should increase the sensitivity of investment decisions to stock prices increases. This strand of reasoning (known as managerial learnings hypothesis) has received considerable support in the prior literature, such as Durnev et al. (2004), Chen et al. (2007), and Bakke – Whited (2010).

In this paper, we extend the above arguments to a relatively unexplored channel – stock prices of peer firms. We hypothesize that investments decisions (such as investments in advertising activities) are not only sensitive to firm's own stock prices, but also to stock prices of peer firms. Our arguments are based on the assumption that stock prices of peer firms are exposed to similar cash flow and discount rate shocks as the firm itself. Assuming that some of this information may not already be incorporated in firm's own stock prices, it is reasonable to believe that managers may learn from the stock prices of peer firms. Foucault and Frésard (2014) argued that a firm's investment decisions are influenced by the market valuation of its peers because this valuation may contain information that is not reflected in the firm's own stock prices. The stock prices of a firm may not reflect this information for a variety of reasons. For example, investors may find it appealing to concentrate their trading activity on stocks that are more sensitive to industry performance, or they may trade in the most liquid stocks. By doing so, information will be incorporated more in the stock prices of peer firms than firm's own stock prices.

Consistent with the above arguments, this paper shows that investments in advertising activities depend not only on firm's own stock prices, but also on its peer's stock prices. Using the data of non-financial firms from India, we report that investments in advertising activities were sensitive to firm's own stock prices and its peer's stock prices during the period between 2000 and 2021. These findings are robust across various estimation strategies. We also show that above findings are more pronounced in sectors characterized by high product market competition. In fact, the sensitivity of investments in advertising activities to firm's peers' stock prices is significant only in sectors characterized by high product market competition. These findings are consistent with Foucault – Frésard (2014) who argued that "the cost of inaction and the reward from responding promptly and appropriately to the information in peers' prices are likely to be higher in more competitive industries since greater competition will make firms more exposed and vulnerable to changes in their peers' fortunes and strategies. Therefore, in a competitive industry, a manager will place a higher strategic value on the information signaled by peer firms' stock prices". More specifically, when competition is high, the value-maximizing managers are under increasing pressure to deliver. Prior literature documents that product market

competition improves managerial effort (Hermalin 1992; Schmidt 1997). We argue that one outcome of higher managerial effort is that managers should take into consideration as much as information as possible while making investment decisions. Therefore, they take into consideration not only the information revealed via firm's own stock prices, but also the information revealed via stock prices of the peer firms in their decisions. Furthermore, this relationship is stronger when competition is high because the stock prices become more informative in the high competition regimes. Holmstrom (1982) and Nalebuff – Stiglitz (1983), for example, showed that agency problems are weakened in high competition regimes. As a result, more information is available to shareholders for monitoring and evaluating managers, thereby improving the efficiency of stock prices.

This paper contributes to existing literature in a number of ways. For example, unlike the traditional literature on advertising, this paper highlights the role of stock prices in affecting the advertising decisions made by firms. By documenting this relationship, the paper contributes to a literature that is at the intersection of marketing and finance (Joshi – Hanssens 2009, 2010; Luo – de Jong 2012; Farooq – Pashayev 2020). We also want to highlight that, to the best of our knowledge, there is no prior literature on the impact of stock prices on advertising decisions. The remainder of paper is structured as follows: *Section 2* summarizes our data; *Section 3* presents assessment of our arguments and the paper concludes with *Section 4*.

2. DATA AND METHODOLOGY

2.1. Sample

We used the data of non-financial publicly-listed firms from India to document the sensitivity of advertising expenditures to firm's own stock prices and its peer's stock prices. The data covered the period between 2000 and 2021. We retrieved data from various sources, such as Worldscope, and Thomson Reuters Eikon. The sample consists of 9,701 firm-year observations (1,568 unique firms) and includes all firms for which the data on variables used in the analysis is available. The firms are listed at Bombay Stock Exchange (BSE) and National Stock Exchange (NSE). The data was downloaded in March 2022.

2.2. Methodology and definition of variables

In order to test the sensitivity of advertising expenditures to firm's own stock prices and its peer's stock prices, we estimate various versions of the following regression equation:

$$\begin{aligned}\mathrm{ADVERT}_{t+1} = {} & \alpha + \beta_1(\mathrm{Q}_t) + \beta_2(\mathrm{PEERQ}_t) + \beta_3(\mathrm{SIZE}_t) + \beta_4(\mathrm{LEVERAGE}_t) + \beta_5(\mathrm{EY}_t) \\ & + \beta_6(\mathrm{GROWTH}_t) + \beta_6(\mathrm{DIVIDEND}_t) + \beta_7(\mathrm{ANALYST}_t) + \beta_8(\mathrm{CASH}_t) \\ & + \beta_9(\mathrm{ER}_t) + \beta_{10}(\mathrm{AUR}_t) + \sum\nolimits_{\mathrm{Y}=1}^{\mathrm{N}-1}\gamma_{\mathrm{Y}}(\mathrm{YDUM}_t) + \sum\nolimits_{\mathrm{I}=1}^{\mathrm{N}-1}\varphi_{\mathrm{I}}(\mathrm{IDUM}_t) + \varepsilon_{t+1}\end{aligned} \tag{1}$$

The dependent variable (ADVERT) measures investment in advertising activities. It is measured by the ratio of advertising expenditures scaled by the lagged value of revenues. The main independent variables measure normalized values of firm's own stock prices (Q) and its

peer's stock prices (PEERQ). For the purpose of this paper, we use Tobin's Q as a measure of firm's own normalized stock prices. The normalized stock prices of peers are computed as the average Tobin's Q of all firms (excluding the firm itself) in the sector in which a firm is operating. The sector is defined by the two-digit SIC code. Our measure of normalized stock prices is similar to prior literature, such as Driss (2022), Foucault – Frésard (2012, 2014). Furthermore, we include the following firm-specific variables as control variables:

- SIZE: It is defined as log of firm's total assets. We argue that larger firms are able to spend more on advertising because they have more resources. Our argument is consistent with Joseph and Richardson (2002) who noted that firms with greater resources spend more on advertising than what is necessary.
- LEVERAGE: It is defined as the total debt to total asset ratio. Grullon et al. (2006) showed that a firm's financial leverage has a negative impact on its advertising intensity.
- EY: It is defined as the earnings yield. We argue that advertising is a risky investment. Profitable firms are usually more capable of paying for advertising expenses due to the lumpiness of the costs of advertising (Sun 2014).
- GROWTH: It is defined as the growth in assets over the last one year. Luo et al. (2014) used growth as a determinant of advertising expenditures. We argue that a high growth creates demand as well as means for advertising.
- DIVIDEND: It is a dummy variable that takes the value of 1 for firms that pay dividends and 0 otherwise. Luo et al. (2014) used dividends as a predictor of firm's advertising intensity.
- ANALYST: It is defined as the total number of analysts issuing earnings forecast for a firm in a given year. We argue that the extent of analyst following increases the visibility of a firm among the stock market participants. High visibility should increase the demand of advertising from investors.
- CASH: It is defined as the ratio of total cash to total assets.
- ER: This variable is equal to the operating expense divided by total sales. A high value of this variable indicates higher agency problems (Ang et al. 2000). We expect firms with higher agency problems to have lower advertising intensity.
- AUR: This variable is equal to the total annual sales divided by total assets. It indicates the loss in revenues that can be attributed to inefficient utilization of assets. A high value of asset utilization ratio indicates lower agency cost (Ang et al. 2000). We argue that advertising creates commitment on part of managers to deliver favourable results. Given that firms with lower agency problems are more likely to deliver these results, we should expect firms with lower agency problems to have higher advertising intensity.

2.3. Summary statistics

Table 1 documents the descriptive statistics for variables used in this paper. The table shows that, on average, value of advertising expenditures (ADVERT) is a little less than 1.7% of the total revenues. The average value of Tobin's Q (Q) for the firms and their peers (PEERQ) is more than 1. It indicates that managers are able to generate value of their shareholders. The table also shows that a little less than 27% of the assets are financed through debt, and almost 72% of firms pay dividends. The average growth rate of 18.57% indicates that managers are able to

Table 1. Descriptive statistics

Variables	25th Percentile	Mean	Median	75th percentile	Standard deviation	Observations
ADVERT	0.0008	0.0169	0.0038	0.0163	0.0350	9,701
Q	0.8882	1.6365	1.1485	1.8238	1.3399	9,701
PEERQ	1.1235	1.4292	1.3507	1.6321	0.4235	9,701
SIZE	14.4066	15.6552	15.5919	16.8120	1.8325	9,701
LEVERAGE	8.4300	26.9690	26.2400	41.5100	20.3925	9,701
EY	0.0247	0.0382	0.0574	0.1149	0.3486	9,701
GROWTH	2.4000	18.5722	11.5200	24.7700	34.7730	9,701
DIVIDEND	0.0000	0.7281	1.0000	1.0000	0.4450	9,701
ANALYST	0.0000	3.0792	0.0000	2.0000	7.2072	9,701
CASH	0.0161	0.0863	0.0414	0.1084	0.1098	9,701
ER	0.8552	0.9231	0.9116	0.9578	0.2421	9,701
AUR	0.5731	0.9579	0.8771	1.2511	0.5574	9,701

accumulate assets at a faster rate. The average value of analyst coverage is around 3.07 analysts. It indicates that, on average, firms do not attract enough analyst coverage.

Table 2 reports the Pearson correlation between variables. The table shows that the correlation between variables is modest and multicollinearity does not appear to be an issue in our analysis. An interesting observation from this table is the correlation between Q and PEERQ. It may be argued that the average value of Q across peer firms should be highly correlated with firm's Q because both of them contain a significant amount of common industry and market information. However, in our case, this correlation is relatively low (0.3065). It indicates that the stock prices of peer firms contain significant information that is not included in firm's own stock prices.

3. RESULTS

3.1. Sensitivity of advertising expenditures to firm's own stock prices and its peer's stock prices

Table 3 documents the results of our analysis. The main variables of interest are Q and PEERQ, there are significantly positive coefficients for both of these variables. It indicates that investments in advertising activities are not only sensitive to the firm's own stock prices, but also to the stock prices of peer firms. However, it seems that investment in advertising activities is more sensitive to the firm's own stock prices pronounced than to the stock prices of peer firms. The coefficient estimate of Q is almost more than the coefficient estimate of PEERQ.

Table 2. Correlation matrix

No.	Variables	1	2	3	4	5	6	7	8	9	10	11
1	Q	1.0000										
2	PEERQ	0.3065	1.0000									
3	SIZE	0.1516	0.1287	1.0000								
4	LEVERAGE	−0.2969	−0.1729	0.1590	1.0000							
5	EY	0.0055	0.0183	−0.0257	−0.1768	1.0000						
6	GROWTH	0.0793	0.0369	0.0115	0.0483	0.1242	1.0000					
7	DIVIDEND	0.1722	0.0874	0.2615	−0.1748	0.2006	0.0504	1.0000				
8	ANALYST	0.3489	0.1518	0.5602	−0.1126	0.0172	−0.0110	0.1860	1.0000			
9	CASH	0.3200	0.1358	0.0984	−0.4272	0.0610	0.0541	0.1482	0.1637	1.0000		
10	ER	−0.1482	−0.0605	−0.1453	0.0907	−0.2998	−0.1156	−0.2200	−0.1340	−0.1153	1.0000	
11	AUR	0.2144	0.0370	−0.1285	−0.1638	0.1482	−0.0287	0.1531	−0.0180	0.0138	−0.0447	1.0000

Table 3. Sensitivity of advertising expenditures to firm's own stock prices and its peer's stock prices

Variables	Model (1)	Model (2)	Model (3)
Q	0.0073***		0.0072***
	(15.6363)		(15.4526)
PEERQ		0.0048***	0.0028**
		(4.2401)	(2.5094)
SIZE	0.0011***	0.0008***	0.0011***
	(3.8592)	(2.9082)	(3.8041)
LEVERAGE	−0.0002***	−0.0002***	−0.0001***
	(–7.3327)	(–9.9824)	(–7.0536)
EY	0.0010	−0.0018*	0.0010
	(1.0357)	(–1.7109)	(0.9931)
GROWTH	0.0001	0.0001***	0.0001
	(0.9999)	(2.5905)	(0.9468)
DIVIDEND	0.0017**	0.0022***	0.0016**
	(2.1673)	(2.8400)	(2.0937)
ANALYST	0.0001*	0.0005***	0.0001
	(1.6531)	(6.8450)	(1.6148)
CASH	0.0004	0.0168***	0.0004
	(0.0826)	(3.4387)	(0.0901)
ER	0.0107***	0.0078**	0.0107***
	(2.9887)	(2.1008)	(2.9841)
AUR	−0.0036***	−0.0004	−0.0036***
	(–5.7735)	(–0.7277)	(–5.7859)
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
F-Values	33.54	29.65	32.85
Observations	9,701	9,701	9,701
R-Square	0.1976	0.1491	0.1982

Note: The *t*-values based on robust standard errors are reported in parenthesis. The outcome variable is ADVERT and key independent variables are Q and PEERQ. Correlation is significant ***at 1%, ** 5%, * 10%, respectively.

3.2. Sensitivity of advertising expenditures to firm's own stock prices and its peer's stock prices: alternate estimation procedures

In this section, we use alternate estimation strategies to re-estimate Equation (1). As a first alternate estimation procedure, we perform Fama-MacBeth regression. It is a two-step process. In the first step, it runs a cross-sectional regression at each point in time. In the second step, it estimates the coefficient as the average of the cross-sectional regression estimates. The second estimation strategy involves clustering standard errors at the industry level. These standard errors are used when some observations in a dataset are naturally "clustered" together or related in some way. These standard errors mitigate the problems of within-firm serial correlation and heteroskedasticity. The last strategy uses panel regression with fixed effects as an estimation procedure. The findings, as reported in Table 4, show that the coefficient estimates of Q and PEERQ are significant and positive. It, further, strengthens the arguments that advertising expenditures are sensitive to the firm's own stock prices and to the stock prices of peer firms.

3.3. Sensitivity of advertising expenditures to firm's own stock prices and its peer's stock prices: effect of product market competition

Farooq and Pashayev (2020) showed that the advertising expenditures of firms operating in sectors with relatively high product market competition are more valuable than the advertising expenditures of firms operating in sectors with relatively low product market competition. They argue that competition can produce better monitoring environment, thereby reducing inefficiencies in managerial decisions. A corollary of this finding is that managers are more likely to use all available information in competitive environments. Therefore, it is possible that the findings highlighted above should be more pronounced for firms that operate in competitive sectors. In order to test these arguments, we re-estimate Equation (1) in various sub-samples that are characterized by different levels of product market competition. For the purpose of this paper, we divide the sample into three sub-samples based on product market competition. Sectors where competition is in the bottom tercile, represent low product market competition and sectors where competition is in the top tercile, represent high product market competition. The remaining sectors (middle tercile) represent intermediate product market competition. Our measure of product market competition is defined as the difference between one and sum of firm j's squared market share (S) in an industry 'i' and in year 't'. This measure is computed at the two-digit SIC code level (Cosset et al. 2016). Table 5 documents the results of our analysis. The table shows that PEERQ becomes significant only when the competition is high. In fact, at high levels of competition, the influence of peer's stock prices on advertising expenditures become more pronounced than the influence of firm's own stock prices. At low and intermediate levels of competition, peer's stock prices have insignificant impact on the advertising expenditures incurred by the firm. Table 5 also shows that the impact of firm's own stock prices on advertising expenditures gradually increases as the competition intensifies. The results indicate that managers not only incorporate more information from their own firm's stock prices, but also incorporate more information from stock prices of their peer firms at higher levels of competition in their decisions regarding advertising expenditures. These findings are consistent with Foucault and Frésard (2014) who showed that competitive environment intensifies the positive relation between investment sensitivity to peer stock prices.

Table 4. Sensitivity of advertising expenditures to firm's own stock prices and its peer's stock prices: Alternate estimation strategies

Variables	Model (1)	Model (2)	Model (3)
Q	0.0092	0.0074***	0.0008*
	(1.2917)	(5.2453)	(1.6905)
PEERQ	0.0108**	0.0036*	0.0026***
	(2.5737)	(1.6929)	(2.8002)
SIZE	−0.0010	0.0014*	−0.0018
	(–0.1795)	(1.9224)	(–1.3731)
LEVERAGE	−0.0002	−0.0002***	0.0001
	(–1.6245)	(–3.2103)	(0.4382)
EY	0.0005	0.0013	0.0018**
	(0.1024)	(1.0176)	(2.0709)
GROWTH	−0.0002	0.0001	0.0001***
	(–1.4280)	(0.5045)	(2.6709)
DIVIDEND	−0.0055	0.0021*	0.0016
	(–0.7460)	(1.7937)	(1.5350)
ANALYST	0.0033	0.0001	0.0001
	(1.6133)	(0.6501)	(0.4414)
CASH	0.0226	−0.0015	−0.0008
	(1.3451)	(–0.1571)	(–0.1727)
ER	0.0989	0.0114***	0.0103**
	(0.9175)	(2.7397)	(2.0015)
AUR	−0.0239	−0.0033**	−0.0028**
	(–1.1378)	(–2.0196)	(–2.2993)
Year dummies	No	Yes	Yes
Industry dummies	Yes	Yes	No
F-Values	61,117.08	13.18	4.88
Wald Chi-Square			
Observations	9,701	9,701	9,701
R-Square	0.4061	0.2016	0.0438

Note: The *t*-values are reported in parenthesis. Model (1) is based on is Fama-MacBeth regression, Model (2) is based on pooled OLS regression with standard errors clustered at the industry level, and Model (3) is based on panel regression with fixed effects. The outcome variable is ADVERT and key independent variables are Q and PEERQ. Correlation is significant ***at 1%, ** 5%, * 10%, respectively.

Table 5. Effect of product market competition on the sensitivity of advertising expenditures to firm's own stock prices and its peer's stock prices

Variables	Low competition level	Intermediate competition level	High competition level
Q	0.0044***	0.0063***	0.0085***
	(5.3939)	(8.2620)	(9.9478)
PEERQ	0.0006	0.0029	0.0261***
	(0.3273)	(1.6097)	(6.8304)
SIZE	0.0013**	−0.0001	0.0023***
	(2.2274)	(–0.1149)	(4.4084)
LEVERAGE	−0.0002***	0.0001	−0.0002***
	(–5.4263)	(0.8454)	(–6.0862)
EY	0.0004	0.0064***	−0.0035*
	(0.2616)	(3.0854)	(–1.6671)
GROWTH	0.0001**	0.0001	−0.0001
	(2.3318)	(0.2387)	(–1.1367)
DIVIDEND	−0.0001	0.0025**	0.0036***
	(–0.0379)	(2.5421)	(3.0410)
ANALYST	−0.0001	0.0001	0.0004***
	(–0.9164)	(0.2617)	(3.1990)
CASH	−0.0173**	−0.0014	0.0353***
	(–2.0855)	(–0.2783)	(3.3413)
ER	0.0051	0.0268***	0.0004
	(1.5565)	(3.5621)	(0.1246)
AUR	−0.0036***	−0.0044***	−0.0019
	(–3.0671)	(–5.2736)	(–1.4999)
Year Dummies	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes
F-Values	22.69	29.52	34.84
Observations	3,014	3,024	2,992
R-Square	0.1815	0.2203	0.3240

Note: The *t*-values based on robust standard errors are reported in parenthesis. The outcome variable is ADVERT and key independent variables are Q and PEERQ. Correlation is significant ***at 1%, ** 5%, * 10%, respectively.

4. CONCLUSIONS

This paper shows that investments in advertising activities depend not only on the firm's own stock prices, but also on the peer's stock prices. We argue that value maximizing managers want to use as much information as possible while making investments in advertising activities. This information comes not only from firm's own stock prices, but also from peer's stock prices. Our research also shows that the effect of stock prices on investments in advertising activities increases as competition intensifies. At low and intermediate level of competition, peer's stock prices do not have a significant impact on the investments in advertising activities.

REFERENCES

Ang, J. S. – Cole, R. A. – Lin, J. W. (2000): Agency Costs and Ownership Structure. *Journal of Finance*, 55(2000): 81–106.

Bakke, T. E. – Whited, T. M. (2010): Which Firms Follow the Market? An Analysis of Corporate Investment Decisions. *Review of Financial Studies*, 23(5): 1941–1980.

Chen, Q. – Goldstein, I. – Jiang, W. (2007): Price Informativeness and Investment Sensitivity to Stock Price. *Review of Financial Studies*, 20: 619–650.

Cosset, J. C. – Some, H. Y. – Valery, P. (2016): Does Competition Matter for Corporate Governance? The Role of Country Characteristics. *Journal of Financial and Quantitative Analysis*, 51(4): 1231–1267.

Driss, M. (2022): Board Governance and Investment Sensitivity to Stock Prices: International Evidence. *Journal of Financial and Quantitative Analysis*, https://doi.org/10.1017/S0022109022001211.

Durnev, A. – Morck, R. – Yeung, B. (2004): Value Enhancing Capital Budgeting and Firm-specific Stock Return Variation. *Journal of Finance*, 59: 65–105.

Farooq, O. – Amin, A. (2017): National Culture, Information Environment, and Sensitivity of Investment to Stock Prices: Evidence from Emerging Markets. *Research in International Business and Finance*, 39(A): 41–46.

Farooq, O. – Ahmed, N. (2018): Does Inflation Affect Sensitivity of Investment to Stock Prices? Evidence from Emerging Markets. *Finance Research Letters*, 25: 160–164.

Farooq, O. – Pashayev, Z. (2020): Agency Problems and the Value of Advertising Expenditures in an Emerging Market: Role of Product Market Competition. *Managerial Finance*, 46(9): 1123–1143.

Foucault, T. – Frésard, L. (2012): Cross-Listing, Investment Sensitivity to Stock Prices, and Learning Hypothesis. *Review of Financial Studies*, 25(1): 3305–3350.

Foucault, T. – Frésard, L. (2014): Learning from Peers' Stock Prices and Corporate Investment. *Journal of Financial Economics*, 11(3): 554–577.

Grullon, G. – Kanatas, G. – Kumar, P. (2006): The Impact of Capital Structure on Advertising Competition: An Empirical Study. *Journal of Business*, 79(6): 3101–3124.

Hermalin, B. (1992): The Effects of Competition on Executive Behavior. *RAND Journal of Economics*, 23: 350–365.

Holmstrom, B. (1982): Moral Hazard in Teams. *Bell Journal of Economics*, 13: 324–340.

Joseph, K. – Richardson, V. J. (2002): Free Cash Flow, Agency Costs, and the Affordability Method of Advertising Budgeting. *Journal of Marketing*, 66(1): 94–107.

Joshi, A. – Hanssens, D. M. (2009): Movie Advertising and the Stock Market Valuation of Studios: A Case of "Great Expectations?" *Marketing Science*, 28(2): 239–250.

Joshi, A. – Hanssens, D. M. (2010): The Direct and Indirect Effects of Advertising Spending on Firm Value. *Journal of Marketing*, 74(1): 20–33.

Luo, X. – de Jong, P. J. (2012): Does Advertising Spending Really Work? The Intermediate Role of Analysts in the Impact of Advertising on Firm Value. *Journal of the Academy of Marketing Science*, 40(4): 605–624.

Luo, M. – Jiang, D. X. – Cai, J. (2014): Investor Sentiment, Product Features, and Advertising Investment Sensitivities. *Asia-Pacific Journal of Financial Studies*, 43: 798–837.

Nalebuff, B. – Stiglitz, J. (1983): Prizes and Incentives: Towards a General Theory of Compensation and Competition. *Bell Journal of Economics*, 14: 21–43.

Schmidt, K. (1997): Managerial Incentives and Product Market Competition. *Review of Economic Studies*, 64: 191–213.

Sun, S. (2014): Foreign Entry and Firm Advertising Intensity: Evidence from China. *Review of Industrial Organization*, 45(1): 79–97.