

## Web Appendices

### Does Disclosure of Advertising Spending Help Investors and Analysts?

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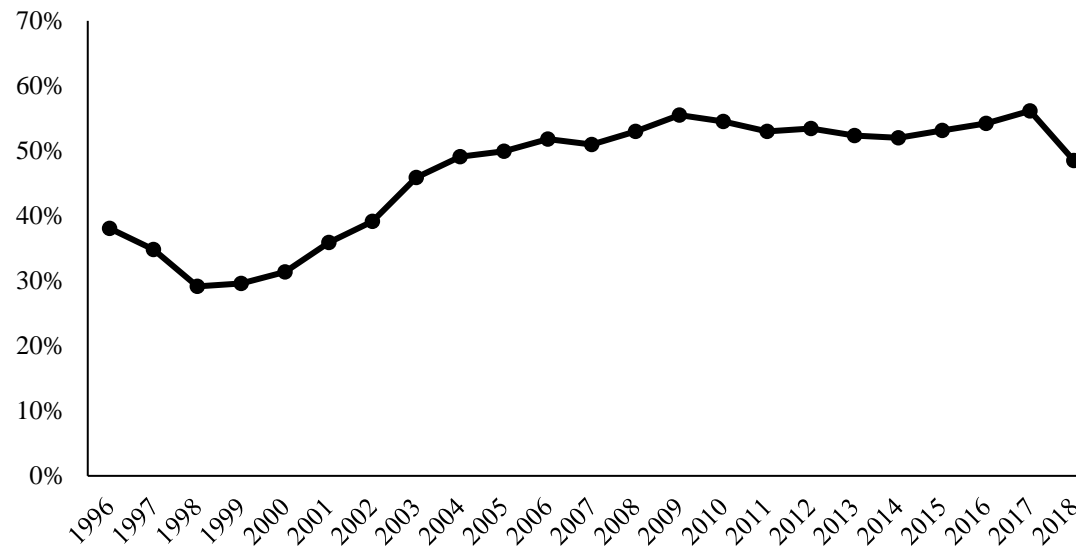
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Note: These materials have been supplied by the authors to aid in the understanding of their paper. The AMA is sharing these materials at the request of the authors.

**Web Appendix A**  
**Disclosure of Advertising Spending by Publicly Listed Firms in the Sample over Years**



Notes:

- a. The vertical axis represents the percentage of firms that disclose advertising spending in our sample.
- b. Given our empirical models have the lag structures in the first stage models and focal models, the focal models exploit the variation of disclosure of advertising spending from fiscal year 1996 to 2018.

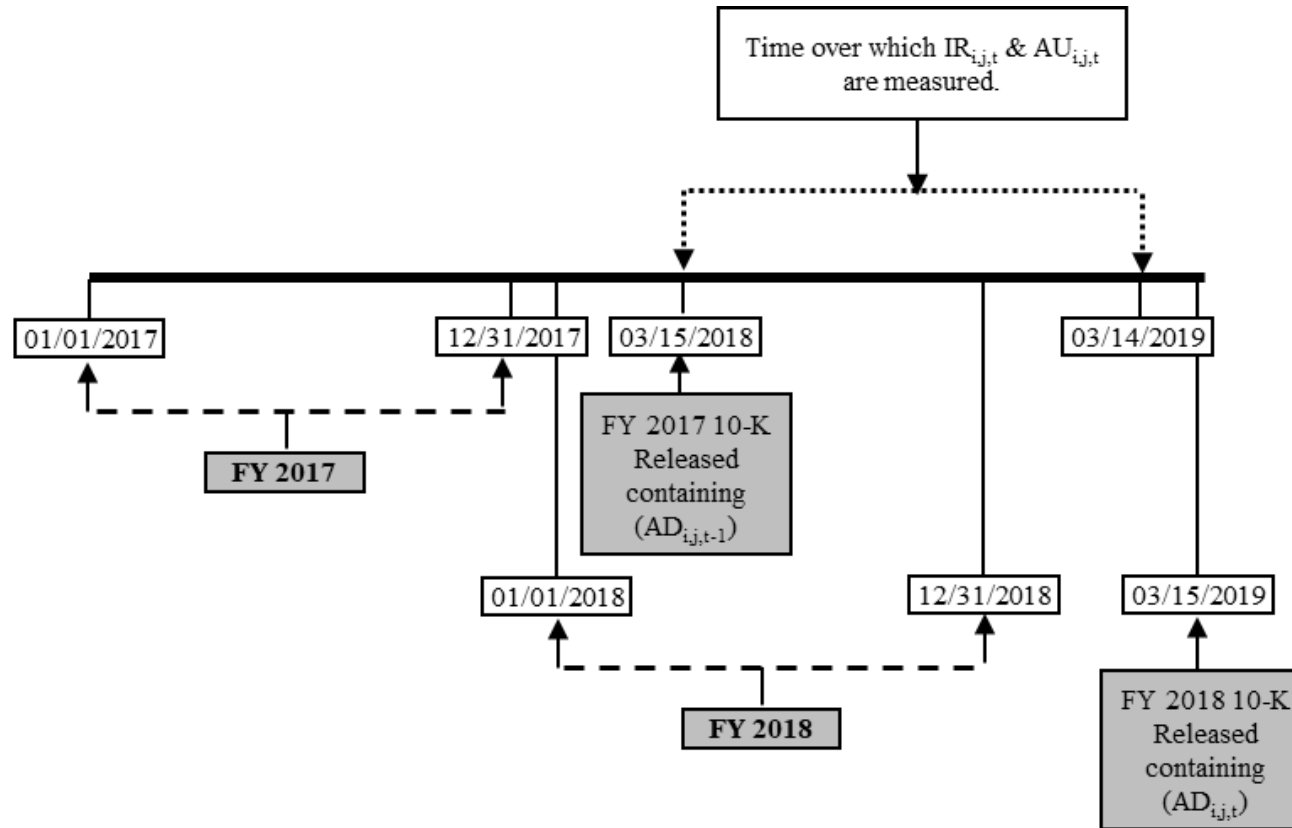
## Web Appendix B. The Literature on Marketing Outcomes, Actions, and Idiosyncratic Risk

Study	Key Independent Variable	Dependent Variable(s)			Mechanism Studied	Moderator(s) Examined	Main Finding
		Idiosyncratic Risk	Analyst Uncertainty	Firm Value			
Marketing Outcomes							
Sorescu and Spanjol (2008)	Breakthrough Innovation Incremental Innovation	✓		✓		Interaction of Incremental and Breakthrough Innovation	Breakthrough innovation is associated with increases in Tobin's q, abnormal stock returns, and idiosyncratic risk whereas incremental innovation is associated with an increase in Tobin's q only.
Tuli and Bharadwaj (2009)	Customer Satisfaction	✓					Customer satisfaction lowers not only overall systematic and idiosyncratic risk but also downside systematic and idiosyncratic risk.
Luo, Homburg, and Wieseke (2010)	Customer Satisfaction	✓		✓	Analyst Stock Recommendation (ASR) & ASR Dispersion	Product Market Competition Financial Market Uncertainty	Positive changes in customer satisfaction improve ASR and lower ASR dispersion. These effects are stronger when product markets are more competitive and financial markets are more uncertainty.
Marketing Actions							
Osinga et al. (2011)	Direct-to-Consumer Advertising (DTCA) Direct-to-Physician (DTP) Marketing	✓		✓		Relaxation of Regulation	DTCA increases stock returns (the strongest effect after the regulation relaxation) and idiosyncratic risk and lowers systematic risk. In contrast, DTP marketing has modest positive effects on stock returns and idiosyncratic risk.
Fang, Palmatier, and Grewal (2011)	Customer and Innovation Asset Configuration	✓		✓		Industry Dynamism	A configuration strategy using deep customer and broad innovation assets or deep innovation and broad customer assets has a positive effect on firm performance. In contrast, deep-deep or broad-broad asset configurations decrease firm performance variability. These effects of configuration strategies are stronger in more dynamic industry environments.
Dotzel, Shankar, and Berry (2013)	Internet-Enabled Service Innovativeness (EI) People-Enabled Service Innovativeness (PI)	✓		✓	Customer Satisfaction	Types of Service Innovations Human-Dominated Industry	EI has a positive and direct effect on firm value and PI has an overall positive effect on firm value through its positive effect on customer satisfaction only in human-dominated industries. In addition, whereas EI & PI have positive effects on idiosyncratic risk, PI indirectly lowers idiosyncratic risk by increasing customer satisfaction in human-dominated industries.

### Web Appendix B. The Literature on Marketing Outcomes, Actions, and Idiosyncratic Risk (Cont'd)

Study	Key Independent Variable	Dependent Variable(s)			Mechanism Studied	Moderator(s) Examined	Main Finding
		Idiosyncratic Risk	Analyst Uncertainty	Firm Value			
Marketing Actions							
Thomaz and Swaminathan (2015)	Marketing Alliances Firm Network Density Partner Network Density	✓				Repeat Partnership	Marketing alliances reduce firm risk only for a new partnership. At high levels, a firm's network density increases idiosyncratic risk, and a partner's network density increases systematic risk.
McAlister et al. (2016)	Advertising Spending			✓		Disclosure of Advertising Spending	Advertising increases sales regardless of firm strategy but increases firm value only for differentiators.
Han, Mittal, and Zhang (2017)	Relative Strategic Emphasis	✓				Relative Performance Demand Instability	Relative strategic emphasis on value appropriation reduces idiosyncratic risk. This effect is weaker when firms have larger positive or negative relative performance, and the contingent effects are stronger if industry demand instability is high.
Colicev et al. (2018)	Earned Social Media (ESM) Owned Social Media (OSM)	✓		✓	Customer Satisfaction Purchase Intent Brand Awareness		ESM improves customer mindset metrics, whereas OSM increases customer satisfaction and brand awareness. Purchase intent and customer satisfaction enhance shareholder value.

**Web Appendix C**  
**Timeline for Measuring Disclosure, Analyst Uncertainty, and Idiosyncratic Risk**



FY = Fiscal Year

$AD_{i,j,t-1}$  = Disclosure of Advertising Spending for FY t-1

$IR_{i,j,t}$  = Idiosyncratic Risk between release of 10-K of FY t-1 and FY t

$AU_{i,j,t}$  = Analyst Uncertainty between release of 10-K of FY t-1 and FY t

## Web Appendix D

### Construction of Disclosure Quality

Consistent with Chen, Miao, and Shevlin (2015), we start by counting the non-missing items in both the firm's balance sheet and its income statement. A firm's annual report (i.e., 10-K filing) has the hierarchical nesting feature such that one item consists of multiple disaggregated items. For example, *current assets total* includes *inventory (IVT) total* and other seven second-level accounts, and *IVT total* includes four more disaggregated accounts, *IVT raw material*, *IVT work-in-progress*, *IVT finished goods*, and *IVT other*. By using this nesting feature of a 10-K annual report, we calculate the ratio of non-missing items to the total items in the balance sheet and income statement. For the balance sheet, we identify 11 groups, which are associated with 25 second-level items and 93 subaccounts. We count the non-missing items in 93 subaccounts for the balance sheet and generate the value-weighted ratio of the non-missing items for each group based on the magnitude of the group over the total assets. For the income statement, we generate the equal-weighted ratio of the non-missing items to the total items. Note that we do not include the item of advertising spending in calculating the ratio of the non-missing items to the total items in the income statement to avoid the possibility that disclosure quality takes into account disclosure of advertising spending. Then, we use the average of the ratios for the balance sheet and income statement as disclosure quality of a firm. The higher the level of disaggregation of the annual report of a firm, the greater is the information available to investors, and therefore, the greater is the quality of its financial disclosures (see Chen, Miao, and Shevlin 2015 for detailed discussion on the construction of the measure and its validity).

**Web Appendix E**  
**Measures, Data Sources, and the Supporting Literature for Control Variables**

<i>Variable</i>	<i>Measure</i>	<i>Data Source</i>	<i>The Supporting Literature</i>
Estimated Adv Spending <sub>i,j,t-1</sub>	Kantar Media advertising spending estimates, scaled by total assets	Kantar Media	Ramani and Srinivasan (2019) Wies et al. (2019)
Analyst Following <sub>i,j,t-1</sub>	Natural log of the number of analysts reporting earnings forecasts of a firm between the day of the release of the firm's annual report and the day before the release of the firm's annual report in the following year	I/B/E/S	Lehavy, Li, and Merkley (2011) Lang and Lundholm (1996)
Institutional Ownership <sub>i,j,t-1</sub>	Percentage of outstanding shares owned by institutional investors	Thomson Reuters	Bayer, Tuli, and Skiera (2017)
Firm Age <sub>i,j,t-1</sub>	Natural log of number of years since the firm stock's first listing	CRSP	McAlister, Srinivasan, and Kim (2007)
Firm Size <sub>i,j,t-1</sub>	Natural log of the total assets of a firm	COMPUSTAT	Rego, Billett, and Morgan (2009)
SG&A <sub>i,j,t-1</sub>	Selling, general, and administrative expense, scaled by total assets	COMPUSTAT	Chakravarty and Grewal (2016) Ptok, Jindal, and Reinartz (2018)
ROA <sub>i,j,t-1</sub>	Income before extraordinary items, scaled by total assets	COMPUSTAT	Kurt and Hulland (2013) Rego, Billett, and Morgan (2009)
Cash Flows <sub>i,j,t-1</sub>	Net operating cash flows, scaled by total assets		Gruca and Rego (2005) Bayer, Tuli, and Skiera (2017)
Industry Growth <sub>j,t-1</sub>	Natural log of sales of an industry in the current fiscal year less natural log of sales of an industry in the prior year	COMPUSTAT	Dotzel, Shankar, and Berry (2013)
Demand Uncertainty <sub>j,t-1</sub>	The standard deviation of 5-year industry sales, scaled by the average of 5-year industry sales.	COMPUSTAT	Fang, Palmatier, and Steenkamp (2008)

Note: We deduct estimated advertising spending in the calculation of SG&A<sub>i,j,t-1</sub>.

## **Web Appendix F**

### **Identification Strategies**

#### **Relevance and Validity of Proposed Instruments for Disclosure of Advertising Spending**

*Arguments for Industry and Sector Peers.* Industry and Sector peer instruments are conceptually relevant because peer firms' disclosures arguably reflect the industry and sector norms that are followed by firms either due to learning (Han, Mittal, and Zhang 2017) or to gain legitimacy (Sine, Haveman, and Tolbert 2005). Indeed, prior research shows that firms are likely to follow their industry and sector norms for decisions such as advertising spending (Sridhar et al. 2016) or disclosure of advertising spending (Shi, Grewal, and Sridhar 2021). Importantly, sector and industry peer disclosures are unlikely to be related to omitted variables in the error term. For example, consider the unobserved managerial foresight. Decisions guided by managerial foresight may be correlated with advertising spending disclosure and also idiosyncratic risk. However, it is highly unlikely that instruments based on sector and industry peers correlate with managerial foresight for a specific firm. First, it is very difficult for peer firms to observe and measure a focal firm's managerial foresight. Even if a peer firm is able to observe an individual manager's foresight, it is highly unlikely that all peer firms can observe it and even more improbable that all peers will be able to collectively and strategically act on it (also see Germann, Ebbes, and Grewal 2015).

*Arguments for Auditor Peers.* We also propose that the proportion of disclosures of advertising spending by Auditor Peers is also a relevant and valid instrument. Firms rely on auditors to make accounting- and disclosure-related decisions (e.g., Glendening, Mauldin, and Shaw 2019). Auditors have particular structured processes and internal rules of conducting an audit that characterize a particular audit style (Francis, Pinnuck, and Watanabe 2014). The particular audit style, in turn, may act as norms not only for auditing and but also for accounting decisions such as information disclosures, resulting in similar financial statements of client firms sharing the same auditor (Johnston and Zhang 2021). Indeed, empirical studies suggest that firms sharing the same auditor show similar disclosure patterns (e.g., Brown and Knechel 2016). Therefore, we expect that a firm's disclosure of advertising spending is positively related to those of its auditor peers.

Auditor peer disclosure of advertising spending, however, is unlikely to be correlated with the potential omitted variables (e.g., managerial foresight). Given business confidentiality, an auditor is unlikely to share its clients' decision rules shaped by managerial foresight that may influence disclosure decisions. Therefore, there is no reason to expect the auditor peer instrument for disclosure of advertising spending correlates with unobservable omitted variables. To strengthen the identification of the proposed econometric approaches, we construct auditor peers as firms which hire the same auditor as the focal firm but do not operate in the same industry as the focal firm (i.e., non-overlapping peers).

#### **Potential Endogeneity of Estimated Advertising Spending**

Advertising spending is likely to be endogenous because managers strategically plan and implement advertising. For example, managers may spend more on advertising if firm sales are expected to decline. It is also possible that managers may cut advertising budgets to meet earnings expectation in the short-term (Mizik 2010). Thus, there may be unobservable factors that influence both idiosyncratic risk and analyst uncertainty, and advertising spending decisions. Accordingly, we adopt the control function approach and use the weighted averages of estimated advertising spending levels of both industry and sector peers as



instruments for a focal firm's estimated advertising spending (for precedence see Sridhar et al. 2016). We estimate the following auxiliary regression:

$$\text{Est. Adv Spending}_{i,j,t-1} = \kappa_0 + \kappa_1 \text{WIPAS}_{i,j,t-2} + \kappa_2 \text{WSPAS}_{i,j,t-2} + \Theta' \text{Controls}_{i,j,t-1} + \sum_{k=1}^{K-1} \pi_k \text{Year}_{t-1} + \xi_i + \eta_{i,j,t-1},$$

where Est. Adv Spending<sub>i,j,t-1</sub> = Kantar Media estimates of advertising spending scaled by total assets, WIPAS<sub>i,j,t-2</sub> = weighted average of estimated advertising spending scaled by total assets of industry peers other than firm *i*, and WSPAS<sub>i,j,t-2</sub> = weighted average of estimated advertising spending scaled by total assets of sector peers excluding industry peers in industry *j* at fiscal year *t-2*;  $\xi_i$  = a firm random effect, and  $\eta_{i,j,t-1}$  = the random error term.

After estimating the model, we generate the residual,  $\hat{\eta}_{i,j,t-1}$ , and include it in the final models to address potential endogeneity of estimated advertising spending.

### Potential Selection Bias for the Inclusion of Estimated Advertising Spending

Equation 2-5 may face a selection bias due to the inclusion of Est. Adv Spending<sub>i,j,t-1</sub>, which requires data from Kantar Media. The coverage of firms by Kantar Media to estimate advertising spending, in turn, could create a potential selection bias (see Frennea, Han, and Mittal 2019). To account for this potential selection bias, we need to identify exclusion restrictions that predict the probability of coverage by Kantar Media but do not have an impact on the error terms related to idiosyncratic risk and analyst uncertainty. Consistent with our instrumentation approach, we adapt the approach followed by Han, Mittal, and Zhang (2017) and use the weighted proportion of both industry and sector peers covered by Kantar Media as exclusion restrictions. Specifically, in the first stage, we estimate the following probit model:

$$\Pr(\text{KM}_{i,j,t-1} = 1) = \Phi(\omega_0 + \omega_1 \text{WIPKM}_{i,j,t-1} + \omega_2 \text{WSPKM}_{i,j,t-1} + \Omega' \text{Controls}_{i,j,t-1} + \sum_{k=1}^{K-1} \varphi_k \text{Year}_{t-1}),$$

where KM<sub>i,j,t-1</sub> = Kantar Media advertising coverage (i.e., one if a firm is covered by Kantar Media and zero otherwise), WIPKM<sub>i,j,t-2</sub> = weighted proportion of industry peers other than firm *i* whose Kantar Media advertising spending is available, and WSPKM<sub>i,j,t-2</sub> = weighted proportion of sector peers excluding industry peers whose Kantar Media advertising spending is available in industry *j* at fiscal year *t*.

After estimating the probit model, we generate the inverse Mills ratio (i.e., IMR<sub>i,j,t-1</sub>) and include it in the final models to control for the selection bias.

### Potential Endogeneity of Analyst Uncertainty

Analyst uncertainty in the mediation model (i.e., Equation 4) is likely to be endogenous because the control variables in the model may not be able to capture all unobservable factors that can influence analysts' and investors' ability to predict firm future performance. Therefore, we apply the control function approach to account for the potential endogeneity of analyst uncertainty and use the weighted averages of sector and industry peers' analyst uncertainty as instruments. The proposed instruments are likely to be relevant and valid. Financial analysts tend to specialize in a specific industry or business sector and incorporate industry analysis in publishing the research reports. Industry expertise is one of the important aspects of analyst research (Brown et al. 2015) and comparison of firms within an industry is an important part of valuing stocks (Boni and Womack 2006). "Financial analysis textbooks commonly recommend the use of peer firms in valuation" (Healy and Palepu 2007; De Franco, Hope, and Larocque 2015, p. 84). When forecasting a firm's future performance, analysts incorporate their industry knowledge and their interpretation of industry specific

information, i.e., intra-industry information transfer (Piotroski and Roulstone 2004). Thus, analyst uncertainty of a firm may correlate with those of its industry and sector peers.

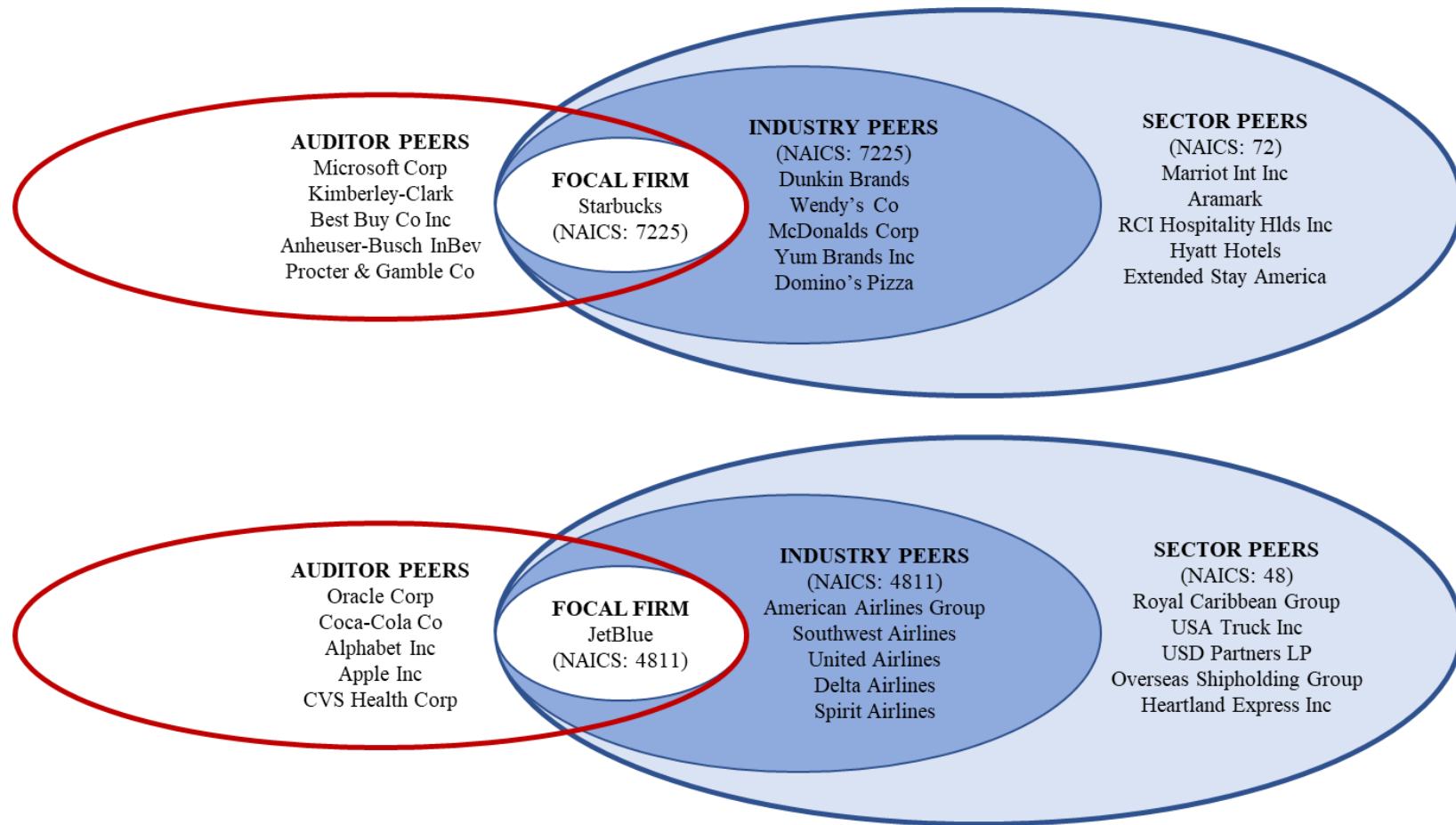
The proposed instruments are unlikely to be correlated with the error term in the idiosyncratic risk model because we control for a wide range of time varying industry factors that take into account the competitive conditions, growth, and uncertainty of demand. Therefore, we estimate the following model to obtain the residual term:

$$AU_{i,j,t} = \delta_0 + \delta_1 WIPAU_{i,j,t} + \delta_2 WSPA_{i,j,t} + \Phi' \text{Controls}_{i,j,t-1} + \sum_{k=1}^{K-1} \sigma_k \text{Year}_t + \zeta_i + v_{i,j,t},$$

where  $AU_{i,j,t}$  = analyst uncertainty;  $WIPAU_{i,j,t}$  = weighted average of analyst uncertainty of industry peers other than firm  $i$  and  $WSPA_{i,j,t}$  = weighted average of analyst uncertainty of sector peers excluding industry peers in industry  $j$  at fiscal year  $t$ ;  $\zeta_i$  = a firm random effect; and  $v_{i,j,t}$  = the random error term.

Then, we include  $\hat{v}_{i,j,t}$  as an additional covariate in the final model to test the mediating effect of analyst uncertainty.

**Web Appendix G**  
**Examples of Firms Included in Industry, Sector, and Auditor Peers to Calculate Instruments**



## Web Appendix H

### Estimation of the Weights for Peers

We follow Lim, Tuli, and Grewal (2020) to estimate the weights for sector, industry, and auditor peers. Using the classical multidimensional scaling method (MDS), we first draw a positioning map with two dimensions based on firms' similarity for each sector based on the two-digit NAICS, each industry based on the four-digit NAICS, and each auditor in each fiscal year. We estimate firms' similarity based on several important firm characteristics. To account for firms' similarity reflected in firm size and profitability, we include natural log of sales and return on assets. In addition, we include financial leverage (long-term debt scaled by total assets) to capture a firm's capital structure. Next, in the positioning maps generated by MDS, we calculate the Euclidean distances between all firms in each sector, industry, and for each auditor in each fiscal year. The Euclidean distance between a pair of firms represents dissimilarity between firms. Thus, as a next step, we measure the weights as follows:

$$\text{Weight}_{i,p,j,t} = (\text{Total Distance}_{i,j,t} - \text{Distance}_{i,p,j,t} / \text{Total Distance}_{i,j,t}),$$

where  $\text{Total Distance}_{i,j,t}$  = the total Euclidean distance between the focal firm and all its peers in sector  $j$ , industry  $j$ , or auditor  $j$ ;  $\text{Distance}$  = the Euclidean distance between the focal firm and its peer  $p$  in fiscal year  $t$ .

Finally, taking into account the weight, we measure the instruments as follows:

$$\text{Weighted Peer Instrument}_{i,j,t-2} = \frac{\sum_{i,p}^N w_{i,p,j,t-2} \times \text{Peer Variable}_{p,j,t-2}}{\sum_{i,p}^N w_{i,p,j,t-2}}$$

where  $w_{i,p,j,t-2}$  = weight of the similarity between firm  $i$  and peer  $p$  in the sector, industry, or auditor  $j$  at fiscal year  $t-2$ ; and  $\text{Peer Variable}_{p,j,t-2}$  = a relevant peer variable for instruments (e.g., disclosure of advertising spending or estimated advertising spending level).

**Web Appendix I**  
**Results of the First Stage Probit Model for**  
**Disclosure of Advertising Spending**

<i>Dependent Variable = <math>AD_{i,j,t-1}</math></i>		
<i>Independent Variables</i>	<i>Coef.</i>	<i>SE</i>
Weighted Industry Peer Disclosure $_{i,j,t-2}$	1.630	(.190) ****
Weighted Sector Peer Disclosure $_{i,j,t-2}$	1.133	(.251) ****
Weighted Auditor Peer Disclosure $_{i,j,t-2}$	3.817	(.578) ****
Financial Liquidity $_{i,j,t-1}$	.036	(.018) **
Financial Leverage $_{i,j,t-1}$	.354	(.166) **
Disclosure Quality $_{i,j,t-1}$	1.918	(.455) ****
Competitive Intensity $_{j,t-1}$	.090	(.268)
Analyst Following $_{i,j,t-1}$	-.038	(.045)
Institutional Ownership $_{i,j,t-1}$	.116	(.134)
Firm Age $_{i,j,t-1}$	.005	(.052)
Firm Size $_{i,j,t-1}$	.078	(.029) ***
SG&A $_{i,j,t-1}$	1.569	(.177) ****
ROA $_{i,j,t-1}$	.071	(.232)
Cash Flows $_{i,j,t-1}$	.676	(.303) **
Industry Growth $_{j,t-1}$	-.175	(.097) *
Demand Uncertainty $_{j,t-1}$	-.536	(.258) **
Intercept	1.273	(.176) ****
Year Fixed Effects	Yes	
Number of Firm-Year Observations	15,297	
(Number of Firms)	(2,285)	
Wald $\chi^2$ (df)	667.65 (38) ****	
Log Pseudolikelihood	-8,481.26	

Notes:

a.  $AD_{i,j,t-1}$  is disclosure of advertising spending for firm  $i$  in industry  $j$  in fiscal year  $t-1$ .

b. Weighted Industry Peer Disclosure $_{i,j,t-2}$  is the weighted proportion of industry peer firms that disclose advertising spending, Weighted Sector Peer Disclosure $_{i,j,t-2}$  is the weighted proportion of sector peer firms that disclose advertising spending, and Weighted Auditor Peer Disclosure $_{i,j,t-2}$  is the weighted proportion of auditor peer firms that disclose advertising spending in fiscal year  $t-2$ . SG&A $_{i,j,t-1}$  represents selling, general, and administrative expense (excluding estimated advertising spending), scaled by total assets for firm  $i$  in industry  $j$  in fiscal year  $t-1$ . ROA $_{i,j,t-1}$  is return on assets for firm  $i$  in industry  $j$  in fiscal year  $t-1$ .

c. The result of Wald test for joint significance of Weighted Industry Peer Disclosure $_{i,j,t-2}$ , Weighted Sector Peer Disclosure $_{i,j,t-2}$ , and Weighted Auditor Peer Disclosure $_{i,j,t-2}$  is 239.41 ( $p < .001$ ).

d. We use the clustered robust standard errors of the estimates at the firm level; We mean center all continuous variables.

e. SE = standard error; \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ , \*\*\*\*  $p < .001$  (two-tailed).

**Web Appendix J**  
**Results of the Auxiliary Regression Model for**  
**Estimated Advertising Spending**

<i>Dependent Variable = Est. Adv Spending<sub>i,j,t-1</sub></i>		
<i>Independent Variables</i>	<i>Coef.</i>	<i>SE</i>
Weighted Industry Peer Est. Adv Spending <sub>i,j,t-2</sub>	.106	(.024) ****
Weighted Sector Peer Est. Adv Spending <sub>i,j,t-2</sub>	.059	(.016) ****
Financial Liquidity <sub>i,j,t-1</sub>	-.000	(.000)
Financial Leverage <sub>i,j,t-1</sub>	.001	(.002)
Disclosure Quality <sub>i,j,t-1</sub>	-.018	(.006) ***
Competitive Intensity <sub>j,t-1</sub>	.009	(.004) **
Analyst Following <sub>i,j,t-1</sub>	-.000	(.000)
Institutional Ownership <sub>i,j,t-1</sub>	.004	(.002) ***
Firm Age <sub>i,j,t-1</sub>	-.002	(.001) **
Firm Size <sub>i,j,t-1</sub>	-.003	(.000) ****
SG&A <sub>i,j,t-1</sub>	.001	(.004)
ROA <sub>i,j,t-1</sub>	.000	(.002)
Cash Flows <sub>i,j,t-1</sub>	-.000	(.004)
Industry Growth <sub>j,t-1</sub>	-.000	(.001)
Demand Uncertainty <sub>j,t-1</sub>	-.002	(.002)
IMR <sub>i,j,t-1</sub>	-.012	(.003) ****
Intercept	.009	(.003) ***
Year Fixed Effects	Yes	
Number of Firm-Year Observations	15,297	
(Number of Firms)	(2,285)	
Wald $\chi^2$ (df)	123.38 (38)	****

Notes:

- a. Est. Adv Spending<sub>i,j,t-1</sub> is Kantar Media (KM) estimates of advertising spending scaled by total assets for firm *i* in industry *j* in fiscal year *t-1*.
- b. Weighted Industry Peer Est. Adv Spending<sub>i,j,t-2</sub> is the weighted average of industry peer firms' KM advertising spending scaled by total assets and Weighted Sector Peer Adv Spending<sub>i,j,t-2</sub> is the weighted average of sector peer firms' KM advertising spending scaled by total assets at fiscal year *t-2*. SG&A<sub>i,j,t-1</sub> represents selling, general, and administrative expense (excluding KM advertising spending), scaled by total assets for firm *i* in industry *j* in fiscal year *t-1*. ROA<sub>i,j,t-1</sub> is return on assets for firm *i* in industry *j* in fiscal year *t-1*. IMR represents the inverse Mills ratio to correct for a selection bias of KM coverage of firms.
- c. The result of Wald test for joint significance of Weighted Industry Peer Adv Spending<sub>i,j,t-2</sub> and Weighted Sector Peer Adv Spending<sub>i,j,t-2</sub> is 36.91 ( $p < .001$ ).
- d. We use the clustered robust standard errors of the estimates at the firm level; We mean center all continuous variables.
- e. SE = standard error; \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ , \*\*\*\*  $p < .001$  (two-tailed).

**Web Appendix K**  
**Results of the Selection Model for**  
**Estimated Advertising Spending**

<i>Dependent Variable = <math>KM_{i,j,t-1}</math></i>		
<i>Independent Variables</i>	<i>Coef.</i>	<i>SE</i>
Weighted Industry Peer $KM_{i,j,t-1}$	.772	(.113) ****
Weighted Sector Peer $KM_{i,j,t-1}$	1.005	(.213) ****
Financial Liquidity $_{i,j,t-1}$	-.005	(.007)
Financial Leverage $_{i,j,t-1}$	.144	(.080) *
Disclosure Quality $_{i,j,t-1}$	1.905	(.223) ****
Competitive Intensity $_{j,t-1}$	-.365	(.130) ***
Analyst Following $_{i,j,t-1}$	.148	(.022) ****
Institutional Ownership $_{i,j,t-1}$	.025	(.022)
Firm Age $_{i,j,t-1}$	.208	(.027) ****
Firm Size $_{i,j,t-1}$	.113	(.015) ****
SG&A $_{i,j,t-1}$	.683	(.088) ****
ROA $_{i,j,t-1}$	.038	(.068)
Cash Flows $_{i,j,t-1}$	.462	(.111) ****
Industry Growth $_{j,t-1}$	.025	(.048)
Demand Uncertainty $_{j,t-1}$	-.138	(.123)
Intercept	-3.494	(.207) ****
Year Fixed Effects	Yes	
Number of Firm-Year Observations	36,817	
(Number of Firms)	(5,091)	
Wald $\chi^2$ (df)	1,110.17 (38)	****
Log Pseudolikelihood	-22,570.66	

Notes: a.  $KM_{i,j,t-1}$  is Kantar Media advertising coverage (i.e., one if a firm is covered by Kantar Media and zero otherwise) for firm  $i$  in industry  $j$  in fiscal year  $t-1$ .

b. Weighted Industry Peer  $KM_{i,j,t-1}$  is the weighted proportion of industry peer firms covered by Kantar Media and Weighted Sector Peer  $KM_{i,j,t-1}$  is the weighted proportion of sector peer firms covered by Kantar Media. SG&A $_{i,j,t-1}$  represents selling, general, and administrative expense, scaled by total assets. ROA $_{i,j,t-1}$  is return on assets for firm  $i$  in industry  $j$  in fiscal year  $t-1$ .

c. The result of Wald test for joint significance of Weighted Sector Peer  $KM_{i,j,t-1}$  and Weighted Industry Peer  $KM_{i,j,t-1}$  is 91.92 ( $p < .001$ ).

d. We use the clustered robust standard errors of the estimates at the firm level.

e. SE = standard error; \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ , \*\*\*\*  $p < .001$  (two-tailed).

**Web Appendix L**  
**Results of the Auxiliary Regression Model for Analyst Uncertainty**

<i>Dependent Variable = Analyst Uncertainty<sub>ij,t</sub></i>		
<i>Independent Variables</i>	<i>Coef.</i>	<i>SE</i>
Weighted Industry Peer Analyst Uncertainty <sub>ij,t</sub>	.005	(.002) ***
Weighted Sector Peer Analyst Uncertainty <sub>ij,t</sub>	.003	(.001) **
Financial Liquidity <sub>ij,t-1</sub>	.001	(.001)
Financial Leverage <sub>ij,t-1</sub>	.016	(.015)
Disclosure Quality <sub>ij,t-1</sub>	-.122	(.032) ****
Competitive Intensity <sub>j,t-1</sub>	-.022	(.025)
Analyst Following <sub>ij,t-1</sub>	-.005	(.003)
Institutional Ownership <sub>ij,t-1</sub>	.022	(.013) *
Firm Age <sub>ij,t-1</sub>	-.008	(.004) *
Firm Size <sub>ij,t-1</sub>	.040	(.003) ****
SG&A <sub>ij,t-1</sub>	.039	(.015) ***
ROA <sub>ij,t-1</sub>	-.029	(.017) *
Cash Flows <sub>ij,t-1</sub>	-.010	(.021)
Industry Growth <sub>j,t-1</sub>	.002	(.010)
Demand Uncertainty <sub>j,t-1</sub>	.048	(.018) ***
Intercept	-.043	(.010) ****
Year Fixed Effects	Yes	
Number of Firm-Year Observations	15,297	
(Number of Firms)	(2,285)	
Wald $\chi^2$ (df)	997.74 (37) ****	

Notes:

a. Weighted Industry Peer Analyst Uncertainty<sub>ij,t</sub> is the weighted average of industry peer firms' analyst uncertainty and Weighted Sector Peer Analyst Uncertainty<sub>ij,t</sub> is the weighted average of sector peer firms' analyst uncertainty in fiscal year  $t$ . SG&A<sub>ij,t-1</sub> represents selling, general, and administrative expense (excluding estimated advertising spending), scaled by total assets. ROA<sub>ij,t-1</sub> is return on assets for firm  $i$  in industry  $j$  in fiscal year  $t-1$ .

b. The result of Wald test for joint significance of Weighted Industry Peer Analyst Uncertainty<sub>ij,t</sub> and Weighted Sector Peer Analyst Uncertainty<sub>ij,t</sub> is 11.83 ( $p < .01$ ).

c. We use the clustered robust standard errors of the estimates at the firm level; We mean center all continuous variables.

d. SE = standard error; \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ , \*\*\*\*  $p < .001$  (two-tailed).



**Web Appendix M**  
**Results of First Stage Models with Alternative Instruments**

	<i>Alternative Instruments (1)</i> <i>Removing Industry Peers</i>	<i>Alternative Instruments (2)</i> <i>Removing Sector Peers</i>	<i>Alternative Instruments (3)</i> <i>Removing Auditor Peers</i>	<i>Alternative Instruments (4)</i> <i>Second Degree Peers</i>
<i>DV = AD<sub>i,j,t-1</sub></i>				
<i>Variable</i>	<i>Coef SE</i>	<i>Coef SE</i>	<i>Coef SE</i>	<i>Coef SE</i>
Weighted Industry Peer Disclosure <sub>i,j,t-2</sub>		2.1245 (.1548)****	1.5427 (.1891)****	
Weighted Sector Peer Disclosure <sub>i,j,t-2</sub>	2.3250 (.2039)****		1.1117 (.2521)****	2.2596 (.2082)****
Weighted Auditor Peer Disclosure <sub>i,j,t-2</sub>	3.3789 (.5681)****	3.7760 (.5754)****		3.3814 (.5690)****
Second Degree Peer Disclosure <sub>i,j,t-2</sub>				.5315 (.5798)
Joint Sig. $\chi^2$ (df)	156.46 (2)****	213.64 (2)****	202.76 (2)****	155.51 (3)****
Wald $\chi^2$ (df)	586.55 (37)	660.56 (37)	620.08 (37)	587.33 (38)
Obs	15,297 (2,285)	15,297 (2,285)	15,297 (2,285)	15,263 (2,282)
<i>DV = Est. Adv Spending<sub>i,j,t-1</sub></i>				
Weighted Industry Peer Est. Adv Spending <sub>i,j,t-2</sub>		.1100 (.0244)****		
Weighted Sector Peer Est. Adv Spending <sub>i,j,t-2</sub>	.0669 (.0157)****			.0657 (.0155)****
Second Degree Peer Est. Adv Spending <sub>i,j,t-2</sub>				.0148 (.0318)
Joint Sig. $\chi^2$ (df)	18.26 (1)****	20.40 (1)****		18.35 (2)****
Wald $\chi^2$ (df)	127.42 (37)	116.41 (37)****		128.90 (38)
Obs	15,297 (2,285)	15,297 (2,285)		15,263 (2,282)
<i>DV = KM<sub>i,j,t-1</sub></i>				
Weighted Industry Peer KM <sub>i,j,t-1</sub>		.9259 (.1088)****		
Weighted Sector Peer KM <sub>i,j,t-1</sub>	1.4794 (.2026)****			1.4213 (.2075)****
Second Degree Peer KM <sub>i,j,t-1</sub>				.3363 (.4490)
Joint Sig. $\chi^2$ (df)	53.34 (1)****	72.36 (1)****		52.46 (2)****
Wald $\chi^2$ (df)	1,144.50 (37)	1,090.14 (37)		1,149.83 (38)
Obs	37,340 (5,137)	37,340 (5,137)		37,230 (5,130)
<i>DV = AU<sub>i,j,t</sub></i>				
Weighted Industry Peer AU <sub>i,j,t</sub>		.0045 (.0017)***		
Weighted Sector Peer AU <sub>i,j,t</sub>	.0025 (.0013)*			.0025 (.0013)*
Second Degree Peer AU <sub>i,j,t</sub>				.0013 (.0015)
Joint Sig. $\chi^2$ (df)	3.75 (1)*	7.29 (1)***		4.59 (2)†
Wald $\chi^2$ (df)	994.82 (36)	990.13 (36)		996.43 (37)
Obs	15,297 (2,285)	15,297 (2,285)		15,263 (2,282)

Notes: a. AU<sub>i,j,t</sub> = analyst uncertainty; AD<sub>i,j,t-1</sub> = disclosure of advertising spending; KM<sub>i,j,t-1</sub> = information availability of Kantar Media advertising spending for firm *i* in industry *j* in fiscal year *t-1*. b. We use the clustered robust standard errors of estimates at the firm level. c. We mean center all continuous variables; \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ , \*\*\*\*  $p < .001$  (two-tailed); †  $p < .10$  (one-tailed). d. All models are significant at  $p < .001$  and include year fixed effects. e. For alternative instruments (3), we report the results of the first stage model for AD<sub>i,j,t-1</sub> only as the rest of the first stage models are equivalent to those in the main analyses.

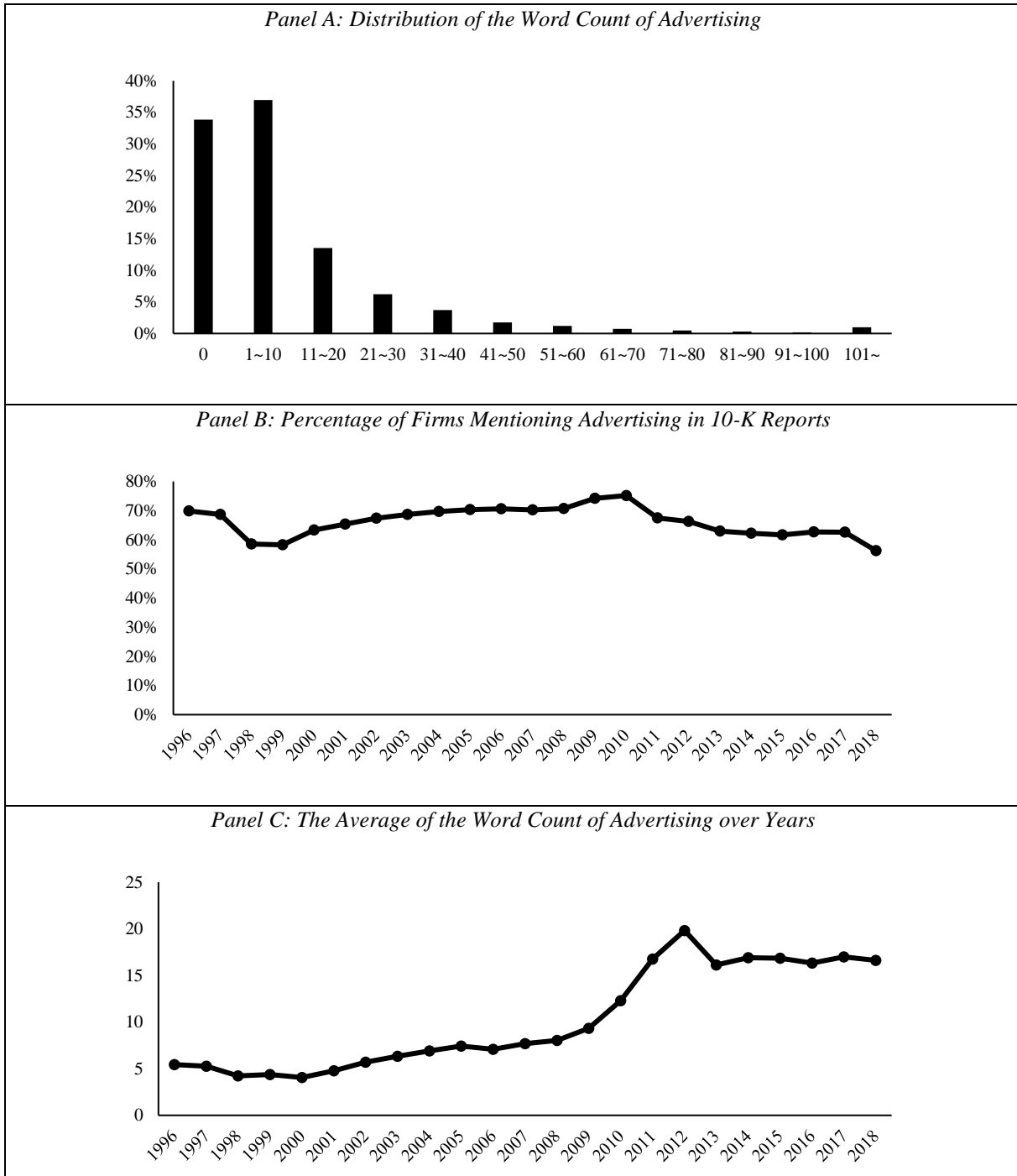
## Web Appendix N

### Constructing the Word Count of Advertising in 10-K Reports of Firms

To account for the extent to which a firm qualitatively mentions its advertising in its 10-K report in our empirical models, we analyze the 10-K reports of firms and collect the textual data on the frequency of the occurrence of the word, “*advertising*”. First, we use the Text Parse Macro (i.e., TEXTPARSE.SAS) provided by the WRDS SEC Analytics Suite (see Lim, Tuli, and Grewal 2020 for a recent application) and extract 300 characters preceding the matched line that includes the key word, “*advertising*”. Next, we count the number of “*advertising*” mentioned in each extracted text (i.e., 300 characters) and calculate the sum of its frequency for each 10-K report. Then, we divide the raw word count of advertising in each 10-K report by its industry mean to generate the variable of the word count of advertising, i.e.,  $\text{Adv Word Count}_{i,j,t-1}$  for firm  $i$  in industry  $j$  in fiscal year  $t-1$  (Kim et al. 2021). We include  $\text{Adv Word Count}_{i,j,t-1}$  in the focal models as an additional control variable to account for the extent to which a firm qualitatively mentions its advertising in its 10-K report (see Web Appendix O for the descriptive statistics and P for the results).

## Web Appendix O

### Distribution and Descriptive Statistics of the Word Count of Advertising



Notes: a. The variable is the word count of advertising mentioned in the 10-K reports of firms in the sample before scaling it by its industry mean. B. # of Obs (# of firms) = 15,297 (2,285); Mean = 10.880; SD = 25.978; Min = 0; Max = 1,087. C. Given our empirical models have the lag structures in the first stage models and focal models, the models exploit the variation of the variable from fiscal year 1996 to 2018.

**Web Appendix P**  
**Additional Analyses for the Word Count of Advertising**

<i>Variable</i>	<i>DV = Idiosyncratic Risk<sub>i,j,t</sub></i> <i>Coef SE</i>	<i>DV = Analyst Uncertainty<sub>i,j,t</sub></i> <i>Coef SE</i>	<i>DV = Idiosyncratic Risk<sub>i,j,t</sub></i> <i>Coef SE</i>	<i>DV = Analyst Uncertainty<sub>i,j,t</sub></i> <i>Coef SE</i>	
AD <sub>i,j,t-1</sub>	-.0018 (.0005) ****	-.0547 (.0090) ****	-.0008 (.0004) *	-.0560 (.0098) ****	<i>H<sub>1</sub> (-): Supported</i> <i>H<sub>2</sub> (-): Supported</i>
Analyst Uncertainty <sub>i,j,t</sub>			.0196 (.0010) ****		
Indirect Effect ( $\beta_m \times \gamma_1$ )			-.0011 (.0002) ****		<i>H<sub>3</sub> (-): Supported</i>
AD <sub>i,j,t-1</sub> × Financial Liquidity <sub>i,j,t-1</sub>				-.0041 (.0016) ***	<i>H<sub>4</sub> (-): Supported</i>
AD <sub>i,j,t-1</sub> × Financial Leverage <sub>i,j,t-1</sub>				.0349 (.0182) *	<i>H<sub>5</sub> (+): Weakly Supported</i>
AD <sub>i,j,t-1</sub> × Disclosure Quality <sub>i,j,t-1</sub>				.0846 (.0248) ***	<i>H<sub>6</sub> (+): Supported</i>
AD <sub>i,j,t-1</sub> × Competitive Intensity <sub>i,j,t-1</sub>				-.0528 (.0242) **	<i>H<sub>7</sub> (-): Supported</i>
Financial Liquidity <sub>i,j,t-1</sub>	-.0001 (.0001) **	.0011 (.0011)	-.0002 (.0001) ***	.0031 (.0012) **	
Financial Leverage <sub>i,j,t-1</sub>	.0029 (.0006) ****	.0207 (.0104) **	.0025 (.0006) ****	.0028 (.0148)	
Disclosure Quality <sub>i,j,t-1</sub>	-.0038 (.0016) **	-.0806 (.0332) **	-.0019 (.0018)	-.1203 (.0368) ***	
Competitive Intensity <sub>j,t-1</sub>	.0016 (.0008) **	-.0297 (.0150) **	.0021 (.0007) **	.0014 (.0196)	
Adv Word Count <sub>i,j,t-1</sub>	.0003 (.0001) ****	.0084 (.0015) ****	.0002 (.0001) ***	.0089 (.0014) ****	
Est. Adv Spending <sub>i,j,t-1</sub>	.0044 (.0065)	-.2136 (.1012) **	.0082 (.0053)	-.2177 (.0992) **	
Analyst Following <sub>i,j,t-1</sub>	-.0003 (.0002) **	-.0050 (.0027) *	-.0002 (.0002)	-.0049 (.0028) *	
Institutional Ownership <sub>i,j,t-1</sub>	-.0031 (.0005) ****	.0227 (.0084) ***	-.0036 (.0005) ****	.0227 (.0090) **	
Firm Age <sub>i,j,t-1</sub>	-.0023 (.0002) ****	-.0082 (.0035) **	-.0021 (.0002) ****	-.0082 (.0033) **	
Firm Size <sub>i,j,t-1</sub>	-.0024 (.0001) ****	.0423 (.0023) ****	-.0032 (.0001) ****	.0425 (.0024) ****	
SG&A <sub>i,j,t-1</sub>	.0025 (.0007) ***	.0713 (.0136) ****	.0015 (.0007) **	.0714 (.0135) ****	
ROA <sub>i,j,t-1</sub>	-.0177 (.0013) ****	-.0250 (.0172)	-.0171 (.0013) ****	-.0246 (.0179)	
Cash Flows <sub>i,j,t-1</sub>	-.0085 (.0013) ****	.0067 (.0211)	-.0086 (.0013) ****	.0041 (.0219)	
Industry Growth <sub>j,t-1</sub>	-.0013 (.0005) ***	-.0016 (.0098)	-.0013 (.0005) ***	-.0017 (.0100)	
Demand Uncertainty <sub>j,t-1</sub>	.0080 (.0009) ****	.0405 (.0139) ***	.0071 (.0008) ****	.0385 (.0139) ***	
<i>PR_AD<sub>i,j,t-1</sub></i>	.0014 (.0005) ***	.0531 (.0094) ****	.0005 (.0005)	.0559 (.0104) ****	
$\hat{\eta}_{i,j,t-1}$	-.0082 (.0114)	.4067 (.1679) **	-.0143 (.0101)	.4676 (.1668) ***	
IMR <sub>i,j,t-1</sub>	-.0012 (.0009)	.0117 (.0169)	-.0014 (.0009) *	.0114 (.0164)	
$\hat{v}_{i,j,t}$			-.0063 (.0013) ****		
Intercept	.0003 (.0010)	-.0338 (.0172) **	.0013 (.0009)	-.0343 (.0168) **	
# of observations (# of firms)	15,297 (2,285)	15,297 (2,285)	15,297 (2,285)	15,297 (2,285)	
Wald $\chi^2$ (df)	12,449.61 (41)	3,392.18 (41)	21,661.30 (43)	4,210.56 (45)	

Notes: a. DV = dependent variable; SE = standard error. b. AD<sub>i,j,t-1</sub> is disclosure of advertising spending; Adv Word Count<sub>i,j,t-1</sub> is the word count of advertising mentioned in the 10-K report of a firm; SG&A<sub>i,j,t-1</sub> is selling, general, and administrative expense (excluding estimated advertising spending) scaled by total assets; ROA<sub>i,j,t-1</sub> is return on assets; IMR<sub>i,j,t-1</sub> is the inverse Mills ratio to control for sample selection due to the inclusion of estimated advertising spending; *PR\_AD<sub>i,j,t-1</sub>* is the probit residual of AD<sub>i,j,t-1</sub> for firm *i* in industry *j* in fiscal year *t-1*;  $\hat{\eta}_{i,j,t-1}$  and  $\hat{v}_{i,j,t}$  are the control function correction terms for Adv Spending<sub>i,j,t-1</sub> and Analyst Uncertainty<sub>i,j,t</sub>. c. We use the clustered robust standard errors of estimates at the firm level and use 200 bootstrapping replications to calculate the standard errors. d. We mean center all continuous variables; \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ , \*\*\*\*  $p < .001$  (two-tailed); e. All models include year fixed effects and are significant at  $p < .001$ .

### **Web Appendix Q**

#### **Accounting for Industry Fixed Effects**

It would be possible to argue that accounting for industry effects is important because advertising spending disclosure practices vary across different industries (Shi, Grewal, and Sridhar 2021) and firms in different industries are likely to have different levels of financial market risks. Though our empirical models do include industry-level control variables and use industry- and sector-based peers as instruments, we test if our conclusions remain consistent after accounting for industry-fixed effects. To account for unobservable industry-related effects, we include industry fixed effects and estimate the models. Specifically, we conduct two robustness checks, one using NAICS2 dummies and the other using 7 major sector dummies (see Table T1 in Web Appendix T for the definition of 7 major sectors).

As shown in Table Q1 and Table Q2, both robustness analyses accounting for industry fixed effects provide support for our hypotheses H<sub>1</sub>-H<sub>7</sub>. We note that, the mediation effect of analyst uncertainty is stronger in the model accounting for NAICS2 fixed effects as we find the main effect of disclosure of advertising spending is significant only at  $p < .10$  (one-tailed). In addition, the moderating effect of competitive intensity is weaker as the interaction of disclosure of advertising spending and competitive intensity is significant only at  $p < .10$  (one-tailed) in the model accounting for NAICS2 fixed effects. Table Q1 outlines the results of the models accounting for NAICS2 fixed effects and Table Q2 outlines those accounting for 7 major sector fixed effects.

**Table Q1**  
**Robustness Analyses Accounting for Industry Fixed Effects (1)**

	<i>DV = Idiosyncratic Risk<sub>i,j,t</sub></i> Coef SE	<i>DV = Analyst Uncertainty<sub>i,j,t</sub></i> Coef SE	<i>DV = Idiosyncratic Risk<sub>i,j,t</sub></i> Coef SE	<i>DV = Analyst Uncertainty<sub>i,j,t</sub></i> Coef SE	
AD <sub>i,j,t-1</sub>	-.0028 (.0009) ***	-.0925 (.0158) ****	-.0013 (.0009) †	-.0915 (.0164) ****	<i>H<sub>1</sub>(-): Supported</i> <i>H<sub>2</sub>(-): Supported</i>
Analyst Uncertainty <sub>i,j,t</sub>			.0190 (.0011) ****		
Indirect Effect ( $\beta_m \times \gamma_l$ )			-.0018 (.0003) ****		<i>H<sub>3</sub>(-): Supported</i>
AD <sub>i,j,t-1</sub> × Financial Liquidity <sub>i,j,t-1</sub>				-.0038 (.0017) **	<i>H<sub>4</sub>(-): Supported</i>
AD <sub>i,j,t-1</sub> × Financial Leverage <sub>i,j,t-1</sub>				.0350 (.0189) *	<i>H<sub>5</sub>(+): Weakly Supported</i>
AD <sub>i,j,t-1</sub> × Disclosure Quality <sub>i,j,t-1</sub>				.0731 (.0234) ***	<i>H<sub>6</sub>(+): Supported</i>
AD <sub>i,j,t-1</sub> × Competitive Intensity <sub>j,t-1</sub>				-.0345 (.0213) †	<i>H<sub>7</sub>(-): Weakly Supported</i>
Financial Liquidity <sub>i,j,t-1</sub>	-.0002 (.0001) **	.0011 (.0012)	-.0002 (.0001) ***	.0030 (.0013) **	
Financial Leverage <sub>i,j,t-1</sub>	.0031 (.0006) ****	.0228 (.0109) **	.0027 (.0005) ****	.0044 (.0161)	
Disclosure Quality <sub>i,j,t-1</sub>	-.0043 (.0019) **	-.0864 (.0374) **	-.0022 (.0019)	-.1228 (.0364) ***	
Competitive Intensity <sub>j,t-1</sub>	.0021 (.0009) **	-.0422 (.0170) **	.0028 (.0008) ***	-.0204 (.0200)	
Est. Adv Spending <sub>i,j,t-1</sub>	.0045 (.0067)	-.2472 (.1007) **	.0087 (.0067)	-.2545 (.1029) **	
Analyst Following <sub>i,j,t-1</sub>	-.0007 (.0002) ***	-.0108 (.0033) ***	-.0004 (.0002) **	-.0107 (.0033) ***	
Institutional Ownership <sub>i,j,t-1</sub>	-.0029 (.0005) ****	.0306 (.0084) ****	-.0035 (.0005) ****	.0305 (.0088) ***	
Firm Age <sub>i,j,t-1</sub>	-.0027 (.0002) ****	-.0178 (.0047) ****	-.0024 (.0002) ****	-.0179 (.0042) ****	
Firm Size <sub>i,j,t-1</sub>	-.0026 (.0001) ****	.0389 (.0029) ****	-.0033 (.0001) ****	.0389 (.0027) ****	
SG&A <sub>i,j,t-1</sub>	.0019 (.0010) **	.0868 (.0187) ****	.0008 (.0010)	.0855 (.0166) ****	
ROA <sub>i,j,t-1</sub>	-.0177 (.0013) ****	-.0158 (.0176)	-.0174 (.0013) ****	-.0159 (.0169)	
Cash Flows <sub>i,j,t-1</sub>	-.0093 (.0014) ****	-.0111 (.0220)	-.0090 (.0013) ****	-.0143 (.0214)	
Industry Growth <sub>j,t-1</sub>	-.0015 (.0005) **	-.0050 (.0101)	-.0014 (.0005) **	-.0051 (.0101)	
Demand Uncertainty <sub>j,t-1</sub>	.0079 (.0009) ****	.0414 (.0151) ***	.0070 (.0009) ****	.0402 (.0166) **	
PR_AD <sub>i,j,t-1</sub>	.0026 (.0009) ***	.0929 (.0159) ****	.0011 (.0009)	.0931 (.0165) ****	
$\hat{\eta}_{i,j,t-1}$	-.0096 (.0116)	.4496 (.1660) ***	-.0164 (.0113)	.5055 (.1696) ***	
IMR <sub>i,j,t-1</sub>	-.0036 (.0014) **	-.0381 (.0266)	-.0029 (.0014) **	-.0397 (.0227) *	
$\hat{v}_{i,j,t}$			-.0056 (.0013) ****		
Intercept	.0082 (.0022) ****	.1158 (.0386) ***	.0062 (.0020) ***	.1149 (.0337) ***	
Wald $\chi^2$ (df)	14,032.18 (57) ****	3,819.56 (57) ****	22,164.32 (59) ****	4,273.94 (61) ****	
Year and Industry Fixed Effects	Yes	Yes	Yes	Yes	

Notes: a. # of observations (# of firms) = 15,297 (2,285); DV = dependent variable; SE = standard error. b. AD<sub>i,j,t-1</sub> is disclosure of advertising spending; SG&A<sub>i,j,t-1</sub> is selling, general, and administrative expense (excluding estimated advertising spending) scaled by total assets; ROA<sub>i,j,t-1</sub> is return on assets; IMR<sub>i,j,t-1</sub> is the inverse Mills ratio generated from the probit model to control for sample selection due to the inclusion of estimated advertising spending; PR\_AD<sub>i,j,t-1</sub> is the probit residual of AD<sub>i,j,t-1</sub> for firm *i* in industry *j* in fiscal year *t-1*;  $\hat{\eta}_{i,j,t-1}$  and  $\hat{v}_{i,j,t}$  are the control function correction terms for Adv Spending<sub>i,j,t-1</sub> and Analyst Uncertainty<sub>i,j,t</sub>. c. The models include industry fixed effects using NAICS2 dummies. We use the clustered robust standard errors of estimates at the firm level and use 200 bootstrapping replications to calculate the standard errors. d. We mean center all continuous variables; \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ , \*\*\*\*  $p < .001$  (two-tailed); †  $p < .10$  (one-tailed).

**Table Q2**  
**Robustness Analyses Accounting for Industry Fixed Effects (2)**

	<i>DV = Idiosyncratic Risk<sub>i,j,t</sub> Coef SE</i>	<i>DV = Analyst Uncertainty<sub>i,j,t</sub> Coef SE</i>	<i>DV = Idiosyncratic Risk<sub>i,j,t</sub> Coef SE</i>	<i>DV = Analyst Uncertainty<sub>i,j,t</sub> Coef SE</i>	
AD <sub>i,j,t-1</sub>	-.0036 (.0008) ****	-.0997 (.0144) ****	-.0020 (.0008) ***	-.0989 (.0151) ****	<i>H<sub>1</sub> (-): Supported</i> <i>H<sub>2</sub> (-): Supported</i>
Analyst Uncertainty <sub>i,j,t</sub>			.0203 (.0010) ****		
Indirect Effect ( $\beta_m \times \gamma_l$ )			-.0020 (.0003) ****		<i>H<sub>3</sub> (-): Supported</i>
AD <sub>i,j,t-1</sub> × Financial Liquidity <sub>i,j,t-1</sub>				-.0042 (.0017) **	<i>H<sub>4</sub> (-): Supported</i>
AD <sub>i,j,t-1</sub> × Financial Leverage <sub>i,j,t-1</sub>				.0356 (.0189) *	<i>H<sub>5</sub> (+): Weakly Supported</i>
AD <sub>i,j,t-1</sub> × Disclosure Quality <sub>i,j,t-1</sub>				.0774 (.0233) ***	<i>H<sub>6</sub> (+): Supported</i>
AD <sub>i,j,t-1</sub> × Competitive Intensity <sub>j,t-1</sub>				-.0483 (.0214) **	<i>H<sub>7</sub> (-): Supported</i>
Financial Liquidity <sub>i,j,t-1</sub>	-.0001 (.0001) *	.0020 (.0011) *	-.0002 (.0001) ***	.0040 (.0013) ***	
Financial Leverage <sub>i,j,t-1</sub>	.0032 (.0006) ****	.0236 (.0110) **	.0027 (.0006) ****	.0049 (.0161)	
Disclosure Quality <sub>i,j,t-1</sub>	-.0029 (.0018)	-.0529 (.0366)	-.0013 (.0017)	-.0898 (.0350) **	
Competitive Intensity <sub>j,t-1</sub>	.0014 (.0008) *	-.0153 (.0165)	.0015 (.0008) *	.0142 (.0196)	
Est. Adv Spending <sub>i,j,t-1</sub>	.0049 (.0066)	-.2929 (.0996) ***	.0102 (.0056) *	-.3028 (.1020) ***	
Analyst Following <sub>i,j,t-1</sub>	-.0005 (.0002) ***	-.0058 (.0030) *	-.0003 (.0002) *	-.0055 (.0031) *	
Institutional Ownership <sub>i,j,t-1</sub>	-.0029 (.0005) ****	.0293 (.0083) ****	-.0035 (.0005) ****	.0293 (.0087) ***	
Firm Age <sub>i,j,t-1</sub>	-.0023 (.0002) ****	-.0128 (.0039) ***	-.0020 (.0002) ****	-.0129 (.0037) ***	
Firm Size <sub>i,j,t-1</sub>	-.0024 (.0001) ****	.0407 (.0026) ****	-.0032 (.0001) ****	.0408 (.0024) ****	
SG&A <sub>i,j,t-1</sub>	.0033 (.0009) ****	.1044 (.0163) ****	.0016 (.0008) *	.1039 (.0145) ****	
ROA <sub>i,j,t-1</sub>	-.0176 (.0013) ****	-.0252 (.0175)	-.0169 (.0013) ****	-.0252 (.0171)	
Cash Flows <sub>i,j,t-1</sub>	-.0086 (.0014) ****	.0046 (.0220)	-.0086 (.0014) ****	.0017 (.0214)	
Industry Growth <sub>j,t-1</sub>	-.0015 (.0005) ***	-.0020 (.0101)	-.0015 (.0005) ***	-.0020 (.0102)	
Demand Uncertainty <sub>j,t-1</sub>	.0077 (.0009) ****	.0309 (.0149) **	.0068 (.0008) ****	.0293 (.0165) *	
$PR\_AD_{i,j,t-1}$	.0034 (.0008) ****	.0995 (.0144) ****	.0018 (.0008) **	.1002 (.0151) ****	
$\hat{\eta}_{i,j,t-1}$	-.0084 (.0115)	.4987 (.1668) ***	-.0162 (.0109)	.5633 (.1691) ***	
IMR <sub>i,j,t-1</sub>	-.0020 (.0012) *	-.0098 (.0217)	-.0019 (.0011) *	-.0104 (.0186)	
$\hat{v}_{i,j,t}$			-.0070 (.0013) ****		
Intercept	.0009 (.0013)	.0277 (.0222)	.0008 (.0012)	.0274 (.0209)	
Wald $\chi^2$ (df)	12,487.37 (46) ****	3,476.09 (46) ****	15,593.07 (48) ****	3,272.05 (50) ****	
Year and Industry Fixed Effects	Yes	Yes	Yes	Yes	

Notes: a. # of observations (# of firms) = 15,297 (2,285); DV = dependent variable; SE = standard error. b. AD<sub>i,j,t-1</sub> is disclosure of advertising spending; SG&A<sub>i,j,t-1</sub> is selling, general, and administrative expense (excluding estimated advertising spending) scaled by total assets; ROA<sub>i,j,t-1</sub> is return on assets; IMR<sub>i,j,t-1</sub> is the inverse Mills ratio generated from the probit model to control for sample selection due to the inclusion of estimated advertising spending;  $PR\_AD_{i,j,t-1}$  is the probit residual of AD<sub>i,j,t-1</sub> for firm *i* in industry *j* in fiscal year *t-1*;  $\hat{\eta}_{i,j,t-1}$  and  $\hat{v}_{i,j,t}$  are the control function correction terms for Adv Spending<sub>i,j,t-1</sub> and Analyst Uncertainty<sub>i,j,t</sub>. c. The models include industry fixed effects using major sector dummies. We use the clustered robust standard errors of estimates at the firm level and use 200 bootstrapping replications to calculate the standard errors. d. We mean center all continuous variables; \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ , \*\*\*\*  $p < .001$  (two-tailed).

### **Web Appendix R**

#### **Alternative Measurement Windows for Analyst Uncertainty and Idiosyncratic Risk**

Our empirical model to test  $H_3$  (i.e., the mediating effect of analyst uncertainty) assumes that investors are affected by analyst uncertainty simultaneously as we measure both of the variables in the same measurement window. To establish the casual effect of analyst uncertainty on idiosyncratic risk, it is important to assure that analyst uncertainty precedes idiosyncratic risk. To address this timing issue, we use alternative measurement windows to measure analyst uncertainty and idiosyncratic risk such that analyst uncertainty precedes idiosyncratic risk in the mediation model. First, we measure analyst uncertainty for the time window between the day following the release of a firm's annual report (i.e., 10-K) at fiscal year  $t-1$  and the day before its release of a quarterly report for the first quarter of fiscal year  $t$ . Then, we measure idiosyncratic risk after this period, i.e., the time window between the day following the release of a firm's quarterly report for the first quarter of fiscal year  $t$  and the day before its release of the annual report for fiscal year  $t$ . We replace the dependent variables used in the models with these alternative measures for analyst uncertainty and idiosyncratic risk.

As outlined in Table R1 we consistently find support for  $H_1$ - $H_7$  and our substantive conclusions are not sensitive to the alternative measurement windows for analyst uncertainty and idiosyncratic risk. However, we note that the mediating effect of analyst uncertainty is stronger in this additional analysis as the main effect of disclosure of advertising spending is marginally significant at  $p < .10$  (two-tailed). Further, the moderating effect of competitive intensity is also weakly supported as the interaction of disclosure of advertising spending and competitive intensity is significant only at  $p < .10$  (two-tailed) in this analysis (see Table R1).



**Table R1**  
**Alternative Measures of Idiosyncratic Risk and Analyst Uncertainty Accounting for Measurement Timing**

	<i>DV = Idiosyncratic Risk<sub>i,j,t</sub></i>			<i>DV = Analyst Uncertainty<sub>i,j,t</sub></i>			<i>DV = Idiosyncratic Risk<sub>i,j,t</sub></i>			<i>DV = Analyst Uncertainty<sub>i,j,t</sub></i>			
	<i>Coef</i>	<i>SE</i>		<i>Coef</i>	<i>SE</i>		<i>Coef</i>	<i>SE</i>		<i>Coef</i>	<i>SE</i>		
AD <sub>i,j,t-1</sub>	-.0024	(.0007)	***	-.0703	(.0086)	****	-.0012	(.0007)	*	-.0703	(.0084)	****	<i>H</i> <sub>1</sub> (-): Supported <i>H</i> <sub>2</sub> (-): Supported
Analyst Uncertainty <sub>i,j,t</sub>							.0221	(.0012)	****				
Indirect Effect ( $\beta_m \times \gamma_1$ )							-.0016	(.0002)	****				<i>H</i> <sub>3</sub> (-): Supported
AD <sub>i,j,t-1</sub> × Financial Liquidity <sub>i,j,t-1</sub>										-.0036	(.0013)	***	<i>H</i> <sub>4</sub> (-): Supported
AD <sub>i,j,t-1</sub> × Financial Leverage <sub>i,j,t-1</sub>										.0387	(.0145)	***	<i>H</i> <sub>5</sub> (+): Supported
AD <sub>i,j,t-1</sub> × Disclosure Quality <sub>i,j,t-1</sub>										.0551	(.0191)	***	<i>H</i> <sub>6</sub> (+): Supported
AD <sub>i,j,t-1</sub> × Competitive Intensity <sub>i,j,t-1</sub>										-.0319	(.0184)	*	<i>H</i> <sub>7</sub> (-): Weakly Supported
Financial Liquidity <sub>i,j,t-1</sub>	-.0001	(.0001)		.0021	(.0009)	**	-.0002	(.0001)	**	-.1999	(.0825)	**	
Financial Leverage <sub>i,j,t-1</sub>	.0030	(.0007)	****	.0376	(.0080)	****	.0021	(.0006)	****	.0032	(.0026)		
Disclosure Quality <sub>i,j,t-1</sub>	-.0046	(.0018)	**	-.0153	(.0215)		-.0034	(.0016)	**	-.0020	(.0069)		
Competitive Intensity <sub>i,j,t-1</sub>	.0020	(.0008)	**	-.0215	(.0124)	*	.0021	(.0007)	***	-.0067	(.0028)	**	
Est. Adv Spending <sub>i,j,t-1</sub>	.0070	(.0064)		-.1980	(.0774)	**	.0094	(.0064)		-.0392	(.0243)		
Analyst Following <sub>i,j,t-1</sub>	-.0003	(.0002)	*	.0029	(.0025)		-.0004	(.0002)	**	.0353	(.0018)	****	
Institutional Ownership <sub>i,j,t-1</sub>	-.0022	(.0005)	****	-.0022	(.0073)		-.0023	(.0005)	****	.0918	(.0105)	****	
Firm Age <sub>i,j,t-1</sub>	-.0022	(.0002)	****	-.0069	(.0027)	**	-.0021	(.0002)	****	-.0691	(.0163)	****	
Firm Size <sub>i,j,t-1</sub>	-.0023	(.0001)	****	.0351	(.0019)	****	-.0030	(.0001)	****	.0572	(.0187)	***	
SG&A <sub>i,j,t-1</sub>	.0031	(.0008)	****	.0914	(.0099)	****	.0019	(.0008)	**	.0175	(.0111)		
ROA <sub>i,j,t-1</sub>	-.0155	(.0014)	****	-.0691	(.0159)	****	-.0138	(.0014)	****	.0039	(.0010)	****	
Cash Flows <sub>i,j,t-1</sub>	-.0085	(.0014)	****	.0591	(.0163)	****	-.0097	(.0015)	****	-.0024	(.0168)		
Industry Growth <sub>j,t-1</sub>	-.0017	(.0005)	***	-.0014	(.0071)		-.0016	(.0005)	***	-.0012	(.0076)		
Demand Uncertainty <sub>j,t-1</sub>	.0082	(.0008)	****	.0532	(.0121)	****	.0067	(.0008)	****	.0514	(.0113)	****	
<i>PR_AD</i> <sub>i,j,t-1</sub>	.0021	(.0007)	***	.0735	(.0087)	****	.0009	(.0007)		.0747	(.0086)	****	
$\hat{\eta}_{i,j,t-1}$	-.0027	(.0116)		.3262	(.1181)	***	-.0060	(.0113)		.3713	(.1247)	***	
IMR <sub>i,j,t-1</sub>	-.0018	(.0010)	*	.0248	(.0122)	**	-.0025	(.0010)	**	.0260	(.0121)	**	
$\hat{v}_{i,j,t}$							-.0129	(.0017)	****				
Intercept	.0018	(.0011)		-.0212	(.0133)		.0028	(.0011)	**	-.0231	(.0133)	*	
Wald $\chi^2$ (df)	11,535.05	(40)	****	3,070.20	(40)	****	12,855.85	(42)	****	3,166.77	(44)	****	

Notes: a. # of observations (# of firms) = 13,585 (2,090); DV = dependent variable; SE = standard error. For this robustness analysis, we use alternative windows to measure AU and IR. Specifically, we measure AU using the time window between the day following the release of a firm's annual financial report at fiscal year  $t-1$  and the day before its release of a quarterly report in the first quarter of fiscal year  $t$ . We measure IR using the time window between the day following the release of a firm's quarterly report in the first quarter of fiscal year  $t$  and the day before its release of the annual report at fiscal year  $t$ . b. AD<sub>i,j,t-1</sub> is disclosure of advertising spending; SG&A<sub>i,j,t-1</sub> is selling, general, and administrative expense (excluding estimated advertising spending) scaled by total assets; ROA<sub>i,j,t-1</sub> is return on assets; IMR<sub>i,j,t-1</sub> is the inverse Mills ratio generated from the probit model to control for sample selection due to the inclusion of estimated advertising spending; *PR\_AD*<sub>i,j,t-1</sub> is the probit residual of AD<sub>i,j,t-1</sub> for firm  $i$  in industry  $j$  in fiscal year  $t-1$ ;  $\hat{\eta}_{i,j,t-1}$  and  $\hat{v}_{i,j,t}$  are the control function correction terms for Adv Spending<sub>i,j,t-1</sub> and Analyst Uncertainty<sub>i,j,t</sub>. c. We use the clustered robust standard errors of estimates at the firm level and use 200 bootstrapping replications to calculate the standard errors. d. We mean center all continuous variables; \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ , \*\*\*\*  $p < .001$  (two-tailed).

## Web Appendix S

### Using Stock Return Volatility as a Measure of Investor Uncertainty

In this study, we examine disclosure of advertising spending lowers uncertainty faced by investors about firm future performance that is reflected in idiosyncratic risk. It is well established in academic research on disclosure that disclosure and more transparent financial reporting reduce investor uncertainty (see Billing, Jennings, and Lev 2015, p. 161), and investor uncertainty is a fundamental concern for senior managers, analysts, and regulators (see Huang et al. 2021; Bayer, Tuli, and Skiera 2017; SEC 2017; FASB 2013). Both stock return volatility and idiosyncratic risk are widely used to measure investor uncertainty in the accounting literature (see Barth et al. 2020; Huang et al. 2021). Therefore, we use stock return volatility to test the robustness of the results estimated from models in which the dependent variable is idiosyncratic risk. We consistently find support for all of our hypotheses in which the dependent variable is idiosyncratic risk (i.e.,  $H_1$  and  $H_3$ ).

Variable	DV = Stock Return Volatility <sub>i,j,t</sub>		DV = Stock Return Volatility <sub>i,j,t</sub>	
	Coef	SE	Coef	SE
Analyst Uncertainty <sub>i,j,t</sub>			.0211	(.0010)****
AD <sub>i,j,t-1</sub>	-.0043	(.0007)****	-.0026	(.0007)****
Financial Liquidity <sub>i,j,t-1</sub>	.0000	(.0001)	.0000	(.0001)
Financial Leverage <sub>i,j,t-1</sub>	.0024	(.0006)****	.0017	(.0006)***
Disclosure Quality <sub>i,j,t-1</sub>	-.0054	(.0018)***	-.0037	(.0019)*
Competitive Intensity <sub>j,t-1</sub>	.0021	(.0009)**	.0025	(.0007)****
Est. Adv Spending <sub>i,j,t-1</sub>	-.0053	(.0066)	-.0024	(.0061)
Analyst Following <sub>i,j,t-1</sub>	-.0004	(.0002)**	-.0002	(.0002)
Institutional Ownership <sub>i,j,t-1</sub>	-.0015	(.0005)***	-.0021	(.0005)****
Firm Age <sub>i,j,t-1</sub>	-.0026	(.0002)****	-.0024	(.0002)****
Firm Size <sub>i,j,t-1</sub>	-.0023	(.0001)****	-.0031	(.0001)****
SG&A <sub>i,j,t-1</sub>	.0026	(.0009)***	.0011	(.0008)
ROA <sub>i,j,t-1</sub>	-.0190	(.0014)****	-.0183	(.0014)****
Cash Flows <sub>i,j,t-1</sub>	-.0087	(.0015)****	-.0088	(.0014)****
Industry Growth <sub>j,t-1</sub>	-.0016	(.0006)***	-.0015	(.0006)***
Demand Uncertainty <sub>j,t-1</sub>	.0114	(.0010)****	.0105	(.0009)****
PR_AD <sub>i,j,t-1</sub>	.0039	(.0007)****	.0023	(.0007)***
$\hat{\eta}_{i,j,t-1}$	-.0005	(.0122)	-.0060	(.0111)
IMR <sub>i,j,t-1</sub>	-.0038	(.0010)****	-.0038	(.0010)****
$\hat{\nu}_{i,j,t}$			-.0065	(.0013)****
Intercept	.0024	(.0012)**	.0029	(.0011)***
# of observations (# of firms)	15,297	(2,285)	15,297	(2,285)
Wald $\chi^2$ (df)	14,337.51	(40)	17,423.64	(42)

Notes: a. DV = dependent variable; SE = standard error. Stock Return Volatility is the standard deviation of stock returns and we measure Stock Return Volatility<sub>i,j,t</sub> following the release of a firm's annual report at fiscal year  $t-1$  and before its release of the annual report at fiscal year  $t$ . b. AD<sub>i,j,t-1</sub> is disclosure of advertising spending; SG&A<sub>i,j,t-1</sub> is selling, general, and administrative expense (excluding estimated advertising spending) scaled by total assets; ROA<sub>i,j,t-1</sub> is return on assets; IMR<sub>i,j,t-1</sub> is the inverse Mills ratio to control for sample selection due to the inclusion of estimated advertising spending; PR\_AD<sub>i,j,t-1</sub> is the probit residual of AD<sub>i,j,t-1</sub> for firm  $i$  in industry  $j$  in fiscal year  $t-1$ ;  $\hat{\eta}_{i,j,t-1}$  and  $\hat{\nu}_{i,j,t}$  are the control function correction terms for Adv Spending<sub>i,j,t-1</sub> and Analyst Uncertainty<sub>i,j,t</sub>. c. We use the clustered robust standard errors of estimates at the firm level and use 200 bootstrapping replications to calculate the standard errors. d. We mean center all continuous variables; \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ , \*\*\*\*  $p < .001$  (two-tailed); e. All models include year fixed effects and are significant at  $p < .001$ .

## Web Appendix T

### Estimating the Nuanced Effects of Disclosure of Advertising Spending for 7 Major Sectors

To provide the nuanced implications of disclosure of advertising spending, we classify firms into more aggregated industry groups. Specifically, we construct the following 7 major sectors: Manufacturing, High Tech, Consumer Services, Business Services, Healthcare, Information, and Others (see Table T1 for the details). Then, to account for sector-specific nuanced effects, we include the major sector dummies and interact them with  $AD_{i,j,t-1}$  (i.e., disclosure of advertising spending) in the main effects models. Specifically, the following model is used to estimate the nuanced effects of disclosure of advertising spending for each major sector:

$$\begin{aligned}
 DV_{i,j,t} = & \beta_0 + \beta_1 AD_{i,j,t-1} \\
 & + \beta_2 AD_{i,j,t-1} \times \text{Hi Tech}_g + \beta_3 AD_{i,j,t-1} \times \text{Consumer Services}_g + \beta_4 AD_{i,j,t-1} \times \text{Business Services}_g \\
 & + \beta_5 AD_{i,j,t-1} \times \text{Healthcare}_g + \beta_6 AD_{i,j,t-1} \times \text{Information}_g + \beta_7 AD_{i,j,t-1} \times \text{Others}_g \\
 & + \beta_8 \text{Hi Tech}_g + \beta_9 \text{Consumer Services}_g + \beta_{10} \text{Business Services}_g + \beta_{11} \text{Healthcare}_g + \beta_{12} \text{Information}_g + \beta_{13} \text{Others}_g \\
 & + \Delta' \text{Controls}_{i,j,t-1} + \sum_{k=1}^{K-1} \theta_k \text{Year}_t \\
 & + \beta_a \text{PR\_AD}_{i,j,t-1} + \beta_b \hat{\eta}_{i,j,t-1} + \beta_c \text{IMR}_{i,j,t-1} + \mu_i + \varepsilon_{i,j,t},
 \end{aligned}$$

where,  $DV_{i,j,t}$  = Idiosyncratic risk $_{i,j,t}$ , Analyst Uncertainty $_{i,j,t}$ , Tobin's  $q_{i,j,t}$ , or Log of Market Capitalization $_{i,j,t}$ ,

Hi Tech $_g$  = high tech sector dummy, Consumer Services $_g$  = consumer service sector dummy,

Business Services $_g$  = business service sector dummy, Healthcare $_g$  = pharmaceutical and healthcare sector dummy,

Information $_g$  = information sector dummy, Others $_g$  = other sector dummy,

PR\_AD $_{i,j,t-1}$  = the probit residual of disclosure of advertising spending,

$\hat{\eta}_{i,j,t-1}$  = the control function correction term for advertising spending,

IMR $_{i,j,t-1}$  = the inverse Mills ratio to control for the sample selection due to the inclusion of estimated advertising spending.

We use Manufacturing $_g$  as a baseline whose effect is captured by  $\beta_1$  in the specified model above. The models are estimated using the procedures outlined in the methods section to estimate the impact of disclosure of advertising spending on idiosyncratic risk and analyst uncertainty. Table T1 outlines the construction of 7 major sectors, and Table T2-T3 outline the results of the models used to estimate marginal effects of disclosure of advertising spending on idiosyncratic risk, analyst uncertainty, Tobin's  $q$ , and log of market capitalization for each major sector (see Table 5 in the main manuscript).

**Table T1 Construction of 7 Major Sectors**

Major Sector	Construction
Manufacturing	Manufacturing (NAICS2 31-33) except High Tech and Healthcare firms.
High Tech	Computer and Peripheral Equipment Manufacturing (NAICS4 3341) Communications Equipment Manufacturing (NAICS4 3342) Semiconductor and Other Electronic Component Manufacturing (NAICS4 3344) Navigational, Measuring, Electromedical, and Control Instruments Manufacturing (NAICS4 3345) Aerospace Product and Parts Manufacturing (NAICS4 3364) Software Publishers (NAICS4 5112) Other Telecommunications (NAICS4 5179) Internet Service Providers and Web Search Portals (NAICS4 5181) Data Processing, Hosting, and Related Services (NAICS4 5182) Architectural, Engineering, and Related Services (NAICS4 5413) Computer Systems Design and Related Services (NAICS4 5415) Scientific Research and Development Services (NAICS4 5417)
Consumer Services	Retail Trade (NAICS2 42 & 45) Leisure and Hospitality (NAICS2 71 & 72) Personal and Laundry Services (NAICS3 811).
Business Services	Wholesale Trade (NAICS2 42) Professional and Business Services (NAICS2 54-56).
Healthcare	Pharmaceutical and Medicine Manufacturing (NAICS4 3254) Medical Equipment and Supplies Manufacturing (NAICS4 3391) Ambulatory Health Care Services (NAICS 621) Hospitals (NAICS 622) Nursing and Residential Care Facilities (NAICS 623)
Information	Information (NAICS2 51) except High Tech
Others	Mining, Quarrying, and Oil and Gas Extraction (NAICS22 21) Construction (NAICS2 23) Transportation and Warehousing (NAICS2 48-49) Real Estate and Rental and Leasing (NAICS2 53) Educational Services (NAICS 61).

Note: Decker et al. (2020) include NAICS4 3254 and 5161 to classify High Tech firms. We do not observe firms in NAICS4 5161 in our sample and define NAICS4 3254 as Healthcare.

**Table T2**  
**The Nuanced Effects of Disclosure of Advertising Spending on**  
**Idiosyncratic Risk and Analyst Uncertainty for Major Sectors**

<i>DV = Idiosyncratic Risk<sub>i,j,t</sub></i>	<i>Major Sector Fixed Effects</i>		<i>Interactions with Major Sector Fixed Effects</i>	
<i>Variable</i>	<i>Coef</i>	<i>SE</i>	<i>Coef</i>	<i>SE</i>
AD <sub>i,j,t-1</sub>	-.0036	(.0008)****	-.0018	(.0008)**
AD <sub>i,j,t-1</sub> × Hi Tech <sub>g</sub>			-.0038	(.0005)****
AD <sub>i,j,t-1</sub> × Consumer Services <sub>g</sub>			.0001	(.0007)
AD <sub>i,j,t-1</sub> × Business Services <sub>g</sub>			-.0042	(.0008)****
AD <sub>i,j,t-1</sub> × Healthcare <sub>g</sub>			-.0012	(.0009)
AD <sub>i,j,t-1</sub> × Information <sub>g</sub>			-.0013	(.0008)
AD <sub>i,j,t-1</sub> × Others <sub>g</sub>			-.0013	(.0019)
Industry Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Wald $\chi^2$ (df)	12,487.37 (46)****		12,948.92 (52)****	
<i>DV = Analyst Uncertainty<sub>i,j,t</sub></i>	<i>Major Sector Fixed Effects</i>		<i>Interactions with Major Sector Fixed Effects</i>	
<i>Variable</i>	<i>Coef</i>	<i>SE</i>	<i>Coef</i>	<i>SE</i>
AD <sub>i,j,t-1</sub>	-.0997	(.0144)****	-.1007	(.0161)****
AD <sub>i,j,t-1</sub> × Hi Tech <sub>g</sub>			.0011	(.0087)
AD <sub>i,j,t-1</sub> × Consumer Services <sub>g</sub>			.0180	(.0105)*
AD <sub>i,j,t-1</sub> × Business Services <sub>g</sub>			-.0382	(.0112)***
AD <sub>i,j,t-1</sub> × Healthcare <sub>g</sub>			.0243	(.0152)
AD <sub>i,j,t-1</sub> × Information <sub>g</sub>			-.0033	(.0149)
AD <sub>i,j,t-1</sub> × Others <sub>g</sub>			-.0134	(.0227)
Industry Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Wald $\chi^2$ (df)	3,476.09 (46)****		3,654.57 (52)****	

Notes:

- # of observations (# of firms) = 15,297 (2,285); DV = dependent variable; SE = standard error.
- AD<sub>i,j,t-1</sub> is disclosure of advertising spending for firm *i* in industry *j* in fiscal year *t-1*. To account for unobservable industry-related effects, we use fixed effects for the 7 major sectors.
- We use the clustered robust standard errors of estimates at the firm level and use 200 bootstrapping replications to calculate the standard errors.
- We mean center all continuous variables; \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ , \*\*\*\*  $p < .001$  (two-tailed).

**Table T3**  
**The Nuanced Effects of Disclosure of Advertising Spending on**  
**Tobin's q and Log of Market Capitalization for Major Sectors**

<i>DV = Tobin's <math>q_{i,j,t}</math></i>	<i>Major Sector Fixed Effects</i>		<i>Interactions with Major Sector Fixed Effects</i>	
<i>Variable</i>	<i>Coef</i>	<i>SE</i>	<i>Coef</i>	<i>SE</i>
AD <sub>i,j,t-1</sub>	.2674	(.0984)***	.4502	(.1051)****
AD <sub>i,j,t-1</sub> × Hi Tech <sub>g</sub>			-.2336	(.0688)****
AD <sub>i,j,t-1</sub> × Consumer Services <sub>g</sub>			-.2767	(.0805)****
AD <sub>i,j,t-1</sub> × Business Services <sub>g</sub>			.0211	(.1063)
AD <sub>i,j,t-1</sub> × Healthcare <sub>g</sub>			-.1397	(.1749)
AD <sub>i,j,t-1</sub> × Information <sub>g</sub>			-.3640	(.1230)***
AD <sub>i,j,t-1</sub> × Others <sub>g</sub>			-.4720	(.1238)****
Industry Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Wald $\chi^2$ (df)	4,147.78 (46)****		4,395.45 (52)****	
<i>DV = Log of Market Capitalization<sub>i,j,t</sub></i>	<i>Major Sector Fixed Effects</i>		<i>Interactions with Major Sector Fixed Effects</i>	
<i>Variable</i>	<i>Coef</i>	<i>SE</i>	<i>Coef</i>	<i>SE</i>
AD <sub>i,j,t-1</sub>	.1490	(.0663)**	.2591	(.0739)****
AD <sub>i,j,t-1</sub> × Hi Tech <sub>g</sub>			-.1382	(.0408)***
AD <sub>i,j,t-1</sub> × Consumer Services <sub>g</sub>			-.2214	(.0580)****
AD <sub>i,j,t-1</sub> × Business Services <sub>g</sub>			-.0016	(.0613)
AD <sub>i,j,t-1</sub> × Healthcare <sub>g</sub>			-.0513	(.0701)
AD <sub>i,j,t-1</sub> × Information <sub>g</sub>			-.1142	(.0697)
AD <sub>i,j,t-1</sub> × Others <sub>g</sub>			-.4121	(.1145)****
Industry Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Wald $\chi^2$ (df)	35,036.94 (46)****		30,033.61 (52)****	

Notes:

- a. # of observations (# of firms) = 15,292 (2,282); DV = dependent variable; SE = standard error.  
b.  $AD_{i,j,t-1}$  is disclosure of advertising spending for firm  $i$  in industry  $j$  in fiscal year  $t-1$ . To account for unobservable industry-related effects, we use fixed effects for the 7 major sectors.  
c. We use the clustered robust standard errors of estimates at the firm level and use 200 bootstrapping replications to calculate the standard errors.  
d. We mean center all continuous variables; \*  $p < .10$ , \*\*  $p < .05$ , \*\*\*  $p < .01$ , \*\*\*\*  $p < .001$  (two-tailed).

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