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Corporate Strategy, Analyst Coverage, and the Uniqueness Paradox

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In this paper, we argue that managers confront a paradox in selecting strategy. On one hand, capital markets systematically discount uniqueness in the strategy choices of firms. Uniqueness in strategy heightens the cost of collecting and analyzing information to evaluate a firm's future value. These greater costs in strategy evaluation discourage the collection and analysis of information regarding the firm, and result in a valuation discount. On the other hand, uniqueness in strategy is a necessary condition for creating economic rents and should, except for this information cost, be positively associated with firm value. We find empirical support for both propositions using a novel measure of strategy uniqueness in a firm panel data set between 1985 and 2007.

Key words: corporate strategy; analyst coverage; strategic uniqueness; diversification
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1. Introduction

Managers generate economic value as they discover and create valuable resource and activity combinations (Lippman and Rumelt 2003, p. 1084; see also Rumelt 1984; Barney 1986; Montgomery and Wernerfelt 1988; Brandenburger and Stuart 1996). These combinations or strategies are then assembled by acquiring resources (activities, assets, or entire businesses) in strategic factor markets such as the market for corporate control at prices presumed as below their value in this new, strategic use (Barney 1986).[1] Beyond simple luck, a capacity to acquire assets at such "discounted" prices logically arises through one of two paths: (1) unique foresight about the value of alternative asset combinations (Barney 1986, Lippman and Rumelt 2003), or (2) an initial asset endowment that is uniquely complementary to other assets available in markets. In either case, uniqueness in strategy choice, at least at the time of asset and resource acquisition, combined with some impediment to perfect replication, are necessary conditions for deliberate value creation (i.e., value creation not based on luck).[2] These impediments to replication may include search and discovery costs, limitations in resource availability, or simply elevated prices due to the revelation of their greater value in this newly discovered strategy.

Managerial incentives to adopt unique, value-creating strategies, however, are only as effective as the capital market's efficiency in accurately assessing the value of the strategies selected. In valuing strategies, actors in capital markets confront a significant information problem (Akerlof 1970, Myers and Majluf 1984, Hubbard 1998). Market participants may have weak incentives to fully uncover all information about a particular strategy. Managers are more proximate to information about the value of asset bundles than market participants. Indeed, if managers do not possess proprietary insights, and instead all opportunities are transparently obvious to the market, replication of strategies will occur and arbitrageurs will

[1] Whereas the strategy literature uses an abundance of language to describe the path to value creation, an increasingly common theme is that value stems from selecting "an integrated set of choices about activities" (Ghemawat 2005, p. 131) or selecting a complementary bundle of assets and resources (Montgomery and Wernerfelt 1988, Dierickx and Cool 1989). To create value, this bundle of assets or resources must enable the delivery of unique value in product markets (Brandenburger and Stuart 1996).

[2] Note that a firm's strategy need not remain unique to generate value. Even if other managers observe the value in a unique strategy and proceed to copy it by assembling similar resources, these imitating firms are likely to pay prices for the required assets that are fully reflective of their value in this new, more valuable strategic application.

buy the resources required by the managers and sell them to the firms at prices near their value added in the manager's strategy, thereby dissipating any value to be created by the strategy (Barney 1986).[3]

The extant literature generally views the information problem imposed on capital markets by strategy choice as an exogenous feature of the market. Yet, certainly this assumption is flawed, because strategy is an active managerial choice and strategies differ significantly in the scope of the information problem they impose. The familiarity of some strategies allows market analysts to easily evaluate and examine them, using existing capabilities and knowledge, whereas less familiar strategies are more difficult and costly to evaluate and assess. In particular, novel strategies—those for which managers act on proprietary insights not widely seen in the market—impose a larger information burden on the market than common or more familiar strategies. In essence, a manager who chooses a strategy that involves aggregating an uncommon combination of assets and resources implicitly requires market participants to evaluate the future cash flows from previously unevaluated complementarities or synergies among assets and resources.

Whether managers adopt these value-creating strategies will depend on the incentives they confront. Prior scholars dating back to Keynes (1936) have highlighted career concerns and managerial incentives that discourage innovation (Scharfstein and Stein 1990). Our focus, however, is on constraints to the adoption of valuable innovation, specifically, strategic innovation that stems from behavior in capital markets and the surrounding institutions that support them. Although incentives clearly exist for market participants to uncover value in unique asset combinations (Grossman and Stiglitz 1980, Veldkamp 2006), the sizable costs involved in generating detailed analysis cause investors to delegate this task to securities analysts employed by brokerage firms. However, brokerage firms possess their own unique incentives (Lin and McNichols 1998, Michaely and Womack 1999), including, we argue, incentives to reduce costly effort by analysts. A novel strategy elevates the effort costs faced by those who must conduct the evaluation. This elevated cost tempers incentives for analysis, leaving the market less informed about firms with strategies that are costly to evaluate (Grossman and Stiglitz 1980) and leaving prices correspondingly reduced. In the extreme, market participants, including analysts, may find the effort necessary to investigate a firm's strategy simply too great to justify (Veldkamp 2006).

Of course, if managers are patiently focused on the long run, the accuracy of the firm's present valuations may have little bearing on the selection of strategy. However, present-day valuations do have an important bearing on managerial rewards, managerial careers, and capital costs and are thus a likely focus of managers' attention. Hence, we hypothesize that managers face a dilemma when choosing strategy: Assembling a truly novel combination of resources that are "underpriced" as a result of unique foresight regarding value maximizes the expected value of cash flows from investment. However, such a strategic choice may require so much effort by the market to evaluate that the market remains uninformed, leaving equity prices to poorly reflect the future returns from the firm's novel strategy. Thus, the market actually discounts the equity of firms pursuing novel strategies, relative to competitors with more common or familiar strategies. Managers therefore face what we define as a uniqueness paradox. They must choose between long-run value-maximizing strategies and strategies that are more easily assessed, but less valuable in the long run.

Our objective in this paper is to empirically investigate this hypothesized trade-off faced by managers in the context of corporate strategy choices. We empirically test propositions relating to the manager's strategy choice trade-offs using a 23-year panel data set linking 7,630 firms from the Compustat Industrial and Segments files between 1985 and 2007 with their corresponding analysts who appear in the Institutional Brokers' Estimate System (I/B/E/S) Detail History file. We find results consistent with the existence of a strategic trade-off. Although, on average, firms with novel strategies trade at a premium to those with common strategies, consistent with the argument in strategy literature about the necessity of uniqueness for value creation, these more unusual strategies receive less coverage by analysts. The reduced analyst coverage then creates a corresponding decrease in market valuation, consistent with our hypothesis that managers face a trade-off when pursuing novel strategies. By implication, we conclude that information costs in equity markets blunt the effectiveness of equity-based incentives designed to encourage managers to increase shareholder wealth through novel, value-appropriating strategies.

2. Background

For purposes of exposition, we model the relationship between corporate strategy choice and market valuation as occurring in three stages. First, based on private foresight about the value of alternative combinations of resources and assets, managers choose

[3] The result is a generalization of Grossman and Stiglitz (1980). Managers have an incentive to seek information about value-appropriating strategies only to the extent that information is costly to acquire. When information is costly to acquire, managers can earn a reward for investing effort to obtain information about unexploited value. In a market without such information frictions, incentives to seek information and trade on it vanish.

strategies that they perceive as most valuable (Barney 1986, Lippman and Rumelt 2003). In a second stage, market participants, including analysts, observe these strategies and, based on an assessment of costs and benefits and as shaped by their incentives, decide whether to invest in acquiring, processing, and disseminating further information regarding a particular strategy. In a final stage, investors in the market review the available information about the firm, including reports issued by analysts, and then submit their buy and sell orders to a market maker, who sets a market-clearing price.[4]

Although our logic has application to a range of strategic choices, including product strategy choices (see Benner 2010), we concentrate on senior management's choice of *corporate strategy*, which we define as the composition of businesses bundled within the firm. Two factors motivate our decision about the unit of analysis. First, U.S. Securities and Exchange Commission regulations require that publicly traded companies make available annual segment information, providing an admittedly coarser-grained basis for categorizing firm strategies. Second, managers of publicly traded companies frequently execute their corporate strategies through the market for corporate control by buying and selling businesses—a market that imposes significant disclosure requirements. Both factors create a relatively information-rich environment for those who evaluate firm strategies. As such, market participants can become informed about the future cash flows associated with a firm's corporate strategy. If we are able to find evidence that strategic choice, analyst coverage, and equity prices are interconnected for this most coarse-grained and transparent strategic choice that managers make, our argument should hold a fortiori for the myriad, finer-grained decisions that organizations make in their efforts to achieve above normal returns.

2.1. Strategy Choice and Firm Performance

Our focus is on a manager who seeks to increase the equity value of the firm, consistent with abundant empirical evidence linking senior managers' rewards in publicly traded firms with equity or equity-based options (Hall and Liebman 1998, Murphy 1999). We assume that senior managers maximize the value of the firm by identifying and executing valuable strategies—where strategies are defined as bundles of assets, activities, and resources assembled by the firm (Rumelt 1984, Barney 1986, Brandenburger and Stuart 1996). Senior managers possess private information about the value of business combinations—private information that allows the purchase of "underpriced" assets—thereby capturing value and earning above normal returns (Barney 1986). In this sense, above normal returns are more than a matter of luck, but instead stem from the creativity and foresight of managers, who use their closer proximity to customers' needs, to firm capabilities, and to other related resources in the environment to identify unexploited opportunities for increasing value in difficult-to-imitate ways.

In the context of corporate strategy, this private information represents insights about the value of synergies among businesses that may reduce costs or permit the introduction of valuable new products or services. Following Barney (1986), managers use such strategic foresight to acquire assets and resources in strategic factor markets at prices that are less than their future value as part of the firm's strategy. Of course, competitors will seek to replicate any successful aggregation of assets. However, the early adopter of a strategy that reflects unique and valuable foresight, even if the strategy eventually becomes common, enjoys a persistent advantage due to it having acquired assets at discounted prices. Subsequent imitators must discover value in the strategy, acquire the assets, and then assemble or organize them in an effective manner. Market frictions or organizing delays in the process of discovering and assembling these unique strategies (i.e., organizing these assets) (Barney 1986, Dierickx and Cool 1989) slows imitation, elevates prices, and should ensure a positive correlation between the uniqueness of a firm's strategy and its performance.

2.2. Strategic Choice and Equity Prices

If capital markets are perfectly efficient, managers will simply choose unique strategies that maximize the long-term value of the firm. However, as argued in both theory and empirical work, equity markets confront significant information costs that ensure firms' equity prices do not fully represent all information about the firm's performance. Myers and Majluf (1984), for instance, point out that asymmetric information between corporate insiders and equity holders leads to distortions in investment decisions that lower firm value and equity prices.[5] Therefore, managers

[4] This process, in which publicly traded firms "manufacture" equity investments for sale to investors through retail brokers, is not unlike the process used to sell other complex, difficult-to-value products, where managers seek and buyers pay a premium for third-party certification of quality or value. In this setting, investors pay a premium for securities that receive third-party evaluation by analysts. Moreover, these analysts make decisions on the brokerage firms' behalf regarding which equities to cover and thus receive featured "shelf space." Issuers of equity then have an incentive to cultivate the attention of analysts who both increase the distribution of the firm's equity and enhance its value by reducing the amount of uncertainty that investors have about its performance prospects.

[5] In particular, wealth-constrained entrepreneur-managers may be unwilling to undertake value-enhancing projects due to the high cost of externally financing such projects in the presence of asymmetric information.

who choose strategies that impose higher information costs (more private information) may compromise equity prices.

Empirical research on equity markets generally confirms the presence of information-based distortions in equity prices. For instance, empirical studies suggest that both small capitalization stocks (Barry and Brown 1984) and "neglected" stocks (Arbel et al. 1983) trade at a significant discount. Not surprisingly, therefore, securities analysts, who gather information on the value of strategies, have an economically significant effect on stock prices and investment decisions (Womack 1996, Barber et al. 2001, Stickel 1991, Derrien and Kecskes 2010). These financial intermediaries provide value-adding information (see Healy and Palepu 2001), a result that can only hold if equity prices do not instantaneously incorporate information about corporate value. For example, the hedge-portfolio returns for the small firms studied in Hong et al. (2000) are lower with more extensive analyst coverage, suggesting that increasing analyst coverage either broadens or deepens (or both) the information available in the market about a firm. Similarly, in Elgers et al. (2001), equities with a lower level of analyst coverage show a more pronounced delay in the price response to value-relevant information than equities with more extensive coverage, indicating that analysts play a value-enhancing role in the distribution of private information. Finally, Zuckerman (1999, 2000), using a sociological model of markets, shows that firms with lower analyst coverage, among specialists in the industries in which firms are active, trade at a discount relative to firms that attract more coverage from these specialists.

In summary, because of the presence of information costs, equity prices do not fully reflect the underlying, performance-based value of the firms over short- to medium-term time horizons. Sell-side analysts play an important role in mediating these flows of information. Managers with incentives to elevate current share price seek to solicit analyst coverage, thereby generating greater independent information about their firm's strategy, and thereby reducing any information-based discount. However, analysts are economic actors with their own incentives motivating them to initiate or drop coverage of specific firms, and thereby potentially influence corporate strategy choices and market valuation.

2.3. Strategy Choice and Analyst Coverage

For all but the largest investors, analysis is obtained from sell-side securities analysts employed by brokerage firms. These analysts are not directly compensated for the information they provide, in part because the information they generate does not remain proprietary. Instead, analysts are employed by brokerage firms that both "market" and trade securities and provide investment banking services. Analyst choices are hence shaped by incentives to maximize returns to their own effort as they pursue careers within these institutions (Hong and Kubik 2003, Lin and McNichols 1998).

Specifically, analysts face incentives of two forms. On one hand, analysts compete on and are rewarded for the novelty and accuracy of their analysis (Hong and Kubik 2003). Analysts tend to specialize by industry (Rao et al. 2001; Zuckerman 1999, 2000), presumably to economize on the effort required in providing accurate analysis. Within these specializations, analysts are ranked on the accuracy of their forecasts and recommendations, presumably with particular rewards for novelty.

On the other hand, analysts face incentives to increase the breadth of their coverage. Employment in brokerage firms encourages analysts to both generate trade volume and attract investment banking activity. Simply covering more firms, and potentially supplying positive coverage about them, increases order flow and investment banking activity. These incentives are behaviorally evident in analysts' tendency to issue overly optimistic forecasts for firms with which the brokerage house has an investment banking relationship (Hong and Kubik 2003). Similarly, these incentives are evident in analysts' tendency to initiate coverage for firms they forecast will perform well and to drop coverage for firms they anticipate will perform poorly (McNichols and O'Brien 1997). Brokerage firms presumably derive greater order flow, and particularly greater investment banking business, when they issue buy recommendations and optimistic earnings forecasts for firms expected to perform well. Thus, in response to career incentives that reward more than novelty and accuracy of information, we argue that analysts prefer less costly-to-analyze strategies, all else equal, because these firms require less effort and permit coverage of more firms without compromising accuracy.

Abundant anecdotal evidence highlights analysts' preferences for easy-to-analyze strategies. Indeed, analysts may directly pressure management to simplify or conform to their expectations and thereby lower the costs of analysis. A 1999 analyst report from Paine Webber (Chaffkin 1999, p. 1) pushing for Monsanto's breakup as a life sciences company provides a surprisingly candid revelation of the effort costs associated with strategic choices:

> The life sciences experiment is not working with respect to our analysis or in reality. Proper analysis of Monsanto requires expertise in three industries: pharmaceuticals, agricultural chemicals, and agricultural biotechnology. Unfortunately, on Wall Street, particularly on the sell-side, these separate industries are analyzed individually because of the complexity of each.

> This is also true to a very large extent on the buy-side. At Paine Webber, collaboration among analysts brings together expertise in each area. We can attest to the challenges of making this effort payoff: just coordinating a simple thing like work schedules requires lots of effort. While we are willing to pay the price that will make the process work, it is a process not likely to be adopted by Wall Street on a widespread basis. Therefore, Monsanto will probably have to change its structure to be more properly analyzed and valued.

The analyst's suggestion here is clear—that Monsanto should alter its strategy so as to reduce the information costs that accompany it, ostensibly promoting more extensive and precise analysis that raises the aggregate valuation of these assets. Consistent with this logic are studies that suggest that diversification reduces the accuracy of earnings forecasts (Duru and Reeb 2002, Brown et al. 1987) and diminishes analyst coverage (Bhushan 1989). Similarly, focus-increasing transactions (spin-offs, carveouts, and tracking stock offerings) increase analyst coverage and increase the accuracy of analysis (Gilson et al. 2001). This logic is also consistent with Zuckerman's (1999, 2000) sociology-based argument and empirical findings that diversified firms confront an "illegitimacy discount" in the market and therefore deconglomerate as a result of analysts' difficulty in placing diversified firms into their own normatively derived industry categories.[6]

Our particular interest, however, is not in the choice to diversify, but rather the choice to pursue uniqueness. We hypothesize that firms pursuing less familiar combinations of businesses are particularly costly for analysts to evaluate. A firm adopting a more common strategy—a combination of assets and businesses that is more commonly observed—imposes a lower incremental cost burden on the analyst, because the analyst has already made substantial investments in understanding complementarities within a similar bundle of assets compiled by other firms. By contrast, a manager who adopts an unusual strategy imposes a large incremental cost on the analyst. Although our focus is more broadly on strategy choice, our logic is consistent with Benner's (2010) finding that analysts are more attentive to and positive toward technology strategies that extend familiar technology rather than pursue new, unfamiliar paths. Assessing the value of a unique collection of businesses not only requires an understanding of the separate industries in which each business competes, but also an understanding of any complementarities or synergies that are generated through the combination. The more unique the combination assembled, the less likely it is that any given analyst will be familiar with these synergies. A *Financial Times* article, for instance, claimed that Georgia Pacific, a diversified firm, was "trading at a discount to the sum of its parts" because it was "an awkward mix of assets that are difficult to evaluate together" (Roberts 2005, p. 29). Single-segment firms can also be unique in their strategy relative to industry peers. For instance, Cray Inc., whose narrow focus is highly unusual relative to many other industry competitors, received no analyst coverage for the period 1995–2007. Part of the information challenge in evaluating unique strategies involves the absence of comparative benchmarks (Espeland and Stevens 1998) and the need to undertake a costly process of developing them.[7] Moreover, because the comparison categories into which securities analysts place firms shape both recommendations and forecasts (Beunza and Garud 2007), strategic uniqueness may trigger categorization diversity with correspondingly greater uncertainty in the information generated. By adopting a more common strategy—a more commonly combined bundle of assets—managers lower analysts' costs of coverage, including these costs of creating benchmarks. These reduced costs attract coverage and increase information available about their security, thereby elevating its value.

2.4. The Uniqueness Paradox and Empirical Predictions

Our discussion then highlights a manager who confronts a clear strategic dilemma—a uniqueness paradox. Although value creation and capture requires that the manager assemble a unique group of assets and resources before its value is detected by arbitrageurs or by other competitors (Barney 1986), this uniqueness creates an information problem. Although over the long term, equity markets may recognize the superior performance of this unique combination, in the short to medium term, the capital markets may not. Information asymmetry imposes a cost on the transmission of information leading to equity markets that lack a full understanding of the firm's strategy, and, most importantly, discount the value of the equity of firms with unique and hard-to-understand strategies. The manager, aware of this problem, actively cultivates coverage by analysts to help reduce the degree of information asymmetry. At the margin, a rational manager, rewarded on the basis of stock performance, will likely reduce strategic uniqueness to attract more analyst coverage.

Our prediction here relates to Zuckerman's (1999) conjecture that firms compete both to provide a

[6] Zuckerman (1999) finds that, on average, analysts devote 57% of their analysis to firms within a single three-digit Standard Industrial Classification (SIC) code.

[7] The identification of comparative benchmarks may not only enable the revelation of greater information through a process of comparison and contrast, but the act of placing the strategy within some broader category may ascribe legitimacy that has independent value to investors (Zuckerman 1999).

coherent or legitimate strategy and compete to differentiate their strategies. As he notes, referencing Schumpeter (1934), the greatest returns accrue to those who create "new categories and corresponding interfaces" (Zuckerman 1999, p. 1403). However, his contention is that firms must first establish the legitimacy of their innovations. Our logic, while distinct in its focus on information costs, is very much in this spirit. The paradox discussed here is also related to Benner's (2010) argument that firms, when confronting technological change, often face a dilemma between satisfying securities analysts' preferences or expectations and strategically addressing the need for radical technological change.

Based on the foregoing discussion, we hypothesize that managers face a trade-off in selecting a corporate strategy reflected in several key empirical relationships. Uniqueness in corporate strategy, because it is essential to the capture of economic rents, will be positively related to measures of value, such as Tobin's q. However, uniqueness elevates the information costs associated with evaluating strategy and is associated with a reduction in coverage that in turn diminishes firm value in equity markets. We thus predict the following three empirical relationships: (1) a negative relationship between analyst coverage and corporate strategy uniqueness (as well as complexity or diversification); (2) controlling for the level of coverage, a positive relationship between corporate strategy uniqueness and firm value, measured as Tobin's q; and (3) consistent with prior work, a positive relationship between analyst coverage and firm value, as measured by Tobin's q.

We also seek to establish information costs as the driver of the relationship between coverage and uniqueness. If escalating information costs explain the predicted negative relationship between analyst coverage and corporate strategy uniqueness, then two observations should be evident. First, analysts who cover unique strategies should simply expend greater effort in covering unique firms. Second, exogenous factors or endogenous strategic choices that reduce information costs in strategy evaluation should diminish the magnitude of the relationship between analyst coverage and uniqueness. Thus, to confirm our information cost logic, we explore the sensitivity of the relationship between coverage and uniqueness to regulatory changes that demand greater segment-level information disclosure as well as to strategic decisions that generate greater information, such as the issuance of tracking stocks linked to the performance of individual business segments.

3. Empirical Design

3.1. Data

To analyze these empirical predictions, we construct a 23-year panel data set of firms and their analyst following between 1985 and 2007. In constructing our data set, we use the CRSP monthly files, the combined CRSP/Compustat database, and the I/B/E/S detailed history data sets. We consider an analyst covering a firm in year t if that analyst has issued annual earnings forecast for that firm's fiscal period ending in year t. Our sample excludes firms in the financial industry (as defined by the Compustat-provided one-digit SIC code header 6) and consists of 58,829 observations on 7,630 unique firms.[8] The average number of yearly observations per firm is 7.7. Fifty-six percent of the firms in our sample are covered by at least one analyst (Table 1, panel A).

3.2. Measures

3.2.1. Measures of Uniqueness in Strategy Choice. We compute measures of both strategy uniqueness and strategy complexity, arguing that the choice to pursue either raises analysts' coverage costs. Analysts generally specialize by industry and thus consider for coverage only a subset of publicly traded firms. Firms that pursue common strategies should be more familiar and more easily analyzed by industry specialized analysts. For this reason, we measure the similarity of a firm's strategy relative to other firms in its primary SIC.

For each firm i we define the vector of its sales across all segments, N, in a given year t as $s_{i,t} = [sales_{1,i,t} \cdots sales_{N,it}]'$. Here, $N = 1{,}106$ is the number of all listed four-digit SIC codes in 1985–2007 in the Compustat Segments file.[9] We normalize this vector to unit length, by dividing all vector elements by $\sum_j sales_{j,it}$, where i indexes the firm, and j indexes the set of N segment industries for a given year, t.[10] We then define the primary industry for each firm-year as the industry with the highest fraction of total corporate sales. For example, GE's primary industry is SIC 6153 in 2005, because GE Capital had the highest sales within GE in 2005. For each *primary industry*, j^*, each year t, we define the industry vector (centroid) of sales, as $s_{j^*,t} = [\sum_i sales_{1,j,t} \cdots \sum_i sales_{N,i,t}]$, where i indexes the firms in each of the $N = 1{,}106$ segment industries in Compustat that have j^* as their primary

[8] We follow Barth et al. (2001) in excluding financial companies from our sample. Such exclusion is further justified as financial companies are prohibited by the Glass–Steagall Act (Pub. L. No. 73-66, 48 Stat. 162, 1933) of owning nonfinancial businesses for investment purposes. Similar restriction is in place by the Bank Holding Company Act (12 U.S.C. §1841, 1956) for bank-holding companies. Our results, however, are robust to including financial companies in our sample, and are available upon request.

[9] In robustness tests we redefine our measure of uniqueness at the three-digit SIC code level. Our results hold in tests with that measure.

[10] A small percentage of firms in our sample (on average, less than 0.0024% of the annual sample size) report at least one segment with nonpositive sales. We remove any such firms from our analysis.

Table 1 Means, Medians, and Standard Deviations

Statistics	Mean	Median	Min	Max	Std. dev.	*N*
Panel A. Key dependent and explanatory variables descriptive statistics[a]						
Coverage dummy	0.56	1	0	1	0.50	58,829
Number of analysts following	4.84	1	0	64	6.78	58,829
Adjusted coverage share	0.16	0.02	0	1	0.27	58,829
Average no. of firms followed by analyst	9.54	10.19	0	31.00	9.71	58,829
Average no. of industries followed by analyst	4.41	4.00	0	12.63	4.50	58,829
Strategy-specific coverage	0.08	0.01	−0.26	0.83	0.21	25,672
Segment-specific coverage	0.16	0.10	0.01	0.71	0.16	25,672
Analyst effort	−9.54	−10.19	−31.0	0	9.71	58,829
UNIQUE	0.08	0.03	0	0.47	0.10	58,829
Log(*sales*, US$ mln)	5.36	5.40	−6.91	12.56	2.28	58,739
Log(*assets*, US$ mln)	5.96	5.83	0.78	9.93	1.74	58,829
Diversification premium	0.13	−0.04	−1.51	4.98	1.02	58,156
Uniqueness premium	0.14	−0.04	−1.47	4.87	1.02	58,138
Dummy variable $Segment_1$	0.62	1	0	1	0.49	58,829
Dummy variable $Segment_2$	0.19	0	0	1	0.39	58,829
Dummy variable $Segment_3$	0.11	0	0	1	0.32	58,829
Dummy variable $Segment_4$	0.08	0	0	1	0.27	58,829
Panel B. Key controls descriptive statistics[b]						
Log *trading volume*	16.25	16.31	11.36	19.70	2.01	58,787
Sales growth (past three years)	0.29	0.24	−1.04	1.84	0.53	58,687
Issuances in prior year indicator	0.89	1.00	0.00	1.00	0.31	58,829
Log(*equity issuances to total assets)*	0.65	0.72	−5.12	5.57	2.57	44,018
Log(*debt issuances to total assets)*	3.16	3.33	−3.08	7.66	2.56	32,754
Earnings coefficient of variation	0.24	0.21	−3.78	3.90	1.17	58,829
No. of firms in industry	48.91	23.00	1.00	437.00	66.07	58,829
ROE	−0.01	0.09	−2.09	1.06	0.46	58,817
Log *number of shareholders*	0.83	0.67	−3.22	4.31	1.64	57,981
Log *common equity*	4.62	4.62	−0.02	8.58	2.05	57,736
Average Hirschman-Herfindahl index	0.20	0.15	0.02	0.78	0.16	58,739
Average market share	0.08	0.01	0.00	0.66	0.14	58,739
RD_F (Barth et al. 2001)	0.01	0.00	−0.08	0.28	0.06	58,827
ADV_F (Barth et al. 2001)	0.00	0.00	−0.05	0.05	0.02	58,827
INTANG_F (Barth et al. 2001)	0.04	0.00	−0.11	0.36	0.10	58,829
DPT_F (Barth et al. 2001)	0.01	0.00	−0.08	0.15	0.04	58,782
Number of segments	1.70	1.00	1.00	11.00	1.12	58,829

[a]The mean statistics for the segment dummy variables are in decimals. All nonindicator variables are winsorized at 2.5% in each tail.
[b]The mean statistics for the issuance in prior-year indicator are in decimals. All nonindicator variables are winsorized at 2.5% in each tail.

industry in year t. We normalize this vector to unit length by dividing with $\sum_{j=1}^{1,106}\sum_i sales_{j,i,t}$ (i indexes the firms, j indexes 1,106 industries).[11]

Using the vectors of the firm and its primary industry distribution of sales across all industries in the economy, we define the firm's measure of uniqueness as $UNIQUE_{i,t} = (s_{i,t} - s_{j^*,t})'(s_{i,t} - s_{j^*,t})$. This measure reflects the distance of the sales "distribution" for each firm (across all product lines, defined as four-digit SIC codes) from the centroid of its counterparts in the primary industry. Table 2 illustrates the calculation of this measure for four distinct firms: two are focused on either a single segment or two segments, while two are quite diversified. Note that our measure of uniqueness is designed to be independent of the level of diversification. Thus, whereas the multi-segment firm Microsoft is significantly less unique in its corporate strategy than the single-segment firm Cray Inc. (a supercomputer manufacturer), the diversified Analogic Corporation is more unique than the more focused Comcast Corporation. For robustness, we also examine a second measure of uniqueness that is derived by substituting segment-level capital expenditures for segment-level sales in the computation discussed above.[12]

[11] Note that the industry centroid strategy used in the strategy measure is not meant to portray the most "familiar" strategy in the industry. Rather, it is simply a reference point against which to compare the strategies of all the firms in the industry.

[12] The advantage of this alternative measure is that it is derived from a forward-looking measure of corporate investment strategy, i.e., segment capital expenditures, as opposed to segment sales, that are an outcome of prior periods' corporate strategy choices. On the other hand, this alternative measure may be subject to an important bias. Under SFAS 131 (disclosure about segments of an enterprise) and its predecessor, SFAS 14, management is required to identify business units as separate entities for accounting purposes only if they account for at least 10% of firm sales, assets, profit, or loss. Hence, if a firm has significant capital expenditures in a segment that accounts for less than 10% of sales, assets, profit, or loss, these capital expenditures would not be reported.

Table 2 Calculation of the Uniqueness Measure UNIQUE for Microsoft (NASDAQ: MSFT); Analogic Corporation (NASDAQ: ALOG); Cray Inc. (NASDAQ: CRAY); and Comcast Corporation (NASDAQ: CMCSA) in 2005

Industry SIC	Industry name	Industry vector	Firm vector	Difference^2
	Microsoft (NASDAQ: MSFT)[a]			
3944	Games, toys	0.041	0.114	0.005
3999	Manufacturing industries, not elsewhere classified (NEC)	0.001	0.000	0.000
5045	Computer peripherals	0.002	0.000	0.000
7372	Prepackaged software	0.922	0.845	0.006
7373	Computer integrated systems design	0.004	0.000	0.000
7375	Information retrieval services	0.015	0.041	0.001
7376	Computer facilities management services	0.001	0.000	0.000
7379	Computer related services, NEC	0.009	0.000	0.000
7991	Physical fitness facilities	0.004	0.000	0.000
8999	Miscellaneous services, NEC	0.001	0.000	0.000
	UNIQUE			**0.012**
	Analogic Corporation (NASDAQ: ALOG)[b]			
3674	Semiconductors and related devices	0.014	0.000	0.000
3812	Search, detection, navigation, guidance, aeronautical systems	0.007	0.161	0.024
3823	Industrial instruments for measurement, display, and control	0.033	0.000	0.001
3825	Instruments for measurement and testing of electricity and electrical signals	0.928	0.48	0.201
3842	Orthopedic, prosthetic and surgical appliances and supplies	0.005	0.197	0.037
7011	Hotels and motels	0.006	0.058	0.003
7373	Services—computer integrated systems design	0.007	0.104	0.01
	UNIQUE			**0.277**
	Cray Inc. (NASDAQ: CRAY)[c]			
3571	Electronic computers	0.358	1.000	0.412
3572	Computer storage devices	0.164	0.000	0.027
3577	Computer peripheral equipment, NEC	0.247	0.000	0.061
6159	Miscellaneous business credit institution	0.021	0.000	0.000
7372	Services-prepackaged software	0.011	0.000	0.000
7373	Computer integrated systems design	0.199	0.000	0.037
	UNIQUE			**0.54**
	Comcast Corporation (NASDAQ: CMCSA)[d]			
2721	Periodicals: Publishing or publishing and printing	0.023	0.00	0.000
4841	Cable and other pay television services	0.919	0.92	0.000
7819	Services—allied to motion picture production	0.029	0.08	0.003
7941	Services—amusement and recreation services	0.029	0.00	0.001
	UNIQUE			**0.004**

Notes. The "Firm vector" column reflects the fraction of total firm sales that are attributable to the particular SIC code. Similarly, the "Industry vector" column reflects the fraction of total sales of all firms that are in the same primary industry in 2005 that are attributable to a particular SIC segment code. Out of the 1,106 SIC codes, we only show those that are with nonzero sales in either the firm or the primary industry level, to conserve space. We winsorize the score for Cray Inc. to 0.47 as it falls in the top 2.5% of the distribution of UNIQUE.

[a]Three-segment firm, primary industry SIC is 7372 (prepackaged software); data is for fiscal year 2005; number of analysts following is 36.

[b]Five-segment firm, primary industry SIC is 3825 (instruments for measurement and testing of electricity and electrical signals); data is for fiscal year 2005; number of analysts following is 2.

[c]Single-segment firm, primary industry SIC is 3571 (electronic computers); data is for fiscal year 2005; number of analysts following is 0.

[d]Two-segment firm, primary industry SIC is 4841 (cable and other pay television services); data is for fiscal year 2005; number of analysts following is 2.

While we believe that our measure of strategy uniqueness is novel, we recognize that it is subject to three important caveats. First, our definition of uniqueness applies to corporate strategy, as opposed to product or business strategy. Firms may possess unique products, but rather common corporate strategies as defined by our measure. Second, our definition of strategy uniqueness is limited by the product lines defined in the SIC codes within the Compustat Segments file. Hence, if some of these SIC codes aggregate heterogeneous products, we would not capture the full extent of uniqueness of the strategy. Last, our choice to calculate our industry centroid based on the primary SIC code may result in different industry benchmarks for firms with somewhat similar corporate scope (e.g., a firm with 60% of its sales in its primary industry, X, and 40% in its secondary industry, Y, will have a different industry centroid than a firm with 40% of its sales in industry X and 60% in industry Y). To address this issue, we perform a robustness check discussed

below using a sample that excludes firms where this issue is potentially problematic.

3.2.2. Strategic Complexity: Diversification. The cost of analyzing a strategy also rises with the complexity that accompanies diversification. As firms enter related or unrelated industries, analysis of the firm requires either multiple analysts to collaboratively evaluate the firm or analysts to develop expertise across multiple industries. In either case, analysis of the firm is more costly than analyzing a single-segment firm. We measure the total number of reported segments, using a series of dummy variables ($Segment_1$, $Segment_2$, $Segment_3$, $Segment_4$) that are coded as 1 if the number of segments in which the firm competes equals 1, 2, 3, or 4 or more, respectively, and coded as 0 otherwise.

3.2.3. Analyst Coverage. Our primary measure of analyst coverage is the share of all analysts covering primary industry j that find it attractive to cover firm i in primary industry j. More precisely, if there are A_j analysts covering industry j, and a count of these analysts, a_i, choose to cover firm i in that industry, then the adjusted coverage measure is a_i/A_j. Note, however, that there are a small number of industries each year for which the firms in such industries receive no coverage. For firms in these industries, we assume that the adjusted coverage is simply zero.

In robustness checks, we utilize several other measures of analyst coverage. We measure analyst coverage as a simple count of the number of analysts that cover a particular security. Given the large number of firms receiving no coverage, we also define a simple dichotomous dependent measure coded as 1 when the firm receives any coverage whatsoever in a given year, and 0 otherwise.

3.2.4. Analyst Effort. We also generate a measure of the analyst effort required to cover each firm. The measure is defined as the negative of the average number of firms followed by the firm's analysts as in Barth et al. (2001). The logic is that firms with costly-to-analyze strategies will consume more analyst time, leaving less time to cover other firms.

3.2.5. Control Variables. We include as control variables in our analysis several firm-specific factors identified either empirically or theoretically to affect the costs and benefits of coverage from the analysts' perspective. Following Barth et al. (2001) and Bhushan (1989), we include the variables for each firm's three- to five-year compound annual growth rate in sales, the log of annual trading volume in its shares, the coefficient of variation of its earnings over the last three to five years, the log of the number of common shareholders, and the log common equity for the firm.[13] We also control for the intangible assets of the firm: research and development (R&D), advertising, recognized intangible assets, and depreciation—the first two as a share of total expenses, and the latter two as a share of total assets (following Barth et al. 2001). We control for the issuance of debt or equity in the prior year with a dummy variable that has a value of 1 if the company has issued either stock or debt.[14] Finally, we include variables measuring the firm's return on average equity (ROE), the sales-weighted average of the Herfindahl concentration index for all the SICs in which the firm operates, and a sales-weighted average of its share of the sales in each of the industries in which it operates, an indicator for regulated industry firms, an indicator for S&P 600 membership, as well as an indicator for the introduction of Regulation Fair Disclosure (Reg. FD) in October 2000.

To confirm that our results are not driven by outliers, we winsorize all variables generated from accounting data at the 2.5 percentile in each tail.[15] Table 3 provides concise descriptions of other control variables. Table 1 provides means, medians, and standard deviations for all variables.

4. Results: Strategy Choice and Analyst Coverage

4.1. Strategy Choice and Analyst Coverage (and Effort)

Our primary empirical interest is in examining the relationship between corporate strategy choices and analyst coverage decisions. Table 4 presents our main results. Column (1) presents the estimates of a negative binomial regression of a simple count measure of the number of analysts covering a firm, where we include *firm* and *year* fixed effects.[16] We also

[13] Barth et al. (2001) include the log of market value (which is equivalent to including log(price) + log(shares)) in their regressions as well as several measures of the relative level of intangible assets possessed by the firm. We chose not to use market value in our regressions because the firm's stock price is endogenous to the level of analyst coverage under the hypotheses we are examining in this paper.

[14] In robustness checks, we also use the log of amount of debt issued in the prior year. Results are unchanged. Note, however, that debt issuance is endogenous to analyst coverage (Chang et al. 2006).

[15] We winsorize observations in the extreme 2.5% in each tail by substituting these with the nearest values closer to the center of the distribution. We also performed all analyses with nonwinsorized variables. Our results qualitatively remain and are available upon request.

[16] One feature of UNIQUE is its persistence. For example, its first autocorrelation is 0.71, its second autocorrelation is 0.57, and its third autocorrelation is 0.47. Because analyst coverage is also persistent (first autocorrelation of adjusted coverage is 0.90 and first autocorrelation of analyst coverage is 0.92), it is possible that our

Table 3 Definitions for Key Variables

UNIQUE	Measure of deviation from the typical (centroid) strategy of all firms that list SIC j as their primary SIC code. We first create the centroid strategy as a vector with N elements ($N = 1{,}106$), where the elements $1, 2, 3 \ldots, N$ of this vector are equal to the fraction of *total sales* across all firms in primary industry j in each of the N SICs that appear among the segment data for all firms in primary industry j, in a given year. The uniqueness of each firm's strategy is then measured as the dot product of the difference between the industry centroid vector and an N-element vector constructed from the fractions of firm's *sales* in each of the N SICs that are observed in the industry, $(s_{i,t} - s_{j*,t})'(s_{i,t} - s_{j*,t})$.
Analyst coverage	Number of analysts issuing earnings per share annual forecasts for this fiscal year. We consider the calendar year of the fiscal year-end period date as the coverage date.
Adjusted coverage	Analyst coverage scaled by the primary industry coverage for that year.
Imputed (segment-specific) coverage	Adjusted coverage of the firm computed based on the median-single-segment-firm adjusted coverage levels, in all of the N SICs, which are then sales weighted with the fraction of firm sales in each of the N SICs. We require nonmissing coverage for all median-single-segment firms, in the N SICs, to impute the coverage.
Excess (strategy-specific) coverage	Actual adjusted coverage minus imputed adjusted coverage. Our measure is similar to the coverage mismatch measure in Zuckerman (1999) and the coverage coherence measure in Zuckerman (2004).
Analyst effort	We follow Barth et al. (2001) in defining analyst effort as the negative of the average number of firms covered by the firm's analysts, in a given year.
Uniqueness premium	The market-to-book (M/B) ratio, less the sales-weighted M/B ratios of its segments where the segment M/B ratios are computed annually as the median industry ones based only on single-segment firms. We require at least three single-segment firms within an SIC code to compute the median M/B ratio. If fewer than three single-segment firms are available, we then use the median-single-segment firm at the three-digit SIC code level. If we still have fewer than three available firms, we then retrieve the median M/B ratio for single-segment firms at the two-digit SIC level.
Diversification premium	The M/B ratio less the imputed Tobin's q for its primary industry centroid strategy, $s_{j*,t}$. We compute the latter as the dot product of the primary-industry normalized sales vector $s_{j*,t}$ and a vector of normalized annual median M/B ratios for single-segment firms in each industry.

cluster-adjust standard errors at the firm level.[17] We use a conditional fixed effects negative binomial regression method to model the effects of changes in our independent variables across time and within a firm on the number of analysts covering that firm. We include in this model both year and firm effects and the full set of control variables described above. The results support our fundamental hypothesis that costly-to-analyze securities receive less analyst coverage. Controlling for other factors that may influence analyst coverage, firms with more lines of business and more unique strategies receive less analyst coverage. This negative relationship is economically significant. In testing our core hypothesis, the marginal effect of UNIQUE on analyst coverage is −0.01, implying that a one standard deviation increase in strategy uniqueness above its mean leads to a decrease in coverage by about 1.27 analysts. This main result is also supported in an otherwise identical regression with an otherwise identical uniqueness measure based on segment-level capital expenditures.

The array of dummy variables measuring diversification shows a rather linear progression of increasingly negative coefficient values, suggesting that consistent with prior research, greater diversification reduces analyst coverage (Bhushan 1989). The estimated effects of our control variables are also generally consistent with our description of the analyst coverage decision. Larger firms, as measured by their common equity, firms that are traded more heavily, and firms that have issued equity or debt in the prior fiscal year receive more coverage. The firm's performance as measured by accounting profitability (ROE) and sales growth also has positive effects on the level of coverage. R&D spending and advertising expenditures are positively and significantly related to coverage, in line with Barth et al. (2001).

Column (2) of Table 4 presents a logit specification with a simple dichotomous dependent variable, measuring whether or not the firm received analyst coverage of any magnitude. The results are quite consistent with the negative binomial regression model. Strategy uniqueness (UNIQUE) is negatively related to the receipt of analyst coverage. Similarly, the dummy variables measuring the scope of diversification show the same very consistent pattern of increasingly negative coefficients.

results are an outcome of a time-invariant firm-specific factor that drives both analyst coverage and corporate strategy uniqueness. To address this concern, we use a specification with firm fixed effects.

[17] Our approach to cluster standard errors at the firm level, in addition to including a firm fixed effect, is similar to the one adopted in Bertrand and Schoar (2003) and Baker et al. (2003). The particular concern in our panel is that the number of time periods per firm (i.e., per firm cluster) varies. Such variation may render the fixed effect for firms with more available observations temporary. We follow Petersen's (2009) recommendation to cluster-adjust standard errors to allow for within-cluster autocorrelation of errors in the presence of temporary firm fixed effects.

Table 4 Analyst Coverage Regressions

Variable (end of prior fiscal year)	Coverage	Coverage dummy	Adj. coverage	Adj. coverage	Strategy-specific coverage	Segment-specific coverage	Analyst effort
	Neg. binomial	Logit	OLS	Tobit	OLS	OLS	OLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
UNIQUE	−0.128**	−0.624**	−0.088***	−0.15***	−0.045***	−0.004	1.113***
	(2.52)	(2.57)	(10.17)	(9.91)	(3.46)	(0.40)	(3.06)
Log *sales*	0.001	0.437***	−0.001	0.017***	0.005*	−0.002	−0.599***
	(0.11)	(8.68)	(0.67)	(6.94)	(1.67)	(1.22)	(8.41)
Log *trading volume*	0.195***	0.683***	0.017***	0.039***	0.019***	−0.001	−0.568***
	(33.2)	(24.14)	(17.84)	(24.16)	(11.76)	(0.97)	(13.93)
Sales growth (*past three years*)	0.139***	0.067	0.004***	0.014***	0.005**	0.003	−0.213***
	(16.15)	(1.64)	(3.04)	(5.24)	(1.98)	(1.61)	(3.42)
Issuances in prior year	0.115***	0.308***	0.006**	0.039***	0.001	0.008**	−0.361***
	(6.23)	(4.67)	(2.38)	(8.01)	(0.33)	(2.6)	(3.50)
Earnings coef. of variation	0.001	0.020	0.0001	0.003**	−0.0001	−0.001	−0.05*
	(0.28)	(1.23)	(0.34)	(2.0)	(0.30)	(0.74)	(1.94)
No. of firms in industry	−0.001***	−0.005***	−0.0001***	−0.0001***	−0.0001***	−0.0001***	0.011***
	(5.18)	(4.66)	(9.27)	(11.01)	(5.37)	(3.67)	(7.14)
ROE	0.178***	0.182***	0.003	0.026***	0.005	0.001	−0.069
	(11.91)	(3.40)	(1.47)	(6.69)	(1.50)	(0.30)	(0.83)
Log *number of shareholders*	−0.087***	−0.023	−0.0001	−0.009***	0.0001	0.001	0.144***
	(15.68)	(0.66)	(0.41)	(5.17)	(0.29)	(0.60)	(2.9)
$Segment_2$	−0.123***	−0.104	−0.007***	−0.016***	−0.008**	−0.002	0.287***
	(9.52)	(1.50)	(2.68)	(3.89)	(2.18)	(0.97)	(2.72)
$Segment_3$	−0.169***	−0.276***	−0.004	−0.017***	−0.01*	−0.0001	0.403***
	(10.8)	(3.10)	(1.24)	(3.32)	(1.87)	(0.08)	(3.03)
$Segment_4$	−0.243***	−0.378***	−0.012***	−0.037***	−0.025***	−0.013**	0.212
	(12.49)	(3.49)	(3.16)	(5.7)	(3.16)	(2.5)	(1.28)
Log *common equity*	0.152***	0.403***	0.012***	0.035***	0.018***	0.0001	−0.634***
	(17.59)	(9.76)	(8.34)	(13.87)	(7.4)	(0.14)	(10.12)
Average HHI	0.077	−0.44*	0.163***	0.317***	0.142***	0.077***	−0.371
	(1.63)	(1.85)	(19.22)	(22.46)	(11.13)	(8.94)	(1.01)
Average market share	0.189***	2.605***	0.484***	0.69***	0.291***	0.067***	−1.234**
	(3.72)	(7.26)	(43.39)	(39.79)	(17.6)	(5.98)	(2.56)
RD_F (Barth et al. 2001)	0.473***	2.268***	0.041*	0.213***	0.047	0.015	−3.696***
	(3.97)	(3.56)	(1.81)	(5.74)	(1.41)	(0.65)	(3.87)
ADV_F	0.040	3.788**	0.125*	0.185*	0.156	0.011	−8.364***
	(0.12)	(2.0)	(1.86)	(1.68)	(1.57)	(0.16)	(2.93)
INTANG_F	0.343***	2.185***	0.033***	0.014	0.014	−0.016*	−1.897***
	(7.21)	(7.47)	(3.34)	(0.86)	(0.95)	(1.70)	(4.50)
DPT_F	−0.130	−0.310	−0.023	−0.011	−0.087*	0.051	0.365
	(0.80)	(0.38)	(0.83)	(0.22)	(1.87)	(1.62)	(0.30)
S&P 600 index membership	0.037**	0.335***	−0.014***	−0.009*	−0.004	−0.002	0.129
	(2.53)	(3.06)	(4.29)	(1.84)	(1.01)	(0.84)	(0.93)
Regulated industry indicator	−1.49***	−0.724	−0.052***	−0.079***	−0.108***	0.021	0.714
	(32.82)	(1.28)	(3.12)	(5.84)	(2.80)	(0.82)	(1.01)
Reg. FD dummy	−0.036	1.144***	−0.036***	−0.06***	−0.122***	−0.036***	0.531***
	(1.18)	(8.33)	(6.14)	(6.94)	(12.8)	(5.57)	(2.72)
Observations	44,968	26,052	58,829	58,829	25,672	25,672	58,829
Chi-squared	—	—	—	9,471.8	—	—	—
R-squared (%)	18.8	43.3	77.4	—	70.3	78	67.4

Notes. This table provides estimates of the effects of corporate strategy choice on the level of analyst coverage. Model (1) is a negative binomial regression of a simple count measure of analysts covering the firm on strategy choice and various industry and firm controls. Model (2) examines coverage as a dichotomous variable using a logit specification. The dependent measure is coded as 1 if the firm receives any coverage in a given year and 0 otherwise. Model (3) examines adjusted coverage measured as the share of all analysts in a primary industry that covers the focal firm, by the OLS method. Model (4) does the same allowing for truncation of the dependent variable in a Tobit model. Model (5) examines the strategy-specific analyst coverage. Model (6) examines the segment-specific analyst coverage. Model (7) examines the analyst effort, defined as the negative of the number of companies in the same year followed by the median analyst following the company in point. The nonlinear models (1) and (2) show the coefficient estimates instead of the marginal effects. Regressions include year and firm fixed effects (except for Tobit model that includes random effects). The *t*-statistics (in parentheses) are based on robust standard errors, cluster-adjusted at the firm level.

***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Column (3) of Table 4 presents an ordinary least squares (OLS) regression model using adjusted coverage regressed on the strategy variables, the diversification dummy variables, as well as for the control variables described above. The results are generally consistent with the results presented so far, although the coefficient on one of the diversification dummies is no longer significant.

A concern with the OLS specifications of column (3) is that 44.3% of our observations have a value of 0 for adjusted coverage, suggesting a left-censoring problem. To correct for this, column (4) is a model of adjusted coverage, but estimated by the Tobit method to account for the left-tail censoring of the dependent variable at 0. In this instance, we include random effects rather than fixed effects, because of the incidental parameter problem. Consistent with the OLS specification and the negative binomial and logit results, an increase in corporate uniqueness or diversification of a firm's strategy is again associated with a decrease in the share of analyst coverage that a firm receives.

In columns (5) and (6) we seek to confirm that the effect of strategy uniqueness in limiting analyst coverage is related primarily to the unique combination of businesses and not merely to entering segments that simply receive less coverage overall. We therefore split the adjusted coverage measure into two components: *segment-specific* coverage, or the portion attributable to the analyst coverage that specific segments receive; and *strategy-specific* coverage, or the portion attributable to the combination of these segments. We measure *segment-specific* coverage as the adjusted coverage (sales weighted) that a firm would have received, if each of its component segments received analyst coverage as though it were the median pure-play firm in that segment industry. Our measure of strategy-specific coverage is then simply computed as the difference between the actual coverage and imputed (or segment-specific) coverage. Our measure of segment-specific coverage is methodologically similar to the one introduced by Zuckerman (1999, 2000) as analyst coverage mismatch.

In column (5) we present evidence that the relationship between strategy choice and coverage is driven primarily by the uniqueness of *the combination* selected by the manager rather than the uniqueness or difficulty in analyzing the specific business segments selected. Greater strategy uniqueness (UNIQUE) is associated with less strategy-specific coverage. We also note a negative near-monotonic progression in the coefficients of the diversification dummies. In column (6) we relate uniqueness in strategy choice to segment-specific coverage, but the relationship, while negative, is not significant. Moreover, the magnitude of the point estimate of UNIQUE in column (5) is more than 10 times that in column (6). Again, these results suggest that the reduction in coverage is due to the uniqueness of a strategy combination rather than merely the selection of segments that receive less coverage.[18]

4.2. Uniqueness and Analyst Effort

If unique strategies require more costly information gathering, then we should see evidence of higher analyst effort expended in evaluating firms with unique strategies. Column (7) reports on an OLS model relating analyst effort and strategy choice. In line with our prior prediction and our information cost explanation, we find evidence that unique corporate strategies are related to higher analyst effort, again as measured by the negative of the average number of firms that the firm's analysts cover in a given year. In more simple terms, analysts who cover unique strategies simply cover fewer other firms. We also find that greater complexity (as captured by the business segments count indicator variables) requires greater analyst effort.

4.3. Changes in Coverage (and Analyst Effort)

A particularly strong test of the hypothesized relationships is whether year-to-year changes in a strategy's uniqueness or complexity are associated with corresponding changes in the level of analyst coverage. We hence examine differences regressions for the models in Table 4. The results are presented in Table 5. In column (1) we regress $\log(1 + \textit{analyst coverage})$ on the same control variables as in Table 4, in first-difference format, where we further include year and firm fixed effects. We obtain the result that firms which increase the uniqueness of their strategy experience less analyst coverage in the subsequent year. This result is also supported in column (2), where the dependent variable is the adjusted coverage. When we split this into strategy-specific and segment-specific coverage (columns (3) and (4)), we find that both measures decrease in concert with increases in the strategy uniqueness of the focal firm, but that the magnitude of decrease is larger for the strategy-specific coverage. Finally, in column (5) we show that year-to-year increases in uniqueness are also associated with increases in the effort each analyst must spend in covering the firm.

[18] Note that the sample for columns (5) and (6) is significantly reduced because we require that data is available to impute the segment-specific coverage (see Table 3 for a detailed description of the calculation). Hence, a concern with this analysis is that it could be subject to self-selection bias, because we include only firms that operate in SIC codes for which there is analyst coverage at the single-segment level in prior periods (to be able to impute the segment-specific coverage). We correct for this selection bias in a two-step Heckman (1979) procedure. In the first step of the Heckman method, we predict the probability of being in our sample as a function of all independent variables in columns (5) and (6) and an instrument for analyst coverage, namely, proxies for the industry growth opportunities, the industry sales and capital expenditures growth rates. Our results still obtain.

Table 5 Analyst Coverage and Corporate Strategy Uniqueness: First Differences Regressions

	ΔLog (1 + coverage count)	ΔAdj. coverage	ΔStrategy-specific coverage	ΔSegment-specific coverage	ΔAnalyst effort
Model	(1)	(2)	(3)	(4)	(5)
Δ*UNIQUE*	−0.061**	−0.23***	−0.166***	−0.051***	0.993***
	(2.50)	(16.78)	(7.48)	(4.73)	(3.05)
Observations	54,564	55,680	22,878	22,878	55,680
R-squared (%)	14	12.8	16.7	13.3	8.7

Notes. OLS regressions of measures of coverage and analyst effort as in Table 4. All models include year and firm fixed effects. We include the same control variables as in Table 4, in first differences, but do not show them for brevity. The *t*-statistics (in parentheses) are based on robust standard errors, cluster-adjusted at the firm level.

***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

4.4. Information Costs and the Strength of the Uniqueness–Coverage Relationship

Our theoretical argument is that elevated information costs in evaluating unique strategies explain the reduction in coverage that these firms receive. An additional approach to examining this causal mechanism is to examine how the relationship between strategy choice and coverage is influenced by exogenous changes in information costs. The general pattern to these tests is that if information costs drive the relationship between strategic choice and analyst coverage, then events that reduce the information problem will reduce the strength of the relationship between strategic uniqueness and analyst coverage. We identify several such events and then execute appropriate empirical tests, which are summarized in Table 6.[19]

First, the introduction of Financial Accounting Standards Board's (FASB) rule SFAS 131, effectuated in 1998, increased information disclosure by providing more disaggregated information to shareholders regarding lines of business within the firm (Berger and Hann 2003). If SFAS 131 has contributed to the release of more firm-specific information, analysts' costs of covering unique strategies should decline, thereby mitigating the relationship between uniqueness and analyst coverage. As predicted, we test for this mitigation by introducing an interaction between UNIQUE and a dummy variable that takes the value of 1 subsequent to 1997 and 0 prior to 1998. We find that the coefficient on the indicator variable is positive and significant in models (1)–(5) of Table 4. We also find that the coefficient of the interaction of UNIQUE with the indicator is positive and significant in models (1)–(5); for example, in column (1) we obtain the coefficient of 0.113 with a *t*-statistic of 2.27. Importantly, we also find that the UNIQUE coefficient estimates remain negative and significant.

Second, an important shift in the regulatory environment for sell-side analyst research occurred in July 2002 with the introduction of the NASD Rule 2711 and the NYSE Rule 472. These new rules established stringent disclosure requirements that were intended to make research output more objective and independent (for evidence, see Chen and Chen 2009, Barber et al. 2006). Following the same design as above, we redo the Table 4 analysis, but include an indicator variable with a value of 0 before August 2002, and a value of 1 thereafter, and also add an interaction with UNIQUE. We find that with the introduction of this regulation, the relationship between UNIQUE and analyst coverage, although remaining significant, does significantly decline in absolute magnitude. Thus, both of these exogenous events, which presumably lowered analysts' costs, reduced the relationship between uniqueness and analyst coverage.

Firms may take strategic actions to reduce information costs. Such actions may also reduce the relationship between analyst coverage and uniqueness in strategy choices. Consequently, we explore similar interactions with UNIQUE for several firm-level choices that may increase information provision. We consider instances of subsidiary spin-offs, arguing consistent with Gilson et al. (2001) that such events lead to better information disclosure to market participants.[20] We also examine the issuances of tracking stocks, arguing that these events will require significantly greater information disclosure.[21] Finally, we examine issuances of public debt by subsidiaries, arguing that such issuances require subsidiary information disclosure beyond that mandated by SFAS 131.[22] We hypothesize that in each of these instances, these firm-specific choices will reduce the relationship between UNIQUE and analyst coverage. In separate models that include each of these indicator variables and an interaction with UNIQUE, respectively, we find the same pattern of results as we did above: The interaction coefficient of the indicator variable and UNIQUE is consistently positive and significant, whereas the coefficient on UNIQUE remains negative and significant.

[19] We thank an anonymous reviewer for suggesting many of these additional tests of our information logic.

[20] We identified 444 firm-years in which a company conducted a spin-off using the Securities Data Corporation (SDC) data and create an indicator variable for each firm-year in our sample that takes a value of 1 subsequent to the calendar year of the stock issuance.

[21] There are 68 tracking stock issuances in our sample. We create an indicator variable equal to 1 in the calendar year subsequent to the tracking stock issuance.

[22] We record 3,121 public debt issuances by subsidiaries of public companies in our sample from SDC. We create an indicator variable equal to 1 for the year subsequent to the issuance effective date.

Table 6 Additional Empirical Tests

Test	Hypothesis	Empirical design and results
FASB SFAS Rule 131	The introduction of Financial Accounting Standards Board's (FASB) rule SFAS 131, effectuated in 1998, increased information disclosure by providing more disaggregated information to shareholders (Berger and Hann 2003). Assuming that this rule has contributed to the release of more firm-specific information, we expect that the analyst would find it easier to cover firms with unique corporate strategies.	We estimate the models in Table 4, but include also an indicator variable of 1 post-1997 and 0 otherwise, and its interaction with UNIQUE. If our hypothesis is true, we expect a positive coefficient on the interaction. We find confirmatory results.
NASD Rule 2711 and NYSE Rule 472	The adoption of these rules is believed by commentators to have improved the objectivity, independence, and balance in analyst recommendations (Chen and Chen 2009, Barber et al. 2006). We anticipate that subsequent to these rules adoption, there would be a mitigation of the negative relationship between analyst coverage and UNIQUE.	We estimate the models in Table 4, including also a dummy variable of 1 post-May 2002 and 0 otherwise, as well as its interaction with UNIQUE. In accord with our hypothesis, we expect that the interaction coefficient is positive and significant. We find confirmatory results.
Subsidiary spin-offs	We consider instances of subsidiary spin-offs arguing, consistent with Gilson et al. (2001), that such events lead to better information disclosure to market participants, thereby enabling analysts to more easily and accurately evaluate particularly unique strategies.	We perform regressions as presented in Table 4 in the manuscript. We add to the list of independent variables a dummy variable equal to 1 for the year subsequent to the spin-off of a corporate subsidiary and 0 otherwise. We also add its interaction with UNIQUE. There are 444 spin-offs in our sample. Our results confirm a significant positive interaction.
Issuance of tracking stocks by subsidiaries	We argue that these events will require significantly greater information disclosure about the underlying assets of the segment being listed. This disclosure will reduce the negative relationship between uniqueness and analyst coverage.	We estimate the models in Table 4, where we include a dummy variable of one for firm-year observations with issuance of tracking stock (there are 68 such events), and its interaction with UNIQUE. Our hypothesis predicts that the interaction would have a positive and significant coefficient. We find confirmatory results.
Subsidiary public debt issuance	We argue that these events will require significantly greater information disclosure about the underlying assets of the segment being listed. This disclosure will reduce the negative relationship between uniqueness and analyst coverage.	We estimate the models in Table 4, where we include a dummy variable of 1 for firm-year observations with issuance of public debt by a subsidiary of the firm in the prior year (there are 3,121 such issuances), and its interaction with UNIQUE. Our hypothesis predicts that the interaction will have a positive and significant coefficient. We find confirmatory results.
Large brokerage house analyst coverage	We examine the share of all coverage attributed to analysts from large brokerage houses. If such institutions employ a more diverse analyst group and if firms with unique corporate strategies require broader analyst expertise to analyze them, we expect that the share of large brokerage house analysts (covering a firm with a unique corporate strategy) will be higher than otherwise.	Each year we rank brokerage houses in deciles according to the number of analysts that they employ. We calculate for each firm within each year the number of analysts who cover that firm and are employed by a top decile brokerage house. We then calculate for each firm-year in the sample the share of large brokerage house analysts from the total number of analysts. We regress that ratio by Tobit method on all control variables in model (4) of Table 4. We find that analysts of large brokerage houses are disproportionately likely to cover firms with unique strategies.
Complementarity of unique and complex corporate strategies	We hypothesize that firms that are both unique and complex in corporate strategies are likelier to have a more negative relationship between analyst coverage and the uniqueness of the corporate strategy. The argument is that complexity functions as a complement in augmenting the costs associated with learning about a unique corporate strategy.	We repeat our tests in Table 4 with the addition of three interaction variables: the interactions of UNIQUE with the three segment indicator variables. We expect the coefficient sign on these variables to be negative and significant. We obtain mixed results across our models.

Notes. Summary of tests of information costs as the driver of the relationship between uniqueness and analyst coverage. We present the description of the results to these tests in §4.3.

Large brokerage houses with a wide range of industry specialists and familiarity with a broader array of firms may face lower information costs than small brokerage houses in evaluating unique corporate strategies. We might therefore expect that the share of large brokerage house analysts covering firms with unique corporate strategies will be higher than the share covering firms with more common strategies. Again, we find support for this hypothesis.[23]

[23] Each year we rank brokerage houses in deciles according to the number of analysts that they employ (to capture the size of the brokerage house). We then calculate for each firm within each year the number of analysts who cover that firm, and who are also

Finally, although we expect uniqueness and complexity to have independent effects on the costs of coverage, we might also expect these effects to be more than additive. In particular, unique strategies may be more costly to assess when they are also complex. In other words, evaluating unique asset combinations may be particularly difficult when the combination involves both many distinct businesses and an unusual combination of them. We then anticipate that the negative effect of UNIQUE on analyst coverage will be increasing in the level of complexity (i.e., the scope of diversification). We generally find evidence of this in our empirical tests. Nonetheless, we still find that even among single-segment firms, greater uniqueness is associated with reduced coverage.

All of the above results, summarized in Table 6, therefore point to a rather consistent story. Uniqueness in corporate strategy choice is negatively related to analyst coverage and the strength of this relationship is directly shaped by the magnitude of the information costs involved in obtaining information about the strategy. When information costs are high, the relationship between uniqueness and analyst coverage becomes more negative.

4.5. Robustness of Main Results

Given our introduction of a novel measure of strategy choice, we conduct a range of tests to explore the robustness of the key findings. One concern in our analysis is the presence of firms that are alone in their primary (and only) four-digit SIC in a given year. Indeed, there are 360 such firms, accounting for 1,213 observations in our sample (or, less than 2.1% of all observations in our sample). To ensure that these observations are not driving our results, we exclude them from our sample and reproduce our results. In additional tests, we create a dummy variable, $Monopoly_{i,t}$, for all such firms, and control for it in all regressions. Our results obtain in both of these analyses.

Errors in segment reporting are another concern. Under SFAS 131 (disclosure about segments of an enterprise) and its predecessor, SFAS 14, management is only required to identify business units as separate entities for accounting purposes if these units account for at least 10% of firm sales, or assets, or profit or loss. As such, it is possible that our definition of the UNIQUE measure is biased, as units that account for less than 10% of all sales would likely be missed in this specification, and we would understate the true level of strategy uniqueness. To address this potential concern, we include only observations for which the sum of segment sales within a given year is equal to the total sales reported in Compustat for the firm, with a + or − 5% margin. In these robustness tests we receive largely the same results.

A further concern with UNIQUE is its positive and significant correlation with the number of segments (0.20). Although we have included several dummy variables for the number of segments, it could be that our results for UNIQUE obtain because we do not adequately control for the number of segments, particularly for firms with a large number of reported segments. To address this concern, we reestimate our models in Table 4 with the number of segments (a simple count measure) as an additional control variable. Our results generally remain. We also consider an adjusted measure of uniqueness, UNIQUE*, which is the residual of the regression of UNIQUE on the number of segments. Using that measure instead, our results still obtain.

A possible concern with our strategy uniqueness measures is its dependence on sales in constructing the normalized centroid vector $s_{j^*,t}$ and the normalized firm vector s_i. For robustness, we rebuild our measures of strategy uniqueness to merely reflect a firm's presence in a particular SIC code rather than their magnitude of sales, substituting the dollar values of sales that enter the vector of sales across all N SICs for each firm with an indicator variable equal to 1 if the sales are nonzero and 0 otherwise. We then normalize these vectors to unit length and compute the uniqueness measure, UNIQUE**, accordingly.[24] Our results with both modified measures are similar to those presented (in Tables 4 and 7).

Another possible concern is our choice of using the primary SIC in computing a benchmark for evaluating strategy uniqueness. As noted previously, our choice of primary industry centroid in calculating UNIQUE may result in different benchmarks for firms with similar corporate scope (e.g., a firm with 60% of its sales in its primary industry, X, and 40% in its secondary industry, Y, will receive a different benchmark than a firm with 40% of its sales in industry X and 60% in industry Y). To address this issue, we exclude firms for which the difference in sales share of its primary and secondary industry is less than 33% (we have also considered an alternative requirement of 50%). Such subsample is unlikely to be subject to the issue of incorrect primary industry centroid attribution. Our results remain.

employed by a top decile brokerage house. We then calculate (for each firm-year in the sample) the share of large brokerage house analysts from the total number of analysts. We then regress that ratio by the Tobit method on all control variables in model (3) of Table 4. We obtain that the coefficient of UNIQUE in this regression is 0.105 with a t-statistic of 3.09.

[24] In this case we define the centroid strategy to be the fraction of all firms that are in any given SIC code across all SIC codes ($N = 1{,}106$).

Last, we recalculate the measure of UNIQUE at the three-digit level (where we defined the two vectors over the space of three-digit SIC segment industries, i.e., $N = 408$). Again, our results still remain.

5. Results: Firm Value, Uniqueness, and Analyst Coverage

Our prediction regarding the relationships among firm valuation, analyst coverage, and corporate strategy uniqueness are complex. On one hand, we have shown that the more unique a firm's corporate strategy is, the less coverage by analysts that it receives. From this result, we would expect that unique strategies will result in lower Tobin's q, because analyst coverage is positively associated with it (Doukas et al. 2005). On the other hand, uniqueness enables the acquisition of assets at a discount, and hence the selection of a unique strategy should result in higher Tobin's q. Although the full effect of selecting a unique strategy on Tobin's q is theoretically uncertain, reflective of the fundamental dilemma the manager faces in strategy choice, controlling for the level of coverage, we expect the effect of uniqueness on firm value to be positive.

To examine these relationships among corporate strategy uniqueness, analyst coverage, and firm value, we regress Tobin's q on analyst coverage measures, a set of controls generally known to correlate with Tobin's q, and measures of corporate uniqueness. For each firm, our dependent variable is Tobin's q, which we calculate as the market value of the firm divided by its book value (Kaplan and Zingales 1997).

We also calculate and examine two industry-adjusted measures of Tobin's q. The first one is Tobin's q measured as market-to-book (M/B) ratio less the sales-weighted M/B ratios of its segments. We adopt here the methodology of Berger and Ofek (1995), computing these segment-level market-to-book ratios by calculating annually the median industry M/B ratios based only on single-segment firms. We refer to this valuation measure as the *diversification premium*. This measure essentially tells us the additional premium (or discount) a focal firm receives relative to a benchmark M/B ratio that is computed from the pure-play equivalents of firms who participate in the focal firm's same SIC codes. The second measure is Tobin's q less the imputed Tobin's q for the primary industry centroid strategy, $s_{j^*,t}$. We impute the latter valuation as the dot product of the primary-industry normalized sales vector $s_{j^*,t}$ and a vector of annual median M/B ratios for single-segment firms in each industry. We refer to this valuation measure as the *uniqueness premium*, as firms with more unique strategies may have valuations that differ from those of their primary-industry centroid strategy. This measure attempts to isolate the M/B premium (or discount) associated with a firm's unique strategy or portfolio selection relative to the value associated with the industry centroid strategy's M/B as computed from a portfolio of pure-play firms. As in our examination of analyst coverage, we examine regressions with firm fixed effects to address concerns of a potential time-invariant correlated-omitted variable problem.

Column (1) of Table 7 presents estimates of the OLS regression of the M/B ratio. The coefficient for adjusted coverage is 0.089, positive and significant, as predicted. The result suggests that firms that receive more coverage trade at a higher premium relative to firms receiving less coverage. In addition, the coefficient for log sales is negative and significant. These results are broadly consistent with other work looking at Tobin's q as a measure of firm value. We find that the selection of unique strategy is positively related to Tobin's q, consistent with the argument that uniqueness in strategy is a necessary condition for value creation and economic rent generation.

Column (2) presents an OLS specification for the *diversification premium*—the measure of firm value in excess of the pure-play value of the constituent segments. The results are generally consistent. Uniqueness in strategy is positively related to this measure of excess firm value. Note that the positive coefficient on the uniqueness measure in these specifications does not preclude the possibility of a uniqueness discount that accompanies reduced analyst coverage. Our argument is that uniqueness discourages coverage and reduced coverage dampens Tobin's q. Thus, although unique strategies receive a premium, that premium is lower (i.e., discounted) relative to where it would be with greater analyst coverage.

Column (3) presents OLS results for the uniqueness premium, calculated as the difference in the focal firm's valuation and the valuation of its primary-industry centroid strategy. The coefficient for adjusted coverage remains positive, significant, and similar in magnitude. The sign, significance, and magnitude of our control variable coefficients are also similar to the column (1) results. Finally, the results on strategy choice, both uniqueness and diversification, remain largely unchanged from the column (1) results. We further note that the coefficient on $Segment_2$ is now positive and significant (i.e., we find a diversification premium), consistent with the recent literature on the endogenous choice to diversify (Villalonga 2004a, b). Last, results obtain when we substitute UNIQUE with a similarly constructed uniqueness measure based on segment-specific capital expenditures rather than sales. Thus, our results rather consistently demonstrate a positive and significant relationship between uniqueness and firm value,

Table 7 Tobin's q, Analyst Coverage and Strategy Uniqueness

	M/B	Diversification premium	Uniqueness premium
	(1)	(2)	(3)
UNIQUE	0.168***	0.11**	0.144***
	(3.26)	(2.07)	(2.71)
Log *sales*	−0.064***	−0.09***	−0.083***
	(4.36)	(5.93)	(5.71)
Sales growth (past three years)	0.048***	0.047***	0.051***
	(4.11)	(3.93)	(4.35)
Issuances in prior year indicator	0.131***	0.115***	0.117***
	(10.33)	(8.59)	(8.94)
Earnings coef. of variation	−0.01**	−0.012***	−0.01**
	(2.21)	(2.72)	(2.29)
No. of firms in industry	0.0001	0.001**	0.0001
	(1.57)	(2.14)	(1.39)
ROE	0.103***	0.077***	0.082***
	(6.66)	(4.78)	(5.19)
Log *number of shareholders*	−0.023**	−0.009	−0.010
	(2.53)	(1.03)	(1.06)
$Segment_2$	0.005	0.029*	0.028*
	(0.31)	(1.88)	(1.83)
$Segment_3$	0.006	0.024	0.019
	(0.36)	(1.30)	(1.05)
$Segment_4$	−0.005	0.033	0.022
	(0.25)	(1.57)	(1.07)
Log *common equity*	−0.196***	−0.17***	−0.176***
	(17.33)	(14.8)	(15.61)
Average HHI	−0.149***	0.016	0.001
	(2.91)	(0.30)	(0.01)
Average market share	0.218***	0.307***	0.21***
	(3.81)	(4.9)	(3.39)
RD_F	1.364***	0.91***	0.927***
	(5.37)	(3.58)	(3.66)
ADV_F	−0.667	−0.918*	−1.023**
	(1.33)	(1.81)	(2.02)
INTANG_F	−0.68***	−0.639***	−0.665***
	(9.65)	(8.94)	(9.34)
DPT_F	−1.164***	−1.461***	−1.457***
	(5.86)	(7.17)	(7.32)
Adjusted coverage	0.089***	0.12***	0.145***
	(4.52)	(5.31)	(6.48)
Δ S&P 600 index membership	0.022	0.025	0.036*
	(1.04)	(1.19)	(1.77)
Regulated industry indicator	0.055	0.332**	0.341**
	(0.44)	(2.49)	(2.61)
Reg. FD dummy	0.43***	0.385***	0.369***
	(12.94)	(11.03)	(10.73)
Observations	56,451	56,451	56,433
R-squared (%)	65.1	54.6	55.1

Notes. OLS regressions of the effects of adjusted analyst coverage and corporate strategy uniqueness on Tobin's q, diversification, and uniqueness premia. All models include year and firm fixed effects. The t-statistics (in parentheses) are based on robust standard errors, cluster-adjusted at the firm level.

***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

but a relationship that is tempered by the negative effect of uniqueness on analyst coverage and analyst coverage's positive effect on firm value.[25]

6. Discussion and Conclusions

Our empirical aim was to present evidence that managers face a paradox in selecting strategy. On one hand, the selection of unique (and valuable) strategies elevates firm value; on the other hand, the adoption of unique strategies creates an information problem that reduces analyst coverage and thereby dampens firm value. Our empirical results are consistent with the relationships we hypothesized.

First, we find that firms that choose more unique strategies receive less analyst coverage than those that choose more familiar strategies. We can reasonably conclude that as firms move further away from the corporate-level strategies of their peers in their primary industry, they receive less coverage. Alternatively, as they move closer to the strategy of their peers, analyst coverage increases. Moreover, these results are of important economic magnitude. A one standard deviation increase in our measure of corporate strategy uniqueness is associated with a 5.5% reduction in the percentage of industry analysts that cover a firm (based on model (3) in Table 4).

Second, our results suggest causality in this relationship, as changes in the level of strategy uniqueness are related to changes in levels of analyst coverage. Moreover, a series of additional tests point to elevated information costs as the driver of this relationship between strategy choice and analyst coverage.

Third, firms that receive less coverage also have lower valuations than those that receive more coverage. Moreover, the effect of a reduction in coverage after controlling for the likelihood that both coverage and value are correlated with unobserved firm effects is nontrivial in magnitude. Holding all other variables constant, a reduction in adjusted coverage by one standard deviation decreases the firm's Tobin's q by approximately 28% below its mean, based on estimates in Table 7. On the other hand, the main effect of uniqueness on firm value is positive, suggesting that uniqueness receives what amounts to a "discounted premium." Our analysis suggests that if uniqueness is increased by one standard deviation, but for the reduction in coverage due to uniqueness, the uniqueness premium would be 42.5% larger. All of our key

[25] A concern with our analytic method is the potential joint determination of Tobin's q, corporate complexity (diversification), and analyst coverage. We therefore also performed a 2SLS instrumenting for both analyst coverage and diversification, following the instruments used by Campa and Kedia (2002). These results are consistent and are available upon request.

findings are quite consistent across specifications and stand up to a wide range of robustness checks.

Our results thus suggest that managers indeed face a paradox in choosing their strategy. Although uniqueness in strategy choice is a necessary condition for value creation, as measured by expected future operating performance, uniqueness in strategy also mandates more costly expenditures by participants in the market to evaluate such strategy. If analysts (or the investment banks which assign analysts) were rewarded in ways that overcame these greater costs associated with evaluating unique strategy, then capital markets might correctly (efficiently) evaluate unique strategies. However, our empirical results (and anecdotal observation) suggest that this is not the case.

The link between investment banking business and analyst rewards as well as the presence of a budget constraint on analyst time suggest that at best analysts face a multitasking problem when allocating effort to accuracy in analysis of strategies. Although accurate and thorough analysis yields some positive returns to analysts and investment banks, the capacity to draw investment banking business or trade volume through coverage choices and analysis has been and continues to be a strong financial motivation. Because analysts are not directly rewarded for effort, effort allocated to costly-to-analyze firms is likely to be less than effort allocated to easily analyzed firms, all else equal. Consequently, capital markets appear to systematically discount uniqueness, an element of strategy essential for value creation. The result of the above is that managers make strategy choices that are, at the margin, more common than they would be if the manager were simply choosing strategies that maximized the discounted present value of expected long-term operating performance.

Our results highlight a less developed implication and interpretation of the information asymmetry between managers and investors. The existing literature has primarily emphasized the moral hazard problem that this information asymmetry creates, arguing that managers exploit the information gulf by crafting self-serving strategies that undermine shareholder interests. By contrast we emphasize the adverse selection problem in capital markets, assuming well-intentioned managers who seek to craft strategies that maximize value created, but who are constrained in their choices by the costly effort required to overcome this information gulf. Moreover, unlike prior work, we assume a manager who in selecting strategy essentially selects both the future return and the present market discount due to the costliness of the evaluating that strategy. In essence, in selecting strategy, managers choose the magnitude of the information problem they impose on the market. Clearly, both problems are operative in the relationship between managers and capital markets.

Our results also imply that governance may have an important bearing on strategy choice. Governance, including incentives focused on maximizing current equity value of the firm, may encourage the adoption of common and less complex strategies that play to effort-averse analysts. By contrast, governance that emphasizes long-term value, or even incentives more weakly linked to present market value, may encourage more unique and ultimately more valuable strategy choices. Of course, private equity, such as family business, where managers have large ownership stakes, may provide incentives that also encourage the adoption of complex or unique but value-creating strategies. In this case, the costs of convincing investors (often themselves) of the merits of unique strategy are greatly reduced.

Our research suggests several avenues for future research. Our theory, consistent with strategic factor markets logic (Barney 1986), implies that uniqueness in corporate strategy drives value creation by permitting the acquisition of assets at discounted prices. However, this link between uniqueness in strategy choice and the prices paid for assets has not been directly examined empirically to our knowledge. Our theory also implies that uniqueness in strategy choice, although generating discounted equity prices in the present, should, if allowed to play out, generate higher returns in the future—a prediction that remains untested in this context. The relationship between managerial incentives and the uniqueness of the adopted strategy choices also remains an important but untested question. If, as our findings suggest, capital markets discourage precisely those strategies that merit encouragement, then further research in this domain is of particular significance.

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