Invest or Harvest: Dilemma Reexamined

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A Manager's Dilemma: Sow or Harvest

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Abstract

Firms regularly face the dilemma of harvesting profits now or investing in future value creation. Prior research calls this tradeoff *strategic emphasis* and examines abnormal changes in advertising and R&D expenses as proxies for focus on value-appropriating and value-creating activities, respectively. Such an investigation, however, is incomplete for at least four reasons. First, more than 75% of listed firms report no R&D and advertising expenses. Second, R&D expenses are often strategically underreported. Third, an increasing proportion of resources is invested in marketing assets such as brand equity, customer communication, acquisition, relationship, logistics, and customer equity that are excluded from R&D or advertising expenses. Fourth, prior investigation is confined to manufacturing industry. We address these limitations by a comprehensive identification and investigation of value-appropriating and value-creating outlays in selling, general, and administrative expenses (SG&A) as well as examining a wider set of public companies over a longer period of time. We find that a firm's unexpected shift in its focus from value creation to value appropriation decreases its market value, contrary to prior findings. Nevertheless, market value increases when firms harvest values in periods of unusually good performance.

Keywords: Strategic emphasis; intangible investments; R&D; advertising; organizational focus; stock returns

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1.   Introduction

A firm's success depends on exploiting its existing capabilities and developing new competencies (Fisher 1930; March 1991; Levinthal and March 1993; Kyriakopoulosa and Moorman 2004; Chandy and Tellis 1998). Firms regularly face an important dilemma: how to decide between supporting and exploiting existing products that improve current bottom line and investing in new product ideas, which might produce future profits but reduce current profits? Developing dynamic capabilities that enable managers to accomplish both objectives simultaneously is neither easy nor cheap (Cepeda and Vera 2007). In more realistic scenarios, firms struggle to optimally allocate their scarce resources among consumption and investing, exploitation and exploration, and value appropriation and value creation (Fisher 1930; March 1991; Pauwels and Reibstein 2010; Hanssens and Pauwels 2016). Often firms alternate between exploration and exploitation in a temporal sequence (Gupta, Smith, and Shalley 2006). For example, in May 2017, Ford fired its CEO Mark Fields, despite his producing record profits from legacy car models, and replaced him with Jim Hackett, who can potentially lead the firm to an era of self-driving cars and electric vehicles.[1]

Limited research exists on the tradeoffs in investments between value creation and value appropriation and the impact of these decisions on firm value. Extant research relies on firms' research and development (R&D) and advertising expenses as proxies of value creation and value appropriation, respectively (Kyriakopoulosa and Moorman 2004). Researchers have identified at least three limitations of this approach of examining just R&D and advertising expenditures. First,

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[1] See "Why Ford fired its CEO," available at http://money.cnn.com/2017/05/22/news/companies/ford-ceo-fields-hackett/index.html.

in recent years, firms have increased their investments in areas other than R&D as a source of value creation. Investments in organizational competency, customer relations, computerized data and software, and human capital are growing every year. These sizable outlays (e.g., $1.2 trillion in 2000) create value in both the short and the long term (Corrado et al. 2005). Second, more than 75% of listed firms report no R&D or advertising expenses in their financial reports. Some firms strategically underreport R&D expenses to avoid revealing sensitive information to competitors (Koh and Reeb 2015). For example, Verizon and UnitedHealth Group reported no R&D expenses for the years 2013, 2014, and 2015, despite being considered high-technology firms. Third, even when reported, R&D and advertising expenses are a small fraction of total assets: 3.8% and 1.4%, respectively. In contrast, selling, general, and administrative (SG&A) expenses, which include a variety of intangible investments, amount to 35% of total assets on average (Enache and Srivastava 2018, ES hereafter). It is no wonder that researchers call for a more comprehensive examination of the determinants and consequences of unanticipated shifts in a firm's strategic emphasis from value creation to value appropriation using SG&A expenses (Mizik and Jacobson 2003; Lev and Radhakrishnan 2005; Eisfeldt and Papanikolaou 2013; Falato et al. 2013). However, an examination of value creating and value appropriation activities reported in SG&A expenses has been challenging because firms report those outlays in a commingled manner (Maines et al. 2003).

We address this limitation and build on recent research in the accounting field on the value-creating and value-appropriating impact of SG&A expenses (Banker et al. 2011; Enache and Srivastava 2018). Our approach relies on the idea that a firm's resource allocation of limited resources requires tradeoffs between current and future organizational needs (Williamson 1975, Donaldson 1984, Stein 1997). The value-appropriating portion of SG&A should support current operations. Head office and warehouse rents, customer delivery costs, and sales commissions

would fall into this category (Matějka 2011). We consider it to be value-appropriation outlays and measure them by matching SG&A with current revenues in a regression estimated by industry and year, after removing R&D and advertising expenses, following ES. The remaining value-creation portion of SG&A outlays are more significantly associated with future earnings. Hence, we consider them intangible investments. This approach is similar to prior studies that estimate the predicted value of a variable using its economic determinants (e.g., Jones 1991; Dechow and Dichev 2002; Kothari, Leone, and Wasley 2005; Roychowdhury 2006; Banker et al. 2011).

We conduct a battery of convergent and discriminant validity tests on our measures to test the idea of rational allocation. We find that the value-appropriation component has the attributes of short-term consumption activities, and the value-creation component has the attributes of long-term investment activities, respectively. For example, the value-creation portion of SG&A is strongly related with growth in future earnings and Tobin's Q. The value-appropriation portion bears stronger correlation with current years' revenues. Furthermore, the value-creation portion has the properties similar to those of R&D expenses and the value-appropriation portion has the properties closer to those of advertising expenses.

Because we are not limited to firms reporting R&D and advertising data, we cover a comprehensive set of 159,041 firm-year observations over the 44-year period from 1971 through 2014. (For comparison, requiring positive R&D and advertising expenditures reduces the sample by about 81% to 30,855 firm-year observations.) This enables us to examine a broader set of firm strategies and expenses such as on branding (Rao, Agarwal and Dahlhoff 2004), customer satisfaction (Fornell, Morgeson III, and Hult 2016), human capital (Vomberg, Homburg, and Bornemann 2014), and operations capabilities (Yu, Ramanathan, and Nath 2014).

In sum, we contribute to the extant literature through a more comprehensive examination

of tradeoffs between value appropriation and value creation. We identify much larger outlays on value appropriation and value creation activities than previously considered in literature examining just advertising and R&D expenses. Our principal finding differs from prior results. On average, unexpected shift from value creation to appropriation reduces, not increases, firm value. These findings clearly indicate that the markets are willing to postpone the observance of profits as long as the firm continues to focus on value creation, on average. Nevertheless, we confirm prior findings that shifts towards value appropriation are optimal in opportune times, that is, when firm experiences unexpected increases in profitability. For example, if a product finds market acceptance, unexpectedly, the firm might be better off harvesting its value, before the product loses it appeal or a superior product comes along.

We show how the market's response to unexpected shifts in firm strategies differs based on the firm's economic circumstances and investment opportunity set. In particular, unexpected shifts from value creation to appropriation reduces market value for high-technology firms but increases the market value for low-technology firms. Thus, industries characterized by rapid product obsolescence and the need for establishing the firm's own technology as the industry standard, must avoid unexpectedly shifting focus from product creation to harvesting of value (Schilling 2002). On the other hand, the markets reward low-technology firms for focusing on harvesting of value.

The next four sections present the theory, models, method, and results. The last section discusses the findings, implications, and limitations of the research.

2. Dynamics of Value Creation and Value Appropriation

Market success is driven by the relative emphasis on refining existing products, processes or capabilities versus development of new ones (Chandy and Tellis 1998; Ghemawat and Costa, 1993). Firms allocate attention and resources between improving existing, routine activities and developing new, innovative activities.

2.1. Specialization, Ambidexterity or Punctuated Equilibrium

Extant research suggests that firms approach the goal of balancing between exploration and exploitation in three primary ways (He and Wong 2004; Gupta, Smith, and Shalley 2006). First, firms consider the two options as mutually incompatible and decide to specialize on a single end of the continuum. For example, some firms principally devote their resources towards exploration and position themselves as targeting new consumers and markets with innovative products. Other firms devote a substantial proportion of resources towards exploitation and position themselves as targeting the mass market with relatively affordable products. However, undue emphasis on exploitation strategies such as product refinement or efficiency improvement lead to diminishing market opportunities, inertia, and potential obsolescence (March 1991; Adler, Goldoftas and Levine 1999). Similarly, an excessive focus on exploration strategies such as experimentation, flexibility or risk-taking lead to low returns to innovation. March (1991 pg. 71) suggests that firms "that engage in exploration to the exclusion of exploitation are likely to find that they suffer the costs of experimentation without gaining many of the benefits. They exhibit too many undeveloped new ideas and too little distinctive competence." Thus, any one of the two strategies pursued alone leads to suboptimal outcomes.

Second, firms may integrate exploration and exploitation in the diverse organizational activities, and can avoid the disadvantages of excessive focus on either strategy, by pursuing both activities simultaneously (Uotila et al 2009). Such 'ambidextrous' firms strive for a dynamic

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balance by directing attention and resources simultaneously towards both goals in a relatively stable fashion (Chandy and Tellis 1998). Competitive distinctiveness is achieved by balancing resources between operational excellence, to create higher efficiencies, and innovative excellence, to launch radically new products. One challenge associated with this approach is to manage inter-organizational competition for scarce resources and conflict management (Kyriakopoulosa and Moorman 2004). Moreover, it is not easy to develop dynamic capabilities that enable managers to accomplish both objectives simultaneously (Cepeda and Vera 2007).

Finally, firms may alternate between exploration and exploitation in a temporal sequence. Attention and resources are directed sequentially, instead of simultaneously, towards each domain. Long periods of exploration are interspersed with small periods of intense exploitation over time. For example, resources may be initially directed towards developing radically new products over years followed by the directing of resources towards marketing and commercializing those products in subsequent periods. The temporal separation of the two sets of activities allows the firm to extract higher return on investments through specialization. In such an approach, firms strive to disrupt existing firms, markets, and products that have been standardized over long periods of incremental change (Sood and Tellis 2011). This temporal separation of exploitation and exploration activities creates punctuate equilibrium and alleviates resource and administrative challenges and efficient specialization of activities (Gupta, Smith, and Shalley 2006).

In summary, firms opt to follow specialization, ambidexterity, or punctuated equilibrium in their quest for balance between exploration and exploitation. They build human resources and organizational competencies accordingly. Their decision also influences the timing of benefits in relation to the investments. Next, we explore various common exploration and exploitation activities pursued by firms and their relationship with short-term and long-term returns.

2.2. Exploration versus Exploitation Impact of Marketing Investments

Table 1 compares the scale of R&D, Advertising, and SG&A expenses from a sample of firms from a variety of industries. The SG&A expenses for these firms (e.g., Nestlé, Microsoft, Johnson & Johnson, Amazon, AT&T, Walmart, and IBM) exceed $15 billion in the years 2013–2015. Many of these firms report no R&D or advertising expenses, and even when reported, those two expenses represent a very small percentage of total SG&A expenses. These patterns show the necessity of exploring the "black box" nature of SG&A expenses, in addition to investigating R&D and advertising, to more completely examine the firms' value creation and appropriation activities. However, while managers may have a general idea of which expenses are intended to support current operations (exploration) and which are intended to create future benefits (exploitation), this information is not revealed to outsiders (Pauwels and Reibstein 2010; Hanssens and Pauwels 2016). Those activities might be reported in SG&A. We next discuss three broad classes of marketing expenses – R&D, advertising and marketing expenses reported in SG&A.

Innovations create new growth markets and enable new entrants to become market leaders in the long term (Berger, Bolton, Bowman, Briggs, Kumar, Parasuraman, and Terry 2002). Firms benefit in the form of survival, higher market share and profitability (Pauwels et al 2004; Tellis and Johnson 2007). Even in the short-term, investments in exploration and new product development lead to improvements in current products or the introduction of product variants (Mizik and Jacobson 2003). Investments in advertising create awareness and enhance purchase intentions for new products, strengthen product recall, and build brand equity (Kirmani and Zeithaml 1993; Mela, Gupta, and Lehmann 1997). Advertising influences consumers' perceptions, sales and overall profits (Joshi and Hanssens 2004; Hanssens 2009; Sethuraman, Tellis and Briesch 2011). However, numerous meta-analytic studies report high noise in, and low long-term revenue elasticity of, advertising expenses (Assmus, Farley, and Lehmann 1984; Sethuraman, Tellis and

Briesch 2011). Hence, most of the impact of advertising is in the short-term (Jedidi, Mela, and Gupta 1999).

Firms invest an increasing proportion of their resources in building intangible assets like customer equity and brand equity (Aaker 2009; Rust, Lemon and Zeithmal 2004). Some common marketing expenses, regularly included in SG&A, include those spent on customer relationship management, distribution infrastructure, market research, customer databases, consulting for market positioning, sales commissions, sales promotions, flyers, brand ambassadors, product websites, online payment mechanisms, and corporate social responsibility. These expenses are expected to produce benefit in short or long term. Investments directed toward customer satisfaction increase cash flows and decrease the variability of cash flows (Gupta and Zeithaml 2006; Gruca and Rego 2005). Firms with high customer equity attract and engage more customers and have higher customer lifetime value (Kumar 2018). Entering new markets, developing new products, building new knowledge structures, and creating new segmentation, positioning, or marketing mix strategies are all different ways to enhance customer value (Yalcinkaya, Calantone, and Griffith 2007). Firms also spend to enhance market information and build relationships (e.g., by procure databases on their consumers, markets, and competitors). Outlays on nurturing relationships among a firm and its key external stakeholders, including distributors, retailers, end customers, other strategic partners, and community groups, create future value. Firms with satisfied customers enjoy higher repeat sales, lower costs of customer service, and fewer product recalls in the short term. In the long term, high customer satisfaction translates to lower marketing costs from better customer relations, successful product line extensions, and increased profitability (Fornell et al. 2006).

In summary, marketing investments contribute to both value creation (with expected

returns over the long term) and value appropriation (with expected returns over the short term). Whereas the dominant focus of R&D expenses is long-term (exploration) and the dominant focus of advertising expenses is short-term (exploitation), researchers cannot comprehensively examine the impact of the remaining SG&A expenses. The lack of separate data on expenses other than R&D and advertising has limited the past analyses to only these two outlays (Mizik and Jacobson 2003).

2.3. Decomposition of SG&A into Value Creation and Value Appropriation Components

We now describe the method used to decompose the entire SG&A expenses into value creation and appropriation components, following ES. We then use this decomposition to analyze markets' response to firms' tradeoffs between value creation and value appropriation in a broader set of marketing investments. We first subtract R&D (Compustat XRD) and advertising expenses (Compustat XAD) from SG&A (Compustat XSGA) because Compustat includes them in the SG&A category even when they are separately reported to compute *MainSG&A* expenses. (Depreciation expense for the assets related to the SG&A activities (Compustat DP) and special cost items (Compustat data item SI) are already removed in Computstat's reporting of SG&A).

We estimate the following model[2], by industry and year, to split *MainSG&A* into two components–*ValApprMainSG&A* (those that produce benefits in the current year) and *ValCreatMainSG&A* (those that are expected to produce future benefits)–in two steps following ES. First, we estimate identify the portion of MainSG&A associated with current revenues after

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[2] We assume that on average, firms spend on intangibles to support current operations (value appropriation) or to produce future benefits (value creation). We disaggregate intangibles, other than R&D and advertising, represented by MainSG&A, using econometric techniques. We estimate a regression of MainSG&A on current revenues, both scaled by total assets, on industry-year basis. The portion of MainSG&A associated with current revenues, that is, estimated by regression coefficient times current revenues, is presumed to represent value appropriation. The remaining MainSG&A, that is, intercept plus residual, is presumed to represent value creation. We conduct a battery of tests to establish the validity of our value appropriation and creation measures.

accounting for industry and time (Dichev and Tang 2008). Next, we extract the value-appropriation portion of SG&A from MainSG&A using the estimates.

(1) $MainSG\&A_{i,t} = \alpha_{Ind,t} + \beta_{1,Ind,t} \times Revenues_{i,t} + \beta_{2,Ind,t} \times Dummy\_Revenue\_Decrease_{i,t} + \beta_{3,Ind,t} \times Dummy\_Loss_{i,t} + \varepsilon_{i,t}$,

(2) $ValApp\widehat{rMain}SG\&A_{i,t} = \hat{\beta}_{1,Ind,t} \times Revenues_{i,t}$

   where i = firm, Ind = industry defined by two-digit SIC code, and t = year.

The models are estimated at the industry-year level. The industry is defined using the two-digit SIC classification. We conduct additional analysis using Fama and French 48-industry classification (Fama and French 1997). We exclude all finance firms, because the traditional cost classifications of cost of goods sold (COGS) and SG&A do not apply to finance firms. We also exclude the industry category called "almost nothing" because of the difficulty in interpreting its results in an industry context. MainSG&A and Revenues (Compustat SALES) are scaled by the average of the beginning and ending total assets for the year (Compustat AT) (see Appendix).

Recent empirical research reports that SG&A costs increase more rapidly when sales increase but decline less rapidly when sales decrease (Anderson, Banker, and Janakiraman 2003). We control for this "stickiness" of MainSG&A by adding a dummy variable (*Dummy_Revenue_Decrease*) that takes the value of one if revenues decline during the year and zero otherwise (Anderson et al. 2003). Including or excluding this term makes no significant difference to the results. We do not include this stickiness dummy in equation (2) to allow for the possibility that the stickiness of the SG&A expenses partially results from the investments reported in the SG&A category that do not fluctuate with current revenues but are essential for a firm's long-term performance (Lippman and Rumelt 1982; Mizik and Jacobson 2003).

Since losses often accompany significant corporate events, we include a dummy variable (*Dummy_Loss*) to account for accounting losses (Abarbanell and Bushee 1997). The dummy is not included in equation (2) to allow for the possibility that firms often change their cost patterns,

particularly investments, following losses. Finally, we do not add the intercept to equation (2) to allow for the possibility that same-industry firms spend relatively constant intangible outlays, in a competitive manner that do not produce much benefits, and thus, do not vary with current revenues. In fact, intercept is a good approximation of an industry's average MainSG&As that are unrelated to current revenues, and it likely represents the average value-creation MainSG&A in that industry, an amount we use for our industry-based tests. The exclusion of these two terms from equation (1) or their inclusion in equation (2) makes no significant differences to the conclusions of the study (results not tabulated).

The value-appropriation component, by construction, produces immediate benefits. Thus, it represents value appropriation activities. It can be interpreted in financial reporting terms as follows - if firms were allowed to initially inventory all MainSG&A outlays, and report only those matched with current revenues as expenses in the current period (Ohlson 2006), then this category would represent the portion of MainSG&A outlays that were both incurred and expensed in the same year. The value-creation portion of outlays in MainSG&A, in that case, would have been capitalized and would be measured on a firm-year basis by subtracting the estimated "ValApprMainSG&A" from MainSG&A:

(3) $ValCreat\widehat{Main}SG\&A_{i,t} = MainSG\&A_{i,t} - ValAppr\widehat{Main}SG\&A_{i,t}.$

This category represents the portion of *MainSG&A* outlays that are expected to produce future benefits but do not create tangible assets in the current period.

As noted in the introduction, the absence of detailed disclosures in firms' financial reports do not allow us to identify the exact activities that are reported in each component of MainSG&A. We conduct tests similar to those done by ES to test the construct validity of our main variables. In tests described in the next section, we find that *ValCreatMainSG&A* and *ValApprMainSG&A*

display properties similar to R&D and advertising expenses, respectively. Moreover, *ValCreatMainSG&A* is more strongly associated than *ValApprMainSG&A* with the increase in the next three years' return on assets (ROA) as well as with Tobin's q, which increases with the market's expectation of the future benefits from current investments.

Nevertheless, these SG&A based measures suffer from certain limitations. First, the value-creation component excludes outlays that are associated with both current and future revenues. This should underestimate value-creation component. Second, the value-creation component includes bad investments or investments that produce no benefits. Such measurement errors should bias against finding results expected to be obtained from investment outlays. In addition, some observations have negative amounts of the measured value-creation component, as would be expected with terms containing regression residuals. ES interpret negative amounts as the given firm's underinvestment relative to levels predicted by industry models.

The merits of using SG&A-based measure lie in examining a much larger category of outlays as well as investigating a much larger sample of firms. We discuss in the next section that R&D and advertising expenses are almost an order of magnitude smaller than the total expenses reported in SG&A. Furthermore, constraining sample to firms that report both R&D and advertising causes a loss of 80% of sample firms. Thus examining just R&D and advertising expenses and just the firms that report both these expenditures could make results non-representative of the general firm behavior. For example, Walmart, the world's largest firm by revenues, and GE, the world's largest industrial conglomerate, would be excluded from the analysis.

2.4. Measuring Tradeoffs between Value Appropriation and Value Creation

Mizik and Jacobson (2003; MJ hereafter) propose measuring strategic emphasis (*SE*) as

the relative allocation between value appropriation and value creation using reported expenses on advertising and R&D (scaled by average total assets), respectively. As shown in Figure 2, their measure is computed as:

(4) $SE_{i,t} = \text{Advertising}_{i,t} - \text{R\&D}_{i,t}$

We define organizational focus (*OF*) as the relative allocation between value appropriation and value creation using estimates of the value-appropriation and value-creation portions of *MainSG&A* (scaled by average total assets), as follows:

(5) $OF_{i,t} = ValAppr\widehat{MainSG\&A}_{i,t} - ValCreat\widehat{MainSG\&A}_{i,t}$.

The first measure (*SE*) limits the definition of value-creating and value-appropriating activities to R&D and advertising expenses (see Figure 2). The second measure (*OF*) extends the definition to include all activities reported in SG&A except those included in the first measure. The term organizational focus is motivated by Eisfeldt and Papanikolaou (2013) who call SG&A based investments as aiding in building of organizational capabilities. The interpretation of both measures is similar. Positive values indicate that a firm has a higher focus on value appropriation strategies than on value creation strategies in a given year. A positive trend in either of these measures over time suggests an increasing focus on value appropriation (and vice versa).

2.5. Measuring Unanticipated Shifts in Strategic Emphasis and Organizational Focus

The stock market reacts to unanticipated shifts in a firm's strategy. When a firm decides to shift its emphasis from a short-term investment to a long-term investment, or vice versa, it creates an information asymmetry between the firm and the market. Disclosures made by firms in annual financial statements reduce this information asymmetry. For example, firms can share plans to invest in future assets like brands versus harvesting current assets through aggressive price promotions. In efficient markets, all available public information on such shifts should be reflected

in the current stock price. However, unexpected shifts in a firm's strategy cause stock price reactions, reflecting the market's reaction to changes in the present value of future cash flows because of the firm's decision to change its strategic emphasis.

MJ calculate a firm's unanticipated shift in strategic emphasis (SE) in a given year as the residual from a first-order autoregressive time-series model in the following regression:

(6) $SE_{i,t} = \alpha + \beta_1 \times SE_{i,t-1} + \sum_y \beta_y \times Dummy\_Year + \sum_s \beta_s \times Dummy\_Industry + \varepsilon_{i,t}$,

where i = firm, Ind = Industry, t = year, $Dummy\_Year$ is a dummy variable to account for year-fixed effects, and $Dummy\_Industry$ is a dummy variable to account for industry-fixed effects. This model assumes that the expected value of strategic emphasis in the current year is the same as that of the last year unless it changed because of economy-wide factors (captured by year-fixed effects) or industry shocks (captured by industry-fixed effects). The residual is considered an unanticipated shift in strategic emphasis.

Accordingly, we calculate the unanticipated shift in organizational focus (OF) as the residuals from the following equation:

(7) $OF_{i,t} = \alpha + \beta_1 \times OF_{i,t-1} + \sum_y \beta_y \times Dummy\_Year + \sum_s \beta_s \times Dummy\_Industry + \varepsilon_{i,t}$, and

The two residuals from Equations (6) and (7) are referred to as $\widetilde{\Delta SE}$ and $\widetilde{\Delta OF}$, respectively. Similar to MJ, we estimate the unanticipated change in a firm's operating performance [return on assets (ROA)] to control for its impact on the relationship among the three measures of tradeoffs and market returns:

(8) $ROA_{i,t} = \alpha + \beta_1 \times ROA_{i,t-1} + \sum_y \beta_y \times Dummy\_Year + \sum_s \beta_s \times Dummy\_Industry + \varepsilon_{i,t}$.

The residual is called $\widetilde{\Delta ROA}$, and represents a shock to current operating performance.

3.   Empirical Tests and Results

Sample Selection: Our sample is from a wide set of industries and includes all firms that

report nonzero SG&A expenses. We exclude banking and financial industries because SG&A expenses and COGS distinctions are not meaningful for them, without which distinction the value-creation portion of MainSG&As cannot be calculated (ES). Each observation also requires data on SG&A, assets, revenues, earnings, share price, and shares outstanding for the current year, as well as earnings, assets, share price, and shares outstanding for the prior year. We separately retain firms that do not report advertising and R&D expenses and replace their missing values with zero. This inclusion allows us to examine firms that may have advertising and R&D expenses but don't report them separately for strategic reasons. Instead, we use the *OF* measure, which examines these expenses as if they are included in *MainSG&A*. Our sample contrasts with MJ, who create a highly restricted sample consisting only of firms from manufacturing industries that report nonzero advertising and R&D expenses. Our study covers 159,041 firm-year observations from the 44-year period 1971–2014, a longer time series than the 1980–1998 period examined by MJ. All manufacturing firms are divided into high-, stable-, and low-technology industries, consistent with MJ. Our sample consists of much larger set of industries, which are also classified into these three categories as shown in Table 2. The number of unique firm and firm-year observations in successive five year periods from 1971–1975 to 2011–2014 by industry categorization are presented in Table 3.

Model-Free Results: Panels A and B of Table 4 presents the descriptive statistics for key variables examined in this study, separately for firms that report both R&D and advertising expenses (30,855 firm year, sample 1 hereafter) and for firms that report neither of those expenses (64,528 firm years, sample 2 hereafter). For the first sample, the average value of SG&A is 0.45, more than four times larger than that the combined value of advertising (0.033) and R&D (0.075). Thus, even if the sample is confined to those that report both R&D and advertising, the examination

is confined to less than 25% of value creation and value appropriating activities. For the second sample, the average value of the *ValCreatMainSG&A* is 0.135 and the average value of the *ValApprMainSG&A,* is 0.194. In addition, we examine two samples of firms that report R&D but not advertising (64,526 firm years, sample 4 hereafter) and advertising but not R&D (45,826 firm years, sample 4 hereafter). Descriptive statistics for samples 3 and 4 are not tabulated.

The values of SE and OF are negative in both Panels A and B, on average. Consistent with MJ, these results suggest that firms place more emphasis on value creation than on value appropriation, on average. The average stock return (*StkRet*) in the two panels and 0.24 and 0.29, respectively, consistent with MJ's average value of 0.27. The average *ROA* in the two panels are 0.028 and -0.001, which differs from MJ's value of 0.087, arguably because we include many loss-making and emerging non-manufacturing firms from the late 1990s and early 2000s that are not included in MJ's sample.

Panels C show the average values of R&D, advertising expenses, and *SE* for the first sample, and *ValApprMainSG&A*, *ValCreatMainSG&A*, and OF for the second sample for the nine successive five-year intervals from 1971–1975 to 2011–2014. The results suggest that both the R&D expenses and the value-creation portion of *MainSG&A* expenses have increased over time, and both the advertising expenses and the value-appropriation portion of *MainSG&A* expenses have declined. Consequently, firms have shifted their strategies away from value appropriation over time.

Table 5 presents the correlations among the key variables separately for samples 1 and 2. We find that stock returns are positively associated with unanticipated improvements in a firm's operating performance $\widetilde{\Delta ROA}$ (0.185 and 0.142, respectively, significant at *p*-value <0.01), as expected. However, stock returns are negatively correlated with unexpected shifts in strategic

emphasis and organizational focus, respectively (−0.036 and −0.051, respectively, significant at p-value <0.01). This indicates that the market reacts negatively when a firm emphasizes value appropriation more than value creation. $\widetilde{\Delta SE}$ and $\widetilde{\Delta OE}$ are positively correlated with unanticipated ROA, indicating that firms shift from shift from value creation to appropriation in periods of abnormally good operating performance.

3.1. Testing the validity of the measures of value-creation and value-appropriation components of MainSG&A

ES test the construct validity each component of MainSG&A by examining the difference in the associations of the two components with well-accepted proxies for organizational capital. They also find that young and growing industries derive greater benefits from *MainSG&A* investments than do mature industries.

Before conducting our main tests, we replicate ES's main robustness test to establish the validity of their measure. We estimate the equation

(9) $FutureBenefits_{i,t} = \alpha + \gamma_1 \times R\&D_{i,t} + \gamma_2 \times ValCreatMainSG\&A_{i,t} + \gamma_2 \times \widehat{ValApprMainSG\&A}_{i,t}$
$+ \gamma_2 \times Advertising_{i,t} + \sum_c \beta_c \times Controls_{i,t} + \sum_y \beta_y \times Dummy\_Year + \sum_s \beta_s \times Dummy\_Industry + \varepsilon_{i,t}$.

where i = firm, Ind = Industry, t = year, *FutureBenefits* is measured by either *ChangeInROA$_{t\,to}$* *$_{average\,(t+1,\,t+2,\,t+3)}$* or *Tobin's Q$_t$*. The first proxy is the increase in the average of the next three return on assets (*ROA*) relative to the current year. The second proxy is Tobin's q, which increases with the market's expectation of the future benefits from current investments.[3] *Dummy_Year* is a dummy variable to account for year-fixed effects, and *Dummy_Industry* is a dummy variable to account for industry-fixed effects. Controls include the natural log (lagged) market value. With change in ROA as the dependent variable, we also control for the (lagged) book-to-market ratio.

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[3] Tobin's q is measured as [Market value of equity (Price {PRCC_F} × Number of shares outstanding {CSHO}) + Total liabilities (Total assets – Shareholder equity {CEQ})] / Total assets.

Table 6 presents the results of Equation (11). The number of observations is smaller than our total sample because we need additional data for the future three years. We find that R&D and the value-appropriation and value-creation portions of MainSG&A are positively associated with future earnings as well as Tobin's q, but not advertising expenses. In both regressions, the highest coefficient is on R&D (0.144 for future ROA increase and 7.09 for Tobin's q) followed by the value-creation portion of MainSG&A (0.054 and 2.366, respectively) and the value-appropriation portion of MainSG&A (0.018 and 1.757, respectively). In each regression, the coefficients on the value-creation portion of MainSG&A are significantly higher than those on the value-appropriation portion and are more similar to the coefficients on R&D. These results support the idea that, even though the components of value-appropriation and value-creation portions of MainSG&A are not identified, distinguishing between the two components in examining investments is better than using total MainSG&A or ignoring it altogether in the estimation of future performance.

3.2. Market Response to Unanticipated Shifts in Strategic Emphasis

MJ assess the stock market's response to unanticipated shifts in strategic emphasis by regressing stock returns on the unanticipated change in ROA and strategic emphasis in the following equation[4]:

(10) $\quad StkRet_{i,t} = \alpha_0 + \alpha_1 \times \widetilde{\Delta ROA}_{i,t} + \alpha_{20} \times \widetilde{\Delta SE}_{i,t} + \alpha_{21} \times \widetilde{\Delta ROA}_{i,t} \times \widetilde{\Delta SE}_{i,t}$
$\quad + \alpha_{22} \times SE_{i,t-1} \times \widetilde{\Delta SE}_{it} + \sum_c \beta_c \times Controls_{i,t} + \sum_s \beta_s \times Dummy\_Industry + \varepsilon_{i,t}.$

Controls include the natural logs of the annual (lagged) book-to-market ratio and (lagged) market value and industry- and year-fixed effects. The regression coefficients are interpreted to be consistent with MJ. The market response coefficient, α_1, represents the change in stock value arising from unanticipated improvements in ROA. Hence, α_1 is expected to be positive. The

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[4] See MJ (p. 69) for the derivation.

coefficient α_{20} represents the market's pricing of shifts in a firm's strategic emphasis in a given year. If the market views the shift from value creation to appropriation as favorable, then the coefficient should be positive. The coefficient α_{21} represents the "amplification" effect of the unanticipated change in ROA on market value because of a shift in strategic emphasis. A positive value would indicate that a firm "experiencing a positive shock to ROA" or unusually good performance is better off by shifting its emphasis from value creation to appropriation. Coefficient α_{22} represents the moderating effect of past strategic emphasis on the stock market response to the unanticipated shift in the current period. A negative value would indicate diminishing marginal returns from that strategy while a positive value would indicate some sort of specialization (for example, benefits from economies of scope).

Consistent with MJ, we restrict sample to firms reporting both R&D and advertising expenses. Panel A of Table 7 present the results of Equation (10). The market response coefficient, α_1, is positive and significant, as expected. More important, the coefficient on unexpected shifts in strategic emphasis is negative insignificant, providing no support for the proposition that the market views shifts from value creation to appropriation as favorable, on average. This result is inconsistent with the result found by MJ but is consistent with a series of studies that find positive market responses to R&D activities (e.g., Sougiannis 1994; Lev and Sougiannis 1996). The coefficient $\alpha_{21,}$ representing the amplification effect, is positive and significant, consistent with MJ. It indicates that firms are better off harvesting value in the periods of unusually good performance. The coefficient α_{22}, representing the moderating effect of past strategic emphasis, is negative and significant, indicating diminishing marginal returns on average.

To further identify the cause of differences between our results and those of MJ, we conducted additional tests after obtaining the dataset from MJ. Table 8 presents the results of the

replication. We find the same results as MJ when we examine their study period, scope of industries, and sample selection rules (see columns 2-4 Table 8, for a highly restrictive sample of 3,480 firm years). The results are consistent with MJ's results and suggest positive returns to unexpected shifts in strategic emphasis (2.376, p-value < 0.0001). We then relax one restriction at a time to investigate the principal difference between our findings and the MJ results. In the next test (see columns 5-7 of Table 8), we relax the sample selection rule by retaining firms with missing R&D and advertising data and replace the missing values with 0. Next, we extend the sample of manufacturing firms from 1980–1998 to the full 1970–2014 period available in Compustat.

We create another sample by extending the sample to all firms in Compustat (except banking and finance) but limit the analysis to only 1980–1998, consistent with MJ. Columns 11-13 of Table 8 present the results. In none of the samples, except the highly restrictive MJ sample, we find positive returns to shifts in strategic emphasis. On the contrary, the coefficient turns negative in all other samples. Thus, MJ's examination of just 566 firms from manufacturing industries over 1980–1998, representing 2% of the approximately 25,000 firms whose data are available in Compustat over the last four decades, might not be representative of the characteristics of the evolving U.S. corporate sector. The share of U.S. gross domestic product derived from the manufacturing domain declined from 71% in 1958 to 37% in 1997. The increasing economic share of the knowledge domain made up for the balance (Apte, Karmarkar, and Nath 2008). This trend is evident from the rise of knowledge-intensive companies such as Microsoft, Apple, Amazon, Google, and Facebook, each of whose market capitalization exceeds $500 billion, more than the combined market values of the largest manufacturing companies such as General Electric, General Motors, and Ford.

3.3. Market Response to Unanticipated Shifts in Organizational Focus

We next estimate Equation (11) using *OF* as a measure of organizational focus:

(11) $StkRet_{i,t} = \alpha_0 + \alpha_1 \times \widehat{\Delta ROA}_{i,t} + \alpha_{30} \times \widehat{\Delta OF}_{i,t} + \alpha_{31} \times \widehat{\Delta ROA}_{i,t} \times \widehat{\Delta OF}_{i,t}$
$+ \alpha_{32} \times OF_{i,t-1} \times \widehat{\Delta OF}_{it} + \sum_c \beta_c \times Controls_{i,t} + \sum_s \beta_s \times Dummy\_Industry + \varepsilon_{i,t}$.
We restrict our sample to firms that do not report R&D and advertising (that is sample 2,).

Table 9 presents the results of equation (11). The market response coefficient, α_1, remains positive and significant. The coefficient on unexpected shifts in organizational focus is negative and significant (-0.030, p-value < 0.01), indicating that the market views shifts from value creation to appropriation unfavorably. This result is consistent with results in Table 6 that Tobin's q is more positively associated with *ValCreatMainSG&A* than with *ValApprMainSG&A*, and that the stock investment strategies based on the former outlays can earn positive abnormal returns. The amplification effect of organizational shifts is positive and significant, consistent with MJ. It indicates that firms are better off harvesting value in periods of unusually good performance. The moderating effect of past organizational focus is negative but not significant, indicating an absence of any diminishing marginal returns to specialization. Our first set of findings differs dramatically from those of MJ. We find that an unanticipated shift in emphasis from value creation to value appropriation decreases firm value, on average.

3.4. Analysis by Industry Categories

We classify firms into high-tech, low-tech, and stable-tech industries. We the estimate equations (11) and (12) separately for each category and present those results in Panels A and B of Table 10. The coefficient on shift in strategic emphasis (α_{20}) is positive and significant only for low- technology industries. However, it is insignificant for the other two industry categories. The coefficient on shift in organizational focus (α_{30}) is negative for all three industry categories but insignificant for medium-technology industries. Notably, regardless of measure or industry category, the coefficient on unexpected shifts in organizational focus is never positive.

Furthermore, it is consistently negative for high-technology industries, which are typically characterized by better growth opportunities and which, by definition, are more likely to compete with intangible and knowledge capital than with physical assets compared to stable- and low-technology industries.

3.5. Reporting of R&D and advertising

Firms that report just either advertising or R&D expenses are likely to have material expenses in that category, per accounting conventions. We estimate equation (10) separately for firms that report only one of the advertising or R&D expense, replacing the term of SE by that expense (samples 3 and 4 defined above). Effectively, we examine the effects of unexpected shifts in R&D ($\Delta \widehat{R\&D}$) and advertising expenses ($\widehat{\Delta AD}$). Results presented in Panels A and B of Table 11 show that the market's response to unexpected shifts in R&D, that is unexpected *increase* in R&D, is positive and significant. The market response to unexpected shifts in advertising expenses is insignificant. Results again confirm that unexpected focus on value creation is considered positively by the market, on average.

We estimate equation (10) separately for firms that do not report either advertising or R&D expenses and present those results in Table 12. For firms that report R&D but not advertising expense, unexpected shifts in OE, from value creation to value appropriation, is associated with negative returns. For firms that report advertising expense but no R&D, market's response to unexpected shifts in OF is insignificant. In Table 13, we conduct the Table 12 analysis after classifying firms into three industry categories. For high-technology industries among firms that report R&D but not advertising, unexpected shifts from value creation to appropriation is punished by the stock market.

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3.6. Additional Analysis

Firms could use advertising and R&D advertising expenses as signaling strategies towards their customers or competitors. Firms could also conceal investments in R&D and advertising by including these expenses in SG&A. We include both unexpected shifts in OF and SE in the same equation and include all firms, irrespective of whether they report R&D or advertising expenses, as long as they report SG&A expenses. Results presented in Table 14, using a large sample of 159,041 firm-year observations, shows negative and significant coefficients on unexpected shifts in both SE and OE. These results indicate that if a researcher were to examine firms irrespective of whether firms report R&D and advertising expenses or not, she would conclude that those unexpected shifts from value creation to value appropriation are punished by the market.

4. Conclusion

We examine the impact of unexpected shifts in firms' emphasis between value creation and value appropriation using 159,041 firm-year observations from the 44-year period 1971–2014 across a wide range of industries. Specifically, after controlling for industry and firm heterogeneity, the main findings are as follows:

- A shift in strategic emphasis from value creation to value appropriation affects firm value depending on the context.

  o For high-technology or R&D-intensive industries, this shift is associated with negative returns.

  o For low-technology industries, this shift is associated with positive returns.

- Firms are better off harvesting value in periods of unusually good performance. However, the benefit from harvesting value when the going is good has declined over time, with the decline being more pronounced for organizational focus than for strategic emphasis. Nevertheless, this

amplification effect has increased over time for high-technology industries, a trend that contrasts with the other two industry groups.

The findings have three implications for managers concerning allocation of resources to value-creating and value-appropriating activities: If the stock market response is an indication of the potential success of a particular strategy, firms should focus more on value creation than value appropriation, in general. Investments in organizational competency (e.g. brands, intellectual capital, customer relations, market intelligence, organizational technology, and human capital) are essential for superior firm performance. These findings are in line with extant literature that reports a positive stock market return to investments in innovation and new product development (Chaney, Divenney, and Winer 1991; Sood and Tellis 2009; Hanssens, Rust, and Srivastava 2009). Moreover, our findings provide empirical support for the suggestions by Hanssens, Rust, and Srivastava (2009) that the investor community is more interested in innovation than in advertising; future research may examine whether firms can enhance returns by better communication with the investor community.

However, firms should shift their focus from creating products to harvesting value when the products find unexpected success. Identifying opportune times for harvesting investments is thus of critical importance. In this respect, our findings are consistent with MJ—firms are rewarded with higher returns in special circumstances for unexpected shifts in strategic emphasis. Future research may examine other contingencies when firms could gain by shifting focus on value appropriation.

In addition, ours is the first study to comprehensively examine the impact of shifts in short-term and long-term investments in organizational development using expenses reported in SG&A. Our findings extend the analysis to other investments in value creation in domains other than

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innovation. Our findings also differ across industry groups and underscore the need for more research on whether and how industry conditions affect decisions on strategic tradeoffs. At the very least, authors and readers of research reports should exercise caution when presenting or interpreting results from studies on a single industry or whose sample is restricted to firms reporting R&D and advertising expenses. Our results clearly highlight the difference between high-technology firms versus other firms indicating vastly different competing dynamics in these industries (Shapiro and Varian 1999). In those industries characterized by rapid product obsolescence and the need for establishing the firm's own technology as the industry standard, focus on value creation is a critical to the firms' winner-takes-all rewards structure, such as the successes of Microsoft and Intel, whose technologies set the standards in the PC industry. These industries are often characterized by network externalities, where a single technology standard rises to dominance, locking out competing technologies (Schilling 2002). In such industries, timing might be a critical success factor (Kerin, Varadarajan, and Peterson 1992; Suarez and Lanzolla 2005). Once they have created a promising product, these firms might be better off making all-out efforts to establish that product as the industry standard, instead of diverting their resources to creating additional new products. Similar ideas are expressed in the proposition of "market driving" as a new paradigm for marketing high-technology products and innovations (Hills and Sarin 2003).

Evaluating the Contribution of Marketing. Our method of decomposing SG&A into its value-creation and value-appropriation components allows an improved analysis of the contribution of marketing activities to the financial performance of a firm. Because our measure includes more activities that just advertising, it addresses a growing concern in the literature about the declining role of marketing, arguably because that research is confined to advertising. Our

study also responds to Mizik and Nissim (2011), who call for the segregated reporting of marketing spending, such as in the categories of advertising, acquisition of brands and trademarks, market research, customer acquisition, and customer relationships, which would lead to a stronger appreciation of marketing activities.

4.1. Limitations

We acknowledge several limitations of our OF measures. First, the constituent items of SG&A expenses cannot be identified.[5] However, even, R&D, which includes both research (value creation, innovation for example) and development activities (value appropriation), suffers from the same limitation. Second, the value-creation measure in OF excludes outlays that produce benefits in both current and future periods, and includes them in the value appropriation component. This limitation should bias against finding positive association between stock returns and the value-creation components in OF. Third, the value-creation measure could be negative because of the inclusion of regression residuals. Yet, the measures of strategic focus are continuous variables, running from negative to positive, so the positive or negative values of underlying variables should not pose problem for the analysis. More important, ES show that using their measure is a superior alternative to using total SG&A, ignoring it altogether, or using a uniform fraction of SG&A as a proxy for intangible investment. The merits of using SG&A-based measure are particularly obvious from the fact that we drop 80% of our sample firms for non-reporting of R&D and advertising. Furthermore, as British economist John Maynard Keynes said, "It is better to be roughly right than precisely wrong" because MainSG&A investments is the largest and the

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[5] For example, it could include an array of investments in research and development, brands, organizational strategy and competency, customer and social relationships, computerized data and software, and human capital.

fastest growing category of operating investment. That is, the limitations of construct validity of our measure should be weighed against the examination of a highly restrictive sample of firms.

Table 1
Firms with the MainSG&A exceeding $15 billion in an year from 2013–2016 (amounts stated in millions)

Company	Fiscal year	SG&A	Advertising expense	R&D	MainSG&A	MainSG&A in SG&A
Walmart	2015	96,915	2,500	0	94,415	97%
Verizon	2014	41,016	2,526	0	38,490	94%
GE	2013	39,961	0	4,750	35,211	88%
A&T	2014	39,697	3,272	1,730	34,695	87%
Nestle	2013	34,905	0	1,688	33,217	95%
Volkswagen	2013	42,738	0	14,035	28,703	67%
Nippon Telegraph &	2012	31,782	1,107	2,859	27,816	88%
Deutsche Telekom	2013	25,187	0	134	25,053	99%
UnitedHealth Group	2015	24,312	0	0	24,312	100%
Walgreens	2016	23,337	598	0	22,739	97%
Pepsico	2014	25,582	2,300	718	22,564	88%
IBM	2013	29,703	1,294	5,959	22,450	76%
Petroleo Brasileiro	2014	22,207	0	1,099	21,108	95%
Daimler	2013	26,341	0	5,651	20,691	79%
Royal Dutch Shell	2013	21,271	0	1,318	19,953	94%
Johnson & Johnson	2014	30,228	2,600	8,672	18,956	63%
Honda Motor	2015	24,599	0	5,840	18,759	76%
Microsoft	2015	32,370	1,900	12,046	18,424	57%
Kroger	2015	18,669	679	0	17,990	96%
Novartis	2013	27,422	0	9,852	17,570	64%
Bayer	2013	21,289	0	4,396	16,893	79%
Amazon.com	2015	32,951	3,800	12,540	16,611	50%
CVS	2015	16,764	221	0	16,543	99%
BP	2013	16,991	0	707	16,284	96%
Hitachi	2012	19,913	332	3,625	15,956	80%

Notes. This table presents a sample of firms with large dollar values of SG&A and MainSG&A. Selling, general, and administrative (SG&A) and cost of goods sold (COGS) categories of expenses are measured by Compustat variables XSGA and COGS, respectively. MainSG&A is obtained by subtracting research and development (R&D) (Compustat XRD) and advertising expenses (Compustat XAD) from SG&A.

Table 2
Classification of Industries*

High Technology	Stable Technology	Low Technology
Industrial and Commercial Machinery	Metal Mining	Agricultural Production - Crops
Electronic & Other Electrical Equipment	Coal Mining	Construction - General Contractors &
Transportation Equipment	Oil and Gas Extraction	Construction - Special Trade Contractors
Measuring, Photographic, Medical	Mining and Quarrying of Nonmetallic	Food and Kindred Products
Communications	Heavy Construction, Except Building	Lumber and Wood Products
Business Services	Textile Mill Products	Furniture and Fixtures
Motion Pictures	Apparel, Finished Products	Paper and Allied Products
Health Services	Printing, Publishing and Allied Industries	Leather and Leather Products
Educational Services	Chemicals and Allied Products	Stone, Clay, Glass, and Concrete Products
Engineering, Accounting, Research	Petroleum Refining and Related Industries	Pipelines, Except Natural Gas
Management Services	Rubber and Miscellaneous Plastic Products	Wholesale Trade - Durable Goods
	Primary Metal Industries	Wholesale Trade - Nondurable Goods
	Fabricated Metal Products	Building Materials, Hardware, Garden
	Miscellaneous Manufacturing Industries	General Merchandise Stores
	Railroad Transportation	Food Stores
	Motor Freight Transportation	Home Furniture, Furnishings, and
	Water Transportation	Food Services
	Transportation by Air	Miscellaneous Retail
	Transportation Services	Hotels, Rooming Houses, Camps, and Other
	Electric, Gas, and Sanitary Services	Personal Services
	Automotive Dealers and Gasoline Service	Social Services
	Apparel and Accessory Stores	Nonclassifiable Establishments
	Automotive Repair, Services and Parking	
	Amusement and Recreation Services	

* Consistent with Mizik and Jacobson (2003)

Table 3
Number of firm-year observations for the study period

Years	Firm-year observations in a five-year period				Unique firms in a five-year period			
	High Technology	Stable Technology	Low Technology	Total	High Technology	Stable Technology	Low Technology	Total
1971–1975	4,112	4,680	3,982	12,774	1,030	1,144	975	3,149
1976–1980	4,474	4,934	4,168	13,576	1,140	1,232	1,030	3,402
1981–1985	5,997	5,984	4,316	16,297	1,728	1,730	1,188	4,646
1986–1990	7,569	6,206	4,361	18,136	2,190	1,785	1,264	5,239
1991–1995	8,284	6,646	4,526	19,456	2,367	1,828	1,268	5,463
1996–2000	11,639	8,183	5,751	25,573	3,449	2,301	1,621	7,371
2001–2005	12,899	8,411	4,934	26,244	3,432	2,320	1,308	7,060
2006–2010	10,824	9,238	4,115	24,177	2,893	2,575	1,052	6,520
2011–2014	5,588	5,812	2,174	13,574	2,161	2,297	833	5,291
Total	71,386	60,094	38,327	169,807				

The last sub-period is four years long for data reasons.

Table 4
Descriptive statistics

Panel A: Pooled statistics (firms that report both R&D and advertising) (N = 30,855)

	Mean	Standard deviation	First quartile	Median	Third quartile
Total assets	2872.24	16440	21.14	97.283	620.44
Market value	3075.44	16377.6	16.674	88.101	647.07
Revenue	2290.84	11127.3	23.292	103.823	629.496
Market-to-book	2.748	3.467	0.903	1.664	3.095
ROA	0.025	0.239	−0.014	0.078	0.147
StkRet	0.238	0.881	−0.249	0.059	0.434
SG&A	0.46	0.514	0.242	0.358	0.535
Advertising	0.033	0.046	0.007	0.016	0.036
R&D	0.075	0.095	0.017	0.045	0.101
SE	−0.042	0.104	−0.079	−0.023	0.004

Panel B: Pooled statistics (ES Sample, firms that do not report R&D and advertising) (N = 64,528)

	Mean	Standard deviation	First quartile	Median	Third quartile
Total assets	1024.96	5007.13	20.958	94.049	427.67
Market value	829.00	4,361.18	10.91	53.42	304.38
Revenue	937.52	4,858.89	15.46	92.39	421.06
Market-to-book ratio	2.142	3.039	0.684	1.297	2.34
ROA	−0.001	0.244	−0.034	0.057	0.116
StkRet	0.286	1.008	−0.264	0.059	0.477
SG&A	0.341	0.977	0.065	0.157	0.334
Advertising	0	0	0	0	0
R&D	0	0	0	0	0
ValApprMainSG&A	0.138	0.229	0.012	0.098	0.224
ValCreatMainSG&A	0.195	0.879	−0.022	0.052	0.186
OF	−0.057	0.943	−0.109	0.023	0.207

Panel C: Average values of value creation and appropriation over successive five-year periods.

Firms that report both R&D and advertising

	Advertising	R&D	Strategic Emphasis (SE)
1971–1975	0.031	0.029	0.001
1976–1980	0.036	0.038	−0.001
1981–1985	0.039	0.057	−0.018
1986–1990	0.038	0.077	−0.038
1991–1995	0.042	0.087	−0.045
1996–2000	0.046	0.095	−0.048
2001–2005	0.026	0.103	−0.077
2006–2010	0.023	0.092	−0.069
2011–2014	0.023	0.084	−0.061

Panel D: Average values of value creation and appropriation over successive five-year periods.

	ValApprMainSG&A	ValCreatMainSG&A	Organizational Focus (OF)
1971–1975	0.181	0.065	0.116
1976–1980	0.198	0.044	0.153
1981–1985	0.167	0.071	0.096
1986–1990	0.168	0.068	0.100
1991–1995	0.179	0.077	0.102
1996–2000	0.171	0.102	0.069
2001–2005	0.096	0.405	−0.309
2006–2010	0.079	0.291	−0.211
2011–2014	0.040	0.512	−0.472

All variables are defined in Appendix. Number of observations are presented in Table 3. The last sub-period is four years long for data reasons.

Table 5
Correlations among key variables

Panel A: Using *SE* measure for firms that report both R&D and advertising

	ROA	SE	$\widehat{\Delta ROA}$	$\widehat{\Delta SE}$
StkRet	0.086***	−0.036***	0.243***	0.030***
ROA		0.425***	0.537***	0.187***
SE			0.112***	0.459***
$\widehat{\Delta ROA}$				0.181***

Panel AB: Using *OF* measure for firms that do not report R&D and advertising

	ROA	OF	$\widehat{\Delta ROA}$	$\widehat{\Delta OF}$
StkRet	0.014***	−0.051***	0.142***	−0.002
ROA		0.510***	0.537***	0.252***
OF			0.184***	0.688***
$\widehat{\Delta ROA}$				0.217***

All variables are defined in Appendix. Number of observations are presented in Table 3. *** denotes statistical significance (two-sided) at the 1% level.

Table 6
Establishing the validity of *ValApprMainSG&A* and *ValCreatMainSG&A*

	Dependent variable					
	ChangeInEarnings$_{i,t\ to\ average(t+1,\ t+2,\ t+3)}$			*Tobin's Q*		
	Estimate	*t*-statistic	*p*-value	Estimate	*t*-statistic	*p*-value
Intercept	−	−	−	−	−	−
R&D	0.144	24.56	<.001	7.089	98.42	<.001
ValCreatMainSG&A	0.054	33.52	<.001	2.366	214.78	<.001
ValApprMainSG&A	0.018	7.62	<.001	1.757	57.41	<.001
Advertising	−0.022	−1.83	0.066	−0.015	−0.09	0.931
*Controls**			Yes			Yes
N			123,460			123,460
Adjusted *R*-squared			3.32%			41.2%

* Log of lagged market value, industry-fixed effects, and year-fixed effects. With change in earnings, we additionally control for lagged book-to-market ratio. All variables are defined in Appendix.

Table 7
The association between stock returns and shifts in strategic emphasis and organizational focus

Using measure of strategic emphasis, firms that report both R&D and advertising

	Estimate	t-statistic	p-value
Intercept	–	–	–
$\Delta\widetilde{ROA}$	1.943	53.28	<.001
$\Delta\widetilde{SE}$	−0.095	−0.63	0.526
$\Delta\widetilde{ROA} \times \Delta\widetilde{SE}$	2.957	7.01	<.001
$SE_{t-1} \times \Delta\widetilde{SE}$	−1.667	−2.74	0.006
Controls*			Yes
N			30,855
Adjusted *R*-squared			22.09%

Dependent variables is *StkRet*.

* Log of lagged book-to-market ratio, log of lagged market value, industry-fixed effects, and year-fixed effects. Dependent variable is *StkRet* (Stock return). All variables are defined in Appendix.

Table 8
Replication of MJ results. The association between stock returns and shifts in strategic emphasis for different samples and industries

Using measure of strategic emphasis, firms that report both R&D and advertising

	Original MJ Sample			Sample 1			Sample 2			Sample 3		
	Estimate	t-statistic	p-value	Estimate	t-statistic	p-value	Estimate	t-statistic	p-value	Estimate	t-statistic	p-value
Intercept	−	−	−	−	−	−	−	−	−	−	−	−
$\widetilde{\Delta ROA}$	1.585	15.29	<.001	1.908	36.30	<.001	2.024	46.59	<.001	1.943	53.28	<.001
$\widetilde{\Delta SE}$	1.201	3.59	0.003	−0.377	−1.71	0.087	−0.551	−3.02	0.003	−0.095	−0.63	0.526
$\widetilde{\Delta ROA} \times \widetilde{\Delta SE}$	3.706	6.85	<.001	3.099	4.57	<.001	3.050	5.52	<.001	2.957	7.01	<.001
$SE_{t-1} \times \widetilde{\Delta SE}$	−0.542	−0.52	0.603	1.465	1.19	0.235	−2.639	−3.69	0.000	−1.667	−2.74	0.006
Controls*	Yes			Yes			Yes			Yes		
N	3,480‡			12,050			22,276			30,855		
Time	1980-1998			1980-1998			1970-2014^			1970-2014^		
Industries	Manufacturing			All industries^			Manufacturing			All industries ^		
Adjusted R-squared	16.72%			15.95%			21.90%			14.41%		

Dependent variables is *StkRet*

‡Sample obtained from MJ.

* Log of lagged book-to-market ratio, log of lagged market value, industry-fixed effects, and year-fixed effects. Dependent variable is *StkRet* (Stock return). All variables are defined in Appendix.

^ Basis of deviation of sample from that of MJ.

Table 9
The association between stock returns and shift in organizational focus

Using measure of organizational focus, firms that do not report R&D and advertising

	Estimate	t-statistic	p-value
Intercept	–	–	–
$\Delta\widetilde{ROA}$	1.381	48.90	<.001
$\widetilde{\Delta OF}$	−0.030	−2.96	0.003
$\Delta\widetilde{ROA} \times \widetilde{\Delta OF}$	0.621	12.55	<.001
$OF_{t-1} \times \widetilde{\Delta OF}$	−0.016	−3.74	0.000
Controls*			Yes
N			64,528
Adjusted *R*-squared			14.41%

Dependent variables is *StkRet.*

* Log of lagged book-to-market ratio, log of lagged market value, industry-fixed effects, and year-fixed effects. Dependent variable is *StkRet* (Stock return). All variables are defined in Appendix.

Table 10
The association between stock returns and shifts in strategic emphasis and organizational focus by industry category

Panel A: Using measure of strategic emphasis, firms that report both R&D and advertising

	High technology			Stable technology			Low technology		
	Estimate	t-statistic	p-value	Estimate	t-statistic	p-value	Estimate	t-statistic	p-value
Intercept									
$\widetilde{\Delta ROA}$	2.018	45.17	<.001	1.693	22.08	<.001	0.514	5.63	<.001
$\widetilde{\Delta SE}$	−0.298	−1.52	0.129	−0.146	−0.53	0.598	1.660	14.44	<.001
$\widetilde{\Delta ROA} \times \widetilde{\Delta SE}$	3.518	6.96	<.001	1.729	1.75	0.079	0.913	2.11	0.035
$SE_{t-1} \times \widetilde{\Delta SE}$	−2.739	−3.67	0.000	0.564	0.43	0.670	−0.117	−0.09	0.928
Controls*			Yes			Yes			Yes
N			19,821			7,465			3,569
Adjusted R-squared			24.48%			19.57%			18.37%

Panel B: Using measure of organizational focus, firms that do not report R&D and advertising

	High technology			Stable technology			Low technology		
	Estimate	t-statistic	p-value	Estimate	t-statistic	p-value	Estimate	t-statistic	p-value
Intercept	−	−	−	−	−	−	−	−	−
$\widetilde{\Delta ROA}$	1.546	23.40	<.001	1.186	32.48	<.001	1.934	29.98	<.001
$\widetilde{\Delta OF}$	−0.059	−2.70	0.007	−0.013	−0.78	0.433	−0.044	−2.90	0.004
$\widetilde{\Delta ROA} \times \widetilde{\Delta OF}$	0.811	7.40	<.001	0.473	6.63	<.001	0.940	10.97	<.001
$OF_{t-1} \times \widetilde{\Delta OF}$	−0.048	−4.63	<.001	−0.016	−2.16	0.031	0.003	0.51	0.609
Controls*			Yes			Yes			Yes
N			15,768			31,458			17,302
Adjusted R-squared			13.55%			17.34%			14.37%

Dependent variables is *StkRet*

* Log of lagged book-to-market ratio, log of lagged market value, industry-fixed effects, and year-fixed effects. Dependent variable is *StkRet* (Stock return). All variables are defined in Appendix.

Table 11
The association between stock returns and unexpected shifts in R&D and Advertising

Panel A: Firms that report R&D but not advertising

	Estimate	t-statistic	p-value
Intercept	–	–	–
$\Delta\widetilde{ROA}$	1.934	59.19	<.001
$\Delta\widetilde{RND}$	0.669	5.09	<.001
$\Delta\widetilde{ROA} \times \Delta\widetilde{R\&D}$	−4.844	−19.82	<.001
$R\&D_{t-1} \times \Delta\widetilde{R\&D}$	−1.561	−5.24	<.001
Controls*			Yes
N			45,826
Adjusted R-squared			19.36%

Panel B: Firms that report advertising but not R&D

	Estimate	t-statistic	p-value
Intercept	–	–	–
$\Delta\widetilde{ROA}$	1.334	47.2	<.001
$\Delta\widetilde{AD}$	−0.098	−0.09	0.930
$\Delta\widetilde{ROA} \times \Delta\widetilde{AD}$	−8.198	−2.55	0.011
$AD_{t-1} \times \Delta\widetilde{AD}$	2.226	0.33	0.743
Controls*			Yes
N			64,526
Adjusted R-squared			14.18%

Dependent variables is *StkRet*.

* Log of lagged book-to-market ratio, log of lagged market value, industry-fixed effects, and year-fixed effects. Dependent variable is *StkRet* (Stock return). All variables are defined in Appendix

Table 12
The association between stock returns and shift in organizational focus

Using measure of organizational focus, firms that report R&D but not advertising

	Estimate	t-statistic	p-value
Intercept	–	–	–
$\Delta\widetilde{ROA}$	1.948	58.34	<.001
$\widetilde{\Delta OF}$	−0.046	−3.36	0.001
$\Delta\widetilde{ROA} \times \widetilde{\Delta OF}$	1.480	19.79	<.001
$OF_{t-1} \times \widetilde{\Delta OF}$	−0.034	−4.62	<.001
$\Delta\widetilde{R\&D}$	1.948	58.34	<.001
Controls*			Yes
N			45831
Adjusted R-squared			19.17%

Using measure of organizational, firms that report advertising but not R&D

	Estimate	t-statistic	p-value
Intercept	–	–	–
$\Delta\widetilde{ROA}$	2.268	47.11	<.001
$\widetilde{\Delta OF}$	0.019	1.63	0.102
$\Delta\widetilde{ROA} \times \widetilde{\Delta OF}$	0.926	14.20	<.001
$OF_{t-1} \times \widetilde{\Delta OF}$	0.004	0.78	0.433
$\Delta\widetilde{ADVT}$	0.818	3.88	0.001
Controls*			Yes
N			28593
Adjusted R-squared			19.98%

Dependent variables is *StkRet*.
* Log of lagged book-to-market ratio, log of lagged market value, industry-fixed effects, and year-fixed effects. Dependent variable is *StkRet* (Stock return). All variables are defined in Appendix.

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Table 13
The association between stock returns and shift in organizational focus by industry category

Panel A: Using measure of organization emphasis, firms that report R&D but not advertising

	High technology			Stable technology			Low technology		
	Estimate	*t*-statistic	*p*-value	Estimate	*t*-statistic	*p*-value	Estimate	*t*-statistic	*p*-value
Intercept									
$\widehat{\Delta ROA}$	2.000	48.36	<.001	1.757	26.28	<.001	1.988	16.89	<.001
$\widehat{\Delta OF}$	−0.067	−3.60	0.001	−0.001	−0.05	0.959	−0.069	−1.83	0.067
$\widehat{\Delta ROA} \times \widehat{\Delta OF}$	1.455	15.45	<.001	1.728	12.21	<.001	1.472	5.40	<.001
$SE_{t\text{-}1} \times \widehat{\Delta OF}$	−0.030	−3.53	0.000	−0.079	−4.29	<.001	−0.008	−0.35	0.729
$\widehat{\Delta R\&D}$	0.479	4.51	<.001	0.871	7.05	<.001	1.406	4.33	<.001
Controls*			Yes			Yes			Yes
N			29,162			12,659			4,010
Adjusted *R*-squared			20.70%			16.91%			16.45%

Panel B: Using measure of organizational focus, firms that report advertising but not R&D

	High technology			Stable technology			Low technology		
	Estimate	*t*-statistic	*p*-value	Estimate	*t*-statistic	*p*-value	Estimate	*t*-statistic	*p*-value
Intercept	–	–	–	–	–	–	–	–	–
$\widehat{\Delta ROA}$	1.900	19.63	<.001	2.130	26.50	<.001	2.766	34.78	<.001
$\widehat{\Delta OF}$	0.008	0.28	0.779	0.082	3.32	0.001	0.006	0.41	0.679
$\widehat{\Delta ROA} \times \widehat{\Delta OF}$	0.911	9.55	<.001	1.081	7.46	<.001	0.936	5.36	<.001
$OF_{t\text{-}1} \times \widehat{\Delta OF}$	−0.027	−2.14	0.032	0.003	0.15	0.880	0.009	1.80	0.071
$\widehat{\Delta ADVT}$	0.828	1.60	0.111	1.111	3.01	0.003	0.794	2.75	0.006
Controls*			Yes			Yes			Yes
N			6,635			8,512			13,446
Adjusted *R*-squared			20.00%			20.65%			21.15%

Dependent variables is *StkRet*.
* Log of lagged book-to-market ratio, log of lagged market value, industry-fixed effects, and year-fixed effects. Dependent variable is *StkRet* (Stock return). All variables are defined in Appendix.

Table 14

The association between stock returns and shifts in organizational focus and strategic emphasis

Measures of both Strategic Emphasis and Organizational Emphasis

	Estimate	*t*-statistic	*p*-value
Intercept	–	–	–
$\Delta\widetilde{ROA}$	1.735	100.12	<.0001
$\Delta\widetilde{SE}$	−0.297	−3.56	0.000
$\Delta\widetilde{ROA} \times \Delta\widetilde{SE}$	3.340	16.89	<.0001
$SE_{t-1} \times \Delta\widetilde{SE}$	−1.309	−5.73	<.0001
$\Delta\widetilde{OF}$	−0.018	−2.83	0.005
$\Delta\widetilde{ROA} \times \Delta\widetilde{OF}$	0.772	26.42	<.0001
$OF_{t-1} \times \Delta\widetilde{OF}$	−0.003	−1.32	0.194
Controls*			Yes
N			159,041
Adjusted *R*-squared			16.71%

Dependent variables is *StkRet*.

* Log of lagged book-to-market ratio, log of lagged market value, industry-fixed effects, and year-fixed effects. Dependent variable is *StkRet* (Stock return). All variables are defined in Appendix.

Figure 1.
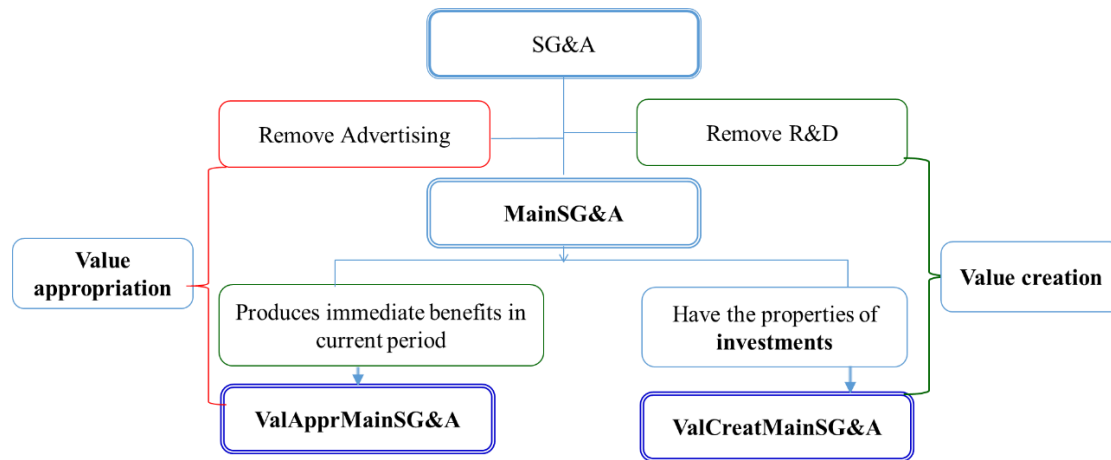**Decomposition of SG&A into value creation and value appropriation components**

Figure 2.
Calculation of Strategic Emphasis and Organizational Focus

Appendix. Definition and Measurement of Variables

Compustat Annual

Average total assets	=	Average of the beginning and ending total assets (Compustat AT) for the year.
Revenues	=	Revenue (Compustat SALE) scaled by average total assets.
R&D	=	R&D outlays (Compustat XRD) scaled by average total assets.
Advt (Advertising)	=	Advertising expenses (Compustat XAD) scaled by average total assets.
SG&A (selling, general, and administrative expenses)	=	Compustat XSGA: "all commercial expenses of operation (i.e., expenses not directly related to product production) incurred in the regular course of business pertaining to the securing of operating income." It includes immediately expensed costs in activities such as R&D, marketing, advertising, training, and sales promotion, but excludes costs classified as cost of sales (Compustat COGS). This item excludes depreciation allocated to the SG&A category. This item is scaled by average total assets.
MainSG&A	=	$SG\&A - R\&D - Advt$.
ROA	=	Compustat operating income after depreciation (OIADP), scaled by average total assets.
MVE (Market value of equity)	=	End-of-year share price (Compustat PRCC_F) × Number of shares outstanding (CSHO).
Tobin'sQ	=	Tobin's q [(Market Value of Equity) + total liabilities (total assets – shareholder equity {CEQ})] / total assets.
ChangeInROA$_{t \text{ to average } (t+1, t+2, t+3)}$	=	Change in future ROA, measured by average of the next three year's $ROA - ROA$.
StkRet (Stock return)	=	$[MVE + \text{Dividends (DVC)} - MVE_{t-1}) / MVE_{t-1}]$
BTM (Book-to-market ratio)	=	Book value of equity (CEQ)/ *MVE*
Log of lagged book-to-market ratio,	=	Log of BTM_{t-1}
Log of lagged market value	=	Log of MVE_{t-1}
ValApprMainSG&A (value-appropriation component of *MainSG&A*)	=	MainSG&A that supports current operations. We first estimate the following regression by industry and year: $MainSG\&A_{i,t} = \alpha_{Ind,t} + \beta_{1,Ind,t} \times Revenues_{i,t} + \beta_{2,Ind,t} \times Dummy\_Revenue\_Decrease_{i,t} + \beta_{3,Ind,t} \times Dumm\_Loss_{i,t} + \varepsilon_{i,t}$ where *Dummy_Revenue_Decrease* is a dummy variable if the revenues decline during the year and zero otherwise. *Dummy_Loss* is a dummy variable for accounting loss, i = firm, Ind = Industry, and t = year. The industry is defined by using the two-digit SIC code classification. We then calculate the value-appropriation component of the MainSG&A outlays as follows: $\widehat{ValApprMainSG\&A}_{i,t} = \hat{\beta}_{1,Ind,t} \times Revenues_{i,t}$
ValCreatMainSG&A (value-creation component of *MainSG&A*)	=	$MainSG\&A_{i,t} - \widehat{ValApprMainSG\&A}_{i,t}$
SE	=	Strategic emphasis as defined by Mizik and Jacobson (2003), calculated by subtracting *R&D* from *Advertising*.
OF	=	Organizational focus consistent with Enache and Srivastava, (2018) calculated by subtracting *ValCreatMainSG&A* from *ValApprMainSG&A*.

Appendix continued

$\Delta\widetilde{ROA}$ (unanticipated *ROA*)	=	Residual from the following equation: $ROA_{i,t} = \alpha + \beta_1 \times ROA_{i,t-1} + \sum_y \beta_y \times Dummy\_Year + \sum_s \beta_s \times Dummy\_Industry + \varepsilon_{i,t}$, where i = firm, *Ind* = Industry, and t = year, *Dummy_Year* is a dummy variable to account for year-fixed effects and *Dummy_Industry* is a dummy variable to account for industry-fixed effects. Industry defined by two-digit SIC code, and t = year.
$\Delta\widetilde{SE}$ (unanticipated *SE*)	=	Residual from the following equation: $SE_{i,t} = \alpha + \beta_1 \times SE_{i,t-1} + \sum_y \beta_y \times Dummy\_Year + \sum_s \beta_s \times Dummy\_Industry + \varepsilon_{i,t}$, where i = firm, *Ind* = Industry, and t = year, *Dummy_Year* is a dummy variable to account for year-fixed effects and *Dummy_Industry* is a dummy variable to account for industry-fixed effects. Industry defined by two-digit SIC code, and t = year.
$\widetilde{\Delta OF}$ (unanticipated *OF*)	=	Residual from the following equation: $OF_{i,t} = \alpha + \beta_1 \times OF_{i,t-1} + \sum_y \beta_y \times Dummy\_Year + \sum_s \beta_s \times Dummy\_Industry + \varepsilon_{i,t}$, where i = firm, *Ind* = Industry, and t = year, *Dummy_Year* is a dummy variable to account for year-fixed effects and *Dummy_Industry* is a dummy variable to account for industry-fixed effects. Industry defined by two-digit SIC code, and t = year.
$\Delta\widetilde{R\&D}$ (unanticipated *R&D*)	=	Residual from the following equation: $R\&D_{i,t} = \alpha + \beta_1 \times R\&D_{i,t-1} + \sum_y \beta_y \times Dummy\_Year + \sum_s \beta_s \times Dummy\_Industry + \varepsilon_{i,t}$, where i = firm, *Ind* = Industry, and t = year, *Dummy_Year* is a dummy variable to account for year-fixed effects and *Dummy_Industry* is a dummy variable to account for industry-fixed effects. Industry defined by two-digit SIC code, and t = year.
$\Delta\widetilde{Advt}$ (unanticipated *R&D*)	=	Residual from the following equation: $Advt_{i,t} = \alpha + \beta_1 \times Advt_{,t-1} + \sum_y \beta_y \times Dummy\_Year + \sum_s \beta_s \times Dummy\_Industry + \varepsilon_{i,t}$, where i = firm, *Ind* = Industry, and t = year, *Dummy_Year* is a dummy variable to account for year-fixed effects and *Dummy_Industry* is a dummy variable to account for industry-fixed effects. Industry defined by two-digit SIC code, and t = year.

Notes. All continuous variables are winsorized at the 1st and 99th percentiles. All missing values are replaced by zero.

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