

Activist-Impelled Divestitures and Shareholder Value

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Research summary: This study analyzes how the divestitures that are impelled by activist investors in their campaigns against public corporations affect shareholder value. Using hand-collected data on the activist campaigns that were launched against and the divestitures that were undertaken by Fortune 500 companies between 2007 and 2015, we find that activist-impelled divestitures are more positively associated with immediate and longer-term measures of shareholder value than comparable manager-led divestitures. These performance differences persist for nearly two years after the completion of these deals. Our results empirically test the idea that firms with agency problems unlock shareholder value when they divest, and support the notion that activist investors fulfill an important external governance function. Our work also opens new research opportunities and offers practical implications as well.

Managerial summary: This study investigates how divestitures that are undertaken at the behest of activist investors affect shareholder value. We find that divestitures that were undertaken under pressure from activist investors are associated with more positive shareholder returns than comparable divestitures that were undertaken voluntarily by managers. These performance differences persist for nearly two years after the completion of these deals, alleviating concerns about the purported short-termism of activist investors. Our findings suggest that activist investors may fulfill an important governance function by inducing managers to undertake strategies that they might not otherwise pursue, thereby unlocking shareholder value.

Keywords: divestitures, agency theory, activist investors, corporate governance, corporate scope

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INTRODUCTION

Activist investors, defined as hedge funds that proactively amass ownership stakes in corporations they believe are being mismanaged and advocate for changes therein, have begun to exert a significant effect on firms' corporate strategic decision-making. Between 2011 and 2015, one in two companies listed on the S&P 500 index had an activist hedge fund on its share register, and one in seven of these firms had been on the receiving end of an activist attack. In 2014 alone, activist investors launched 344 campaigns against public corporations (*Economist*, 2015), and 2015 witnessed a similar number of activist campaigns (Benoit, 2015). One of the major demands that activist investors frequently make in their campaigns is for managers to divest certain divisions or businesses as a means of enhancing the firm's strategic focus, thereby increasing shareholder value. In 2015, for example, major corporations such as General Electric, AIG, Dow Chemical, DuPont, Qualcomm, Alcoa, Symantec, eBay, Yahoo!, and Amgen, among others, either undertook or considered undertaking divestitures at the behest of activist investors.

What are the performance implications of the divestitures that activist investors demand in their campaigns, relative to the divestitures that managers choose to undertake of their own accord? We argue that agency conflicts between managers and shareholders may cause managers to fail to undertake certain divestitures, thereby locking up significant shareholder value within their firms and driving a wedge between the actual and potential valuation of those companies' shares. Activist investors, attracted by the possibility of unlocking shareholder value but constrained by the high costs of launching campaigns, selectively target those companies where the firm's actual valuation has deviated the most from its potential valuation. As a result, the divestitures that activist investors demand in their campaigns are the ones that have the potential to generate the highest shareholder returns. By comparison, the divestitures that managers undertake of their own

accord offer some range of value creation potential around an expected positive mean (Markides, 1992; Bergh, Johnson, and DeWitt, 2008; Feldman, 2014). Thus, the value implications of activist-impelled divestitures are expected to predominate over those of manager-led divestitures, leading to this study's core hypothesis: the stock market returns of the divestitures undertaken at the behest of activist investors will be higher, on average, than those undertaken by managers.

We test our hypothesis using comprehensive data on the divestitures undertaken by publicly-traded firms that were ever listed in the Fortune 500 index between 2007 and 2015 (4,035 divestitures undertaken by 464 companies). Using detailed data on the activist campaigns that were launched between 2005 and 2015, we identify which of the divestitures in this sample were activist-impelled and which were not. We conduct an event study to measure investors' immediate response to divestiture announcements, and we calculate longer-term measures of shareholder value (buy-and-hold returns) by compounding the divesting firms' market-adjusted monthly stock market returns following the completion dates of their divestitures. Using coarsened exact matching models, we find that activist-impelled divestitures are more positively associated with shareholder value than their manager-led counterparts, both upon the announcements of these deals and for up to twenty-one months after their completions.

Our study contributes to the agency theory-based literatures on corporate scope and corporate governance by providing an empirical test of the idea that firms with agency problems unlock shareholder value when they divest, and by supporting the notion that activist investors fulfill an important external governance function. Our work also opens a number of promising research directions for those interested in divestitures, acquisitions, and activist investors, and offers some important practical implications about the positive role that activist investors can play in shaping corporate strategic decision-making.

THEORY AND HYPOTHESES

Agency conflicts in divestiture decisions

Agency conflicts occur in companies where ownership and control are separate. Under dispersed ownership structures, shareholders cannot directly observe managerial behavior to ensure that managers are acting in their best interests (Berle and Means, 1932; Jensen and Meckling, 1976; Fama and Jensen, 1983). As a result, managers may not necessarily take actions that maximize shareholder value (Hoskisson, Hill, and Kim, 1993; Hoskisson, Hitt, and Hill, 1993), and in some circumstances, they may even take actions that maximize their own personal gains rather than shareholder value in the aggregate (Yermack, 2006).

In divestiture decisions, agency conflicts may manifest themselves as managers avoiding divestitures that do not align with their own self-interest (Markides, 1992; Buchholtz, Lubatkin, and O'Neill, 1999; Shimizu, 2007), with important implications for shareholder value. For example, managers may empire-build, preferring to undertake strategies that expand the boundaries of their firms rather than those that reduce firm scope (Jensen, 1986; Bethel, Liebeskind, and Opler, 1998; Denis, Denis and Sarin, 1999). Additionally, divestitures are often portrayed as signals of weakness or failure (Dranikoff, Koller, and Schneider, 2002), and top managers may avoid undertaking these deals in order to distance themselves from these negative perceptions, sometimes at the cost of shareholder interests (Gibbons and Murphy, 1992). Finally, agency conflicts can stem from the pursuit of alternate organizational objectives beyond shareholder value maximization, such as prioritizing the long-term survival of certain businesses (Buchholtz *et al.*, 1999), which can lead managers to avoid divestitures as well.

The discussion in this subsection suggests that agency conflicts may result in managers failing to undertake certain return-maximizing divestitures, thereby locking up significant

shareholder value within their firms. In the next subsection, we consider how activist investors may serve as a governance mechanism that unlocks that value by impelling managers to undertake the divestitures that they may not have otherwise undertaken of their own accord.

Activist-impelled divestitures

In theory, large shareholders such as institutional investors¹ should mitigate agency problems within firms by monitoring managers and enforcing strategic changes, such as impelling managers to undertake value-enhancing divestitures, when managers fail to act in shareholders' best interests (Demsetz, 1983; Hill and Snell, 1988). Although significant ownership stakes theoretically create strong incentives to monitor (Bethel and Liebeskind, 1993), an increasing proportion of blockholders are "passive institutional investors" with diversified portfolios. These investors typically do not have board or management representation in the companies in which they hold significant ownership stakes, thereby weakening their purported incentives to monitor management and bring about major strategic changes in those companies (Jensen, 1993; Appel, Gormley, and Keim, 2016). Furthermore, even though some "active institutional investors," such as CALPERS or TIAA-CREF, are active in the sense that they may lobby for shareholder rights, the managers of these funds are typically not personally vested enough to impel major strategic changes unless blatant violations of their fiduciary duties become evident (Gillan and Starks, 2007; Brav, Jiang, and Kim, 2010), thereby limiting their influence as well.

Activist investors differ from institutional investors in their motivation and ability to rectify internal governance insufficiencies. In contrast to both passive and active institutional investors,

¹ There are two main types of institutional investors: (1) passive institutional investors, which invest significant stakes in companies without the intent to influence corporate policy; and (2) active institutional investors, which also invest significant stakes in companies but actively use their ownership positions to lobby for shareholder rights in a limited capacity. Both passive and active institutional investors are typically mutual funds or public pension funds that are tightly regulated and that have a limited ability to intervene in the companies in which they invest.

activist investors are hedge funds that proactively amass concentrated ownership stakes (usually five to ten percent of shares outstanding) in companies they believe are being mismanaged (Karpoff, Malatesta, and Walkling, 1996; Brav *et al.*, 2008) and exert pressure on managers to implement various strategic changes. In contrast to active institutional investors, moreover, activist investors often invest a significant portion of their own personal wealth in the companies they target, which gives them a strong incentive to generate high investment returns (Bethel *et al.*, 1998; Brav *et al.*, 2008; Brav *et al.*, 2010). To maximize returns, activist investors seek out opportunities in which a firm's actual value has fallen significantly short of its potential due to suboptimal management, and where implementing strategies that managers were not undertaking on their own could help raise that company's value up to its full potential (Klein and Zur, 2009).

Firms whose managers may have failed to undertake value-creating divestitures due to agency conflicts may be particularly attractive targets for activist investors. These firms are ideal opportunities for return-maximizing activist investors to acquire large ownership stakes in companies at relatively low prices, and to generate high stock market returns once they succeed in impelling managers to undertake the divestitures that were not being undertaken. Thus, activist investors may serve as a governance mechanism that unlocks the shareholder value that may have been pent up in companies where managers failed to undertake valuable divestitures. In the next subsection, we consider the motivations of and constraints faced by activist investors versus managers with respect to divestitures, in order to compare the relative performance implications of activist-impelled and manager-led divestitures.

Relative performance implications

In the course of demanding that managers undertake divestitures that will unlock pent-up shareholder value, activist investors will be motivated to impel the divestitures that will generate

the very highest shareholder returns in the companies in which they have invested. Activist campaigns are costly, and activist investors have finite amounts of time and money to devote to researching, demanding, publicizing, and implementing changes in each of the firms in which they have accumulated an ownership stake and launched a campaign (Brown and Goetzmann, 2003). In addition, activist campaigns are more likely to succeed when the changes demanded have the potential to generate substantial shareholder returns, as this enables activist investors to marshal the support of other shareholders (Brav *et al.*, 2010). Accordingly, given these constraints and their motivation to maximize returns, activist investors will only demand that managers undertake those divestitures that have the potential to generate the highest shareholder value.

By comparison, the divestitures that managers undertake on their own have a much wider distribution of value-creation potential. On average, divestitures have been shown to create positive returns for the shareholders of divesting firms (Markides, 1992; Bergh *et al.*, 2008; Feldman, 2014). This suggests that the divestitures that managers undertake of their own accord should, on average, create value for the firms they run. Of course, there is some distribution of value-creation potential around this mean, with some of the divestitures that managers undertake on their own generating very high shareholder returns and others generating lower returns. For example, because spinoffs tend to increase transparency and flexibility to a greater degree than sell-offs, the former mode of divestiture tends to generate higher shareholder returns than the latter (Seward and Walsh, 1996). However, managers may still, at times, choose to undertake sell-offs rather than spinoffs, for example, because a buyer is readily available or because sell-offs generate cash proceeds that can be used to finance other endeavors (Jensen, 1986; Denis *et al.*, 1999). Thus, managers' choice of divestiture mode, in and of itself, could result in a range of deal returns. Alternately, managers may undertake defensive divestitures to shield against hostile takeovers

(Dann and DeAngelo, 1988), even though defensive divestitures have been shown to create no shareholder value on average and can potentially destroy shareholder value when firms are forced to divest hastily and commit to suboptimal sales prices (Markides and Berg, 1992). This illustrates how, under some circumstances, managers could undertake divestitures that generate low shareholder returns.

Thus, although manager-led divestitures create positive shareholder returns on average, that mean encompasses the performance outcomes of *all of the divestitures* that managers undertake of their own accord, including those that generate relatively lower shareholder returns. By comparison, activist-impelled divestitures represent only those deals with the highest positive value-creation potential, as activist investors seek to generate significant investment returns but must also be cognizant of campaign costs and the need to maximize the likelihood of success. Accordingly, we expect the performance consequences of activist-impelled divestitures to predominate over those of manager-led divestitures:

Hypothesis 1. *Ceteris paribus*, divestitures that are impelled by activist investors will be more positively associated with the stock market performance of the divesting firms than divestitures that managers undertake of their own accord.

METHODS

Sample and data

The sample in this paper consists of the 4,035 full divestitures that were undertaken between 2007 and 2015 by the 464 publicly-traded firms that were *ever* listed on the Fortune 500 index during this time period. We used SDC Platinum to collect data on these divestitures, including the identities of the divesting firms and divested business units, the announcement and effective dates, the mode of divestiture (selloff or spinoff), and the dollar value of each deal.

We used FactSet’s corporate activism database, SharkWatch, to determine which of the divestitures in our sample were activist-impelled and which were not. SharkWatch compiles activist campaign data from company filings (*i.e.*, proxy statements), press releases, dissident filings (*i.e.*, 13-D filings, proxy statements), financial news, company websites, and financial trade publications. SharkWatch provides information on the companies that are being targeted by activist investors (company identifiers, size, and industry), as well as details about each campaign (the name of the dissident shareholder, the start and end date of the campaign, the goals of the activist campaign, the value demands, and the campaign’s outcome). Using SharkWatch (supplemented by additional research from secondary sources such as the *Wall Street Journal* and corporate websites), we were able to identify 820 activist campaigns that were initiated between 2005 and 2015 against 326 companies that were *ever* listed on the Fortune 500 index during this time period. We chose to include activist campaigns that were launched as early as 2005 (even though the divestitures in our sample only occur starting in 2007) to account for the likelihood that it might take some time for companies to implement the demands made in activist campaigns.

Even in spite of the detailed information that is available about activist campaigns, it is still difficult to identify activist-impelled versus manager-led divestitures with precision. For example, some activist campaigns do not have specific requests or may only have vague requests such as “rethink your corporate strategy” or “consider reorganizing your businesses.” Furthermore, some activist campaigns may not even mention anything about corporate strategy or divestitures, yet we may still observe the targeted companies divesting business units during and sometimes many months after those campaigns. Given the ambiguity that is involved in identifying activist-impelled divestitures, we develop two definitions of this event, as follows:

Treatment Group 1 (TG1): Treatment Group 1 includes all divestitures that are announced during a SharkWatch-identified successful campaign with a “Breakup Company, Divest Assets/Divisions” demand. In addition, TG1 also includes divestitures that were specified in the activist investor’s demands but that were only announced after the campaign ended. TG1 consists of 115 divestitures undertaken by 28 firms between 2007 and 2015.

Treatment Group 2 (TG2): Treatment Group 2 includes all TG1 divestitures. TG2 also includes all divestitures that are announced during a SharkWatch campaign with either a “Breakup Company, Divest Assets/Divisions” or “Seek Sale/Merger/Liquidation” demand, irrespective of the SharkWatch-identified outcome of the campaign. TG2 consists of 138 divestitures undertaken by 37 firms between 2007 and 2015.

Having identified these two treatment groups consisting of activist-impelled divestitures, it remains to identify a relevant control group of divestitures that *unambiguously could not* have been impelled by activist investors and that must therefore have been undertaken voluntarily by managers. Given the above-described challenges in identifying activist-impelled divestitures, it is insufficient to simply classify the remaining divestitures that did not fall into either the TG1 or TG2 categories as manager-led divestitures. Thus, we define manager-led divestitures as follows:

Control Group (CG): Control Group consists of all divestitures that were undertaken by companies that *never had an activist campaign* between 2005 and 2015. CG consists of 1,528 divestitures undertaken by 238 firms between 2007 and 2015.

Table 1 presents summary data on the composition of TG1, TG2, and CG, as well as selected characteristics of the divestitures and divesting firms that comprise each of these groups. Additionally, Table 2 presents descriptive statistics on the financial characteristics (collected from Compustat) of the divesting firms that comprise TG1, TG2, and CG. These data are measured in

the year prior to divestiture announcements and clustered by firm to account for the fact that the same companies can and sometimes do undertake multiple divestitures.

-----Tables 1 and 2 here-----

Table 1 reveals that the divestitures that are impelled by activist investors are slightly larger than those that are not. Additionally, while the number of activist-impelled divestitures has increased over the sample period (consistent with anecdotal evidence), the number of manager-led divestitures undertaken in each year has held steady. We also see that companies are far more likely to undertake spinoffs than selloffs in response to activist campaigns (Bergh *et al.*, 2008).

Table 2 indicates that the firms that are impelled by activist investors to undertake divestitures are larger in terms of total assets and total sales than are the firms in which managers undertake divestitures of their own accord. Consistent with our theory, the firms that undertake activist-impelled divestitures are more undervalued (as measured by Tobin's q)² and have lower operating profitability (as measured by return on sales) than the firms that undertake manager-led divestitures. Finally, the firms that undertake activist-impelled divestitures are less diversified³ and have higher capital intensity (as measured by the ratio of capital expenditures to net property, plant, and equipment) than the firms that undertake manager-led divestitures.

Variables

Dependent variables. The core hypothesis in this study is that activist-impelled divestitures will enjoy a significantly more positive stock market response than manager-led divestitures. We measure the stock market response to activist-impelled and manager-led divestitures in two ways.

² Tobin's q is a metric for firm value that is defined as the ratio of the firm's market value to the replacement cost (proxied by book value) of its assets.

³ $\text{Diversification}_{jt} = \sum_{ijt} [\text{Sales}_{ijt}/\text{Sales}_{jt}]^2$, where segment i is part of firm j in year t . Diversification ranges from zero to one, with a value of one meaning that the company's entire sales are concentrated in a single business segment, while values closer to zero indicating that the firm's sales are dispersed over a greater number of business segments.

First, we conduct an event study to measure investors' immediate reaction to divestiture announcements. To do this, we collected daily stock returns from CRSP within 250-day estimation windows [-800, -551] prior to the announcement dates of the divestitures in our sample. From there, we predicted these firms' normal returns from their daily stock returns and the stock market's returns using Equation (1):

$$(1) R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_i,$$

where R_{it} is the daily stock return for company i on day t , R_{mt} are the daily stock market returns for the overall stock market m on day t , α_i is company i 's average stock market return during the estimation window, β_i captures the correlation between company i 's and the stock market m 's returns, and ε_i is a normally-distributed error term. We then calculated the abnormal returns within three-day event windows [-1, +1] surrounding the divestiture announcement dates by subtracting the expected returns obtained from this model from the actual returns achieved during this event window. The cumulative abnormal return (CAR) is the cumulative sum of these abnormal returns over this three-day event window (Brown and Warner, 1985; McWilliams and Siegel, 1997).⁴

Second, we calculate buy-and-hold returns (Khotari and Warner, 2006) to measure the longer-term relationship between divestitures and stock market performance. Buy-and-hold returns compound divesting firms' abnormal returns (defined as a divesting firm's return net of the stock market's return) over the months following the effective dates of their divestitures. These compounded monthly returns (CMR) are defined according to Equation (2), as follows:

$$(2) R_{it, t+n} = [\prod_{j=1}^n (1+r_{it+j})] - 1$$

⁴ To test whether contaminating events within the event window were affecting our results, we identified observations that may have occurred contemporaneously with other major corporate announcements, such as dividend changes, stock splits, earnings announcements, stock repurchase programs, acquisitions, and major executive appointments, within the three-day event window. We did this by manually searching through company press release archives and announcements in major news sources. Results in which we excluded twelve potentially-contaminated observations were nearly identical to our main results presented later in Tables 5 and 6.

where $R_{it, t+n}$ is company i 's CMR from month t (the month of the effective date of a given divestiture) to month $t+n$, and r_{it+j} is company i 's end-of-month abnormal stock market return in month $t+j$. We use this formula to calculate CMRs in the three, six, nine, twelve, fifteen, eighteen, twenty-one, and twenty-four months following the effective date of each divestiture.

Key independent variables. Returning to our earlier discussion of the treatment and control groups, we use TG1, TG2, and CG to define the key independent variables that we use to test our prediction that activist-impelled divestitures (TG1 or TG2) will be more positively associated with shareholder value than manager-led divestitures (CG). We do this in two ways. First, TG1-CG takes the value one if a divestiture belongs to TG1, and zero if it belongs to CG. Second, TG2-CG takes the value one if a divestiture belongs to TG2, and zero if it belongs to CG.

Control variables. To properly isolate the effects of activist-impelled versus manager-led divestitures on shareholder value, we include a series of control variables in all of our upcoming models. Firm-level variables (such as size, profitability and diversification) enable us to control for the characteristics of companies that are targeted (or not) by activist investors. Manager-level variables (such as CEO tenure and CEO turnover) allow us to control for the characteristics of a key decision-maker in the firms in our sample. Divestiture-level variables (such as deal value and relatedness) allow us to control for certain deal characteristics that may have shareholder value implications. Detailed variable definitions, broken down according to these three categories, are presented in Table 3, and summary statistics and a correlation matrix appear in Table 4.

-----Tables 3 and 4 here-----

Empirical methodology

As can be seen from the descriptive statistics presented earlier in Tables 1 and 2, the pre-divestiture characteristics of the firms that undertake activist-impelled divestitures are systematically different

from those of the firms that undertake manager-led divestitures. Thus, the core empirical challenge that arises in this study is to reduce the potentially-biasing effects of non-random selection on any differences that we may observe in the stock market performance of firms that undertake activist-impelled versus manager-led divestitures. As a result, it is necessary to use an empirical methodology that mitigates these *ex ante* differences between the firms that undertake activist-impelled and manager-led divestitures, *before* estimating the differences in the performance consequences of each of these two types of deals.

Coarsened exact matching models achieve this exact purpose. This empirical methodology matches activist-impelled and manager-led divestitures along “coarsened” values of a vector of observable characteristics,⁵ and then, having taken the *ex ante* differences between them into consideration, identifies any differences in the stock market performance of the firms that undertook these matched divestitures (Blackwell *et al.*, 2009). Of course, the cost to using a coarsened exact matching model is that it is demanding in terms of the number of observations, since the model drops all observations that are not matched in the first-stage process. Nevertheless, by matching the divestitures that comprise the treated and control groups on their *ex ante* characteristics, the coarsened exact matching methodology soaks up some of the differences between these pairs of observations, thereby reducing the effects of non-random selection on which divestitures are and are not activist-impelled. We can then freely estimate a second-stage

⁵ As noted above, coarsened exact matching addresses the issue of non-random selection on the observable characteristics that are included in the first-stage matching process. As a result, it is important to incorporate as many appropriate matching variables to make the quality of the match as strong as possible, which we endeavor to do in our analysis. Of course, this still leaves the issue of selection on unobservables, which is a challenging problem for most empirical studies. In our work, this issue is partially mitigated by the fact that our dependent variables, CAR and CMR3-24, are constructed as shareholder returns in excess of some “normal” level of stock market performance. This means that the dependent variables, on some level, account for unobservable firm-, time-, and industry-specific factors that could be driving our results. Thus, although there could still be some unobservable factors that are not being picked up by the construction of our dependent variables, our model gets us as close as possible to a true estimate of the relationship between activist-impelled divestitures and shareholder returns.

regression of TG1-CG and TG2-CG on CAR and CMR, which will more accurately capture the relationship between activist-impelled divestitures and stock market performance because the matching will have reduced the bias arising from non-random selection.

Accordingly, we use coarsened exact matching models⁶ to test whether there are any differences in the stock market performance of activist-impelled versus manager-led divestitures. The summary data presented earlier in Table 2 reveal that there are significant differences in the total assets, total sales, market capitalization, Tobin's q, return on sales, and diversification levels of TG1 and TG2 versus CG. As such, we match the treated and control groups along coarsened values of this vector of financial characteristics. We also match the treated and control groups according to the two-digit SIC code of the divesting firm, the two-digit SIC code of the divested business unit, and the year in which each divestiture took place. We then use these matched sets of divestitures in the second-stage regressions of our coarsened exact matching models.⁷

RESULTS

Tables 5 and 6 present the results of the second-stage regressions of the coarsened exact matching models described above. In both tables, the dependent variable in Regression (1) is CAR, and the dependent variables in Regressions (2) through (9) are the various CMRs, measured every three months ranging from three to twenty-four months after the divestitures' effective dates. In Table 5, the independent variable is TG1-CG, which takes the value one if a divestiture that was matched in the first-stage is part of TG1 (activist-impelled), and zero if a divestiture that was matched in the first-stage is part of CG (manager-led). In Table 6, the independent variable is TG2-CG, which

⁶ We use the built-in STATA command, *cem*, which based on Iacus, King and Porro's (2008) algorithm, to conduct the coarsened exact matching analysis.

⁷ To test the robustness and stability of our results, we also tried matching on different variables (such as return on assets instead of return on sales) and varying the degree of coarsening for our variables (diversification, sales, and market capitalization). Our results are robust to these alternatives.

takes the value one if a divestiture that was matched in the first-stage is part of TG2 (activist-impelled), and zero if a divestiture that was matched in the first-stage is part of CG (manager-led).

-----Tables 5 and 6 here-----

In Regression (1) of Table 5, the coefficient on TG1-CG is +0.021 ($p < 0.05$), and in Regression (1) of Table 6, the coefficient on TG2-CG is +0.029 ($p < 0.01$). These findings indicate that the CARs of the divestitures comprising TG1 exceed those of CG by 2.1 percentage points, and that the CARs of the divestitures comprising TG2 exceed those of CG by 2.9 percentage points.⁸ These results suggest that investors respond more favorably to announcements of activist-impelled than manager-led divestitures.

In Regressions (2) through (9) of Tables 5 and 6, the coefficients on TG1-CG and TG2-CG are positive, ranging from around +0.06 to +0.17 in the three to nine months after the effective dates of the divestitures, to about +0.16 to +0.36 in the twelve to twenty-one months after these deals, to around +0.08 in the twenty-four months after the divestitures ($p < 0.05$ for CMR3 through CMR18 and $p < 0.10$ for CMR21). The coefficient estimates are to be interpreted as percentage points: the CMRs of activist-impelled divestitures significantly exceed those of their manager-led peers by between six and thirty-six percentage points for up to twenty-one months after their completion. After that, there is no difference in the CMRs earned by firms that undertake activist-impelled versus manager-led divestitures. To put these figures in perspective, the average monthly change in a value-weighted portfolio of the stock market during our study period is about 3.6%, while the average monthly change in the returns of the firms in our sample is about 7%. Thus, a

⁸ The announcement returns to activist-impelled divestitures could understate the positive shareholder returns that are associated with those deals, since investors may already anticipate divestitures once activist investors have announced their campaigns. The announcements of the campaigns that resulted in TG1 divestitures generated cumulative abnormal returns of about 5.7%, and the announcements of campaigns that resulted in TG2 divestitures generated cumulative abnormal returns of about 5.9%. These figures lend further credence to our argument and findings that the stock market returns to activist-impelled divestitures should and do exceed the returns to manager-led divestitures.

monthly return differential of 1.5 percentage points between the returns to activist-impelled and manager-led divestitures is sufficient to lead to a 33 percentage point compounded return differential after 21 months.

DISCUSSION

Summary

This paper has investigated how the divestitures that are impelled by activist investors in their campaigns against public companies affect shareholder value, relative to the performance implications of divestitures that managers undertake of their own accord. Using empirical methodologies that mitigate the potential biasing effects of unobserved heterogeneity and non-random selection, we find evidence that divestitures that are impelled by activist investors are more positively associated with shareholder value than comparable divestitures in which no activist investor was involved, both upon the announcements of those deals and for up to twenty-one months following their completion.

Contributions

Several studies have shown that firms with agency problems unlock value for shareholders when they reverse those harmful actions (Bizjak and Marquette, 1998; Ertimur, Ferri, and Muslu, 2011). We contribute to this agency-theory based literature on corporate scope by empirically testing this effect within the context of divestitures. One of the core components of our theoretical argument is that agency conflicts may lead managers *to avoid undertaking* certain value-creating divestitures. However, this exact argument then makes it difficult to empirically test the relative performance implications of divestitures that are preceded by agency conflicts, simply because these deals are usually not undertaken. We surmount this challenge by using activist-impelled divestitures as a window into the relationship between agency conflicts and divestiture performance. By comparing

the divestitures that activist investors impel to those that managers undertake of their own accord, our empirical tests shed light on the relationship between agency conflicts and divestiture performance. This contribution is an important one for the divestiture literature because although a few studies have acknowledged the difficulty of observing agency conflicts within firms (Bergh, 1995; Brauer, 2006), research has yet to correlate such conflicts to divestiture performance, an endeavor that our work accomplishes. Furthermore, our empirical test of the relationship between activist-impelled divestitures and shareholder value also contributes to the agency theory-based literature on corporate scope more generally. Agency conflicts are well known to be negatively correlated with shareholder value in *scope-expanding* strategies like diversification (Amihud and Lev, 1981; Lamont, 1997; Scharfstein and Stein, 2000). By comparison, much less is known about how agency problems influence shareholder returns in the case of *scope-reducing* strategies like divestitures, a gap that our study takes a step towards filling.

Additionally, the agency-theory based literature on corporate governance has established that external governance mechanisms (like the market for corporate control and blockholder ownership) can substitute for insufficient internal governance mechanisms (like independent directors and managerial ownership) (Walsh and Seward, 1990; Daily, Dalton and Cannella, 2003), and that activist shareholders can fulfill a complementary function within this pantheon of governance mechanisms by advocating for strategic change when “allocative inefficiencies” become evident (Bethel *et al.*, 1998; Brav *et al.*, 2008; Brav *et al.*, 2010). Against this backdrop, our study offers two novel additions. First, we measure the performance consequences of *the execution of a specific demand* (in our case, divestitures) that activist investors are making, rather than the aggregate effects of activist investors announcing campaigns with several concurrent demands (Brav *et al.*, 2008). Second, we compare the performance consequences of the execution

of a specific demand made by activist investors *to those of the analogous strategy undertaken with no impetus from activist investors*. The fact that we observe differences in the performance of activist-impelled and manager-led divestitures suggests that the resolution of agency conflicts within firms (an allocative inefficiency, to use Brav *et al.*'s (2008) term) may be driving the wedge between the performance consequences of activist-impelled and manager-led divestitures. Thus, in a context where novel datasets and empirical analyses are rare, our findings support the notion that activist investors serve an important governance function and reveal how the execution of that governance function affects shareholder value.

Directions for future research

Our study opens up at least three promising avenues for future research, raising important new questions for those interested in divestitures, acquisitions, and activist investors, respectively.

For those interested in divestitures, future research could work to identify the specific deal-level and manager-level characteristics that might influence the severity of agency conflicts, as well as the subsequent performance outcomes of divestitures. For instance, managers may find it particularly personally costly to undertake certain divestitures, such as those that require them to admit to flawed decision-making (Duhaime and Schwenk, 1985; Shimizu and Hitt, 2005; Hayward and Shimizu, 2006) or those that significantly reduce over-diversification that occurred under their watch (Markides, 1992, 1995; Berger and Ofek, 1999). Identifying how these characteristics influence divestiture decision-making and implementation, as well as subsequent divestiture performance, could shed more light on the specific mechanisms that drive value creation when firms undertake divestitures that were preceded by high agency costs.

For those interested in mergers and acquisitions (M&A), future work could explore the consequences of other, M&A-related activist initiatives. Activist investors rarely pursue growth

strategies in their target companies (only one to two percent of the campaigns in our sample have an objective to “pursue growth strategies”), and indeed, they often initiate campaigns *against* specific proposed M&A deals. Since managers, driven by personal objectives, may at times undertake acquisitions that destroy shareholder value (Jensen and Murphy, 1990), a better understanding of these particular campaigns could shed light on agency conflicts in acquisition decisions, and future research could study these “block merger” campaigns and their implications.

Finally, for those interested in activist investors, future research could seek to explore how activist investors’ unique expertise contributes to their ability to direct successful corporate strategic change. Although our paper has taken an agency theory-based perspective, the resource-based view (Wernerfelt, 1984) suggests that incentives without the necessary capabilities may be insufficient to produce strong performance (Castanias and Helfat, 1991; Feldman and Montgomery, 2015). Activist investors may have accumulated significant expertise in evaluating and identifying divestiture targets through multiple campaigns against public companies, and they may also have developed rigorous, analytically-based processes that contribute to their success. However, managers may not have as much experience as activist investors since divestitures tend to be “rare events” in corporate histories (Dranikoff *et al.*, 2002). This suggests that a promising direction for research might be to investigate how similarities and differences in the expertise and capabilities of activist investors and managers might drive value-creation in strategies like divestitures.

Practical implications

This paper also addresses two important policy issues on the role of activist investors. First, our study offers a timely response to rising concerns that activist investors capitalize on short-term profits at the expense of corporations’ long-term health. This concern even impelled Congress to

introduce the Brokaw Act in March 2016 to limit shareholder activism (Soncini, 2016).⁹ We speak to this issue by exploring the intertemporal relationship between activist-impelled divestitures and firm performance. Our findings reveal that activist-impelled divestitures outperform their manager-led counterparts both upon their announcement and up to twenty-one months following their completion. Even more importantly, the returns to activist-impelled divestitures do not deteriorate relative to manager-led divestitures for at least twenty-four months after deal completion. Our findings therefore help alleviate some of the concerns about the purported short-termism of activist investors.

Additionally, concerns about activist investors have also created apprehension among managers about activist campaigns, as evidenced by the rise of professional services firms alleging to help managers prevent activist attacks (George and Lorsch, 2014; Naso, 2016). The recent campaigns against Procter & Gamble and Whole Foods reveal that executives can be very resistant to activist demands, which can often escalate into open conflicts. By contrast, our study highlights that, at least in the context of divestitures, activist investors' sharp incentives and focused approach can help firms identify *value-creating* opportunities! Thus, rather than investing in efforts to block activist campaigns, companies may be better served by communicating with activist investors to identify value-enhancing opportunities that may have been overlooked.

⁹ On March 17, 2016, Senators Jeff Merkley and Tammy Baldwin introduced the Brokaw Act, a piece of legislation intended to overhaul disclosure rules governing the reporting of beneficial ownership in U.S. public companies. This law makes it more difficult for a shareholder to become an activist investor by adding hurdles to the process of accumulating large ownership stakes in companies.

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Table 1. Summary data on activist-impelled and manager-led divestitures

Divestiture type	Activist-impelled		Manager-led
	TG1	TG2	CG
Number of divestitures	115	138	1,528
Number of spinoffs	15	15	30
Number of companies	28	37	238
Average deal size (\$m)	1,662	1,544	723

Year	Number of divestitures		
	TG1	TG2	CG
2007	7	7	194
2008	8	8	177
2009	4	4	115
2010	3	4	143
2011	8	11	161
2012	15	16	157
2013	25	32	187
2014	29	35	186
2015	16	21	208

Table 2. Descriptive statistics on activist-impelled versus manager-led divestitures

Panel A	TG1	CG	t-stat	p-value
Total assets (\$000)	147,926.300 (498,419.900)	50,211.120 (121,425.900)	5.964	0.000
Total sales (\$000)	18,355.490 (24,148.450)	16,959.730 (19,481.200)	0.722	0.471
Tobin's q	0.934 (0.653)	1.080 (0.738)	-2.040	0.042
ROS	-0.079 (0.694)	0.094 (0.276)	-5.492	0.000
Diversification	0.590 (0.249)	0.524 (0.282)	2.301	0.022
Market capitalization (\$000)	16,761.610 (15,745.530)	19,171.330 (21,566.630)	-1.166	0.244
Panel B	TG2	CG	t-stat	p-value
Total assets (\$000)	171,412.900 (493,836.300)	50,211.120 (121,425.900)	7.412	0.000
Total sales (\$000)	21,500.060 (26,372.690)	16,959.730 (19,481.200)	2.520	0.012
Tobin's q	0.984 (0.682)	1.080 (0.738)	-1.461	0.144
ROS	-0.067 (0.649)	0.094 (0.276)	-5.573	0.000
Diversification	0.582 (0.260)	0.524 (0.282)	2.138	0.033
Market capitalization (\$000)	25,483.770 (34,254.680)	19,171.330 (21,566.630)	3.084	0.002

Table 3. Descriptions of key control variables

Variable	Description
Firm-Level	
ln(total sales)	Natural log of total sales
Tobin's q	Ratio of market value to book value
Return on sales (ROS)	Ratio of net income to total sales
Capex/PPE	Ratio of capital expenditures to property, plant, and equipment
Diversification	Herfindahl Index based on segment sales
Divestiture experience	Total number of divestitures undertaken by the divesting firm since 1995
Manager-Level	
CEO tenure	Tenure of the current CEO of the divesting firm
CEO duality	One if the current CEO of the divesting firm is the chairman of the board, zero otherwise
CEO turnover	One if the divesting firm changed CEO in the two years before a divestiture, zero otherwise
ln(CEO total comp)	Natural log of CEO's total compensation
Deal-Level	
Deal value	Stock market value of a divestiture
Spinoff	One if a divestiture is a spinoff, zero otherwise
Relatedness	One if the divesting firm and divested unit share a two-digit SIC code, zero otherwise

Table 4. Summary statistics and correlation matrix

Variable	Mean	Std. dev.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) CAR	0.004	0.045	1.000											
(2) CMR-3	0.010	0.124	0.082	1.000										
(3) CMR-6	0.022	0.183	0.048	0.659	1.000									
(4) CMR-9	0.038	0.225	0.110	0.567	0.777	1.000								
(5) CMR-12	0.056	0.267	0.181	0.525	0.647	0.834	1.000							
(6) CMR-15	0.070	0.289	0.070	0.510	0.644	0.779	0.885	1.000						
(7) CMR-18	0.082	0.312	0.034	0.486	0.631	0.743	0.811	0.921	1.000					
(8) CMR-21	0.099	0.333	0.047	0.451	0.604	0.706	0.769	0.858	0.930	1.000				
(9) CMR-24	0.119	0.362	0.058	0.417	0.568	0.667	0.755	0.824	0.887	0.944	1.000			
(10) TG1-CG	0.070	0.255	0.050	-0.055	-0.079	-0.099	-0.079	-0.068	-0.102	-0.131	-0.139	1.000		
(11) TG2-CG	0.083	0.276	0.044	-0.065	-0.098	-0.115	-0.093	-0.091	-0.121	-0.146	-0.144	1.000	1.000	
(12) ln(total sales)	9.249	1.044	-0.045	0.011	-0.025	-0.059	-0.081	-0.072	-0.071	-0.074	-0.085	0.024	0.058	1.000
(13) Tobin's q	1.072	0.734	-0.049	0.066	0.106	0.111	0.083	0.103	0.093	0.081	0.087	-0.050	-0.036	0.076
(14) ROS	0.081	0.326	-0.065	0.023	0.059	0.070	0.049	0.059	0.037	0.018	0.007	-0.135	-0.136	-0.090
(15) Capex/PPE	0.199	0.116	-0.071	-0.098	-0.097	-0.105	-0.093	-0.099	-0.074	-0.067	-0.059	0.069	0.050	-0.139
(16) Diversification	0.529	0.281	0.111	-0.014	0.015	0.005	0.015	-0.009	0.024	0.017	0.023	0.067	0.062	-0.243
(17) Div. exper.	11.722	14.965	-0.027	-0.002	-0.003	0.007	0.020	0.015	0.016	0.044	0.049	0.003	0.022	0.010
(18) CEO tenure	5.919	5.905	0.081	-0.018	0.052	0.096	0.175	0.098	0.067	0.084	0.111	0.077	0.068	-0.129
(19) CEO duality	0.453	0.498	0.001	-0.014	0.035	0.053	0.066	0.041	0.036	0.039	0.058	-0.012	0.022	0.249
(20) CEO turnover	0.265	0.442	0.020	0.013	-0.032	-0.030	-0.049	-0.035	-0.026	-0.041	-0.048	0.108	0.106	0.035
(21) ln(CEO total comp)	9.122	0.699	-0.124	0.085	0.040	-0.008	-0.036	-0.022	-0.022	-0.029	-0.039	0.096	0.112	0.452
(22) Deal value (\$m)	801.778	4,537.920	0.047	0.014	0.053	0.021	0.051	0.075	0.053	0.045	0.037	0.058	0.053	0.033
(23) Spinoff	0.027	0.162	0.116	0.034	0.016	0.010	0.015	0.007	0.007	0.000	-0.012	0.178	0.155	-0.048
(24) Relatedness	0.451	0.498	0.043	-0.083	-0.057	-0.050	-0.023	-0.025	-0.044	-0.031	-0.025	0.049	0.051	-0.010

Variable	Mean	Std. dev.	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
(13) Tobin's q	1.072	0.734	1.000											
(14) ROS	0.081	0.326	-0.014	1.000										
(15) Capex/PPE	0.199	0.116	0.031	0.130	1.000									
(16) Diversification	0.529	0.281	0.012	-0.003	-0.013	1.000								
(17) Div. exper.	11.722	14.965	-0.081	0.121	0.136	-0.364	1.000							
(18) CEO tenure	5.919	5.905	0.103	0.034	0.115	0.188	-0.090	1.000						
(19) CEO duality	0.453	0.498	0.006	0.031	-0.102	-0.158	0.023	0.164	1.000					
(20) CEO turnover	0.265	0.442	-0.153	-0.125	-0.037	0.025	-0.013	-0.507	-0.231	1.000				
(21) ln(CEO total comp)	9.122	0.699	0.184	0.069	0.046	-0.158	0.248	-0.022	0.163	-0.102	1.000			
(22) Deal value (\$m)	801.778	4,537.920	0.055	0.031	-0.006	0.083	0.024	-0.026	0.037	-0.039	0.055	1.000		
(23) Spinoff	0.027	0.162	0.012	0.001	-0.004	0.023	-0.058	-0.004	-0.059	0.023	-0.037	0.324	1.000	
(24) Relatedness	0.451	0.498	0.156	-0.107	-0.105	0.152	-0.239	0.059	-0.049	0.040	-0.149	0.045	-0.017	1.000

Table 5. Coarsened exact matching results, TG1-CG

Regression	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dep. var.	CAR	CMR-3	CMR-6	CMR-9	CMR-12	CMR-15	CMR-18	CMR-21	CMR-24
TG1-CG	0.021 (0.011)	0.161 (0.028)	0.061 (0.033)	0.138 (0.068)	0.250 (0.083)	0.295 (0.084)	0.357 (0.077)	0.211 (0.093)	0.090 (0.114)
ln(total sales)	-0.022 (0.008)	-0.056 (0.021)	0.081 (0.024)	-0.031 (0.050)	-0.150 (0.060)	-0.079 (0.061)	-0.116 (0.056)	-0.165 (0.068)	-0.164 (0.084)
Tobin's q	-0.020 (0.010)	-0.032 (0.026)	-0.024 (0.030)	-0.094 (0.062)	0.009 (0.075)	0.013 (0.077)	0.058 (0.070)	0.162 (0.085)	0.091 (0.106)
ROS	0.123 (0.042)	0.212 (0.113)	0.379 (0.131)	0.420 (0.272)	-0.067 (0.329)	-0.490 (0.335)	-0.646 (0.306)	-1.298 (0.372)	-1.932 (0.454)
Capex/PPE	0.033 (0.035)	-0.173 (0.093)	-0.077 (0.108)	-0.064 (0.224)	-0.305 (0.272)	0.015 (0.276)	0.052 (0.252)	0.466 (0.306)	0.145 (0.374)
Diversification	0.084 (0.020)	-0.003 (0.054)	-0.054 (0.063)	-0.088 (0.131)	0.006 (0.158)	-0.123 (0.161)	-0.059 (0.147)	-0.255 (0.179)	-0.236 (0.219)
Div. exper.	-0.001 (0.001)	-0.011 (0.003)	-0.008 (0.004)	-0.024 (0.008)	-0.023 (0.009)	-0.013 (0.009)	-0.014 (0.009)	-0.007 (0.010)	0.005 (0.013)
CEO tenure	-0.004 (0.001)	-0.010 (0.003)	-0.014 (0.003)	-0.020 (0.006)	-0.010 (0.007)	-0.001 (0.008)	-0.009 (0.007)	0.009 (0.008)	0.026 (0.010)
CEO duality	0.003 (0.009)	-0.014 (0.025)	-0.065 (0.029)	-0.129 (0.060)	-0.159 (0.073)	-0.122 (0.074)	-0.047 (0.068)	0.026 (0.082)	-0.185 (0.100)
CEO turnover	0.006 (0.011)	-0.012 (0.029)	-0.034 (0.033)	0.024 (0.069)	0.008 (0.084)	0.005 (0.085)	0.030 (0.078)	0.126 (0.095)	0.291 (0.116)
ln(CEO total comp)	-0.033 (0.012)	0.057 (0.031)	-0.044 (0.036)	-0.031 (0.075)	0.074 (0.091)	0.174 (0.092)	0.195 (0.084)	0.275 (0.102)	0.407 (0.125)
Deal value	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Spinoff	0.046 (0.018)	-0.086 (0.049)	0.004 (0.057)	-0.230 (0.118)	-0.389 (0.143)	-0.431 (0.145)	-0.305 (0.132)	-0.154 (0.161)	-0.066 (0.197)
Relatedness	0.027 (0.010)	0.034 (0.027)	-0.003 (0.031)	0.071 (0.065)	0.082 (0.079)	0.020 (0.080)	-0.054 (0.073)	-0.039 (0.089)	-0.096 (0.110)
Constant	0.119 (0.076)	0.748 (0.202)	-0.215 (0.235)	0.491 (0.488)	1.598 (0.591)	0.863 (0.601)	0.960 (0.549)	0.361 (0.667)	-0.859 (0.837)
R ²	0.598	0.667	0.722	0.508	0.438	0.345	0.409	0.441	0.571
Observations	93	93	93	93	93	93	93	93	92

Standard errors appear in parentheses below the coefficients.

Table 6. Coarsened exact matching results, TG2-CG

Regression	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dep. var.	CAR	CMR-3	CMR-6	CMR-9	CMR-12	CMR-15	CMR-18	CMR-21	CMR-24
TG2-CG	0.029 (0.010)	0.165 (0.027)	0.074 (0.034)	0.163 (0.066)	0.268 (0.078)	0.306 (0.080)	0.334 (0.073)	0.163 (0.091)	0.075 (0.112)
ln(total sales)	-0.021 (0.008)	-0.049 (0.020)	0.048 (0.025)	-0.068 (0.050)	-0.145 (0.058)	-0.095 (0.060)	-0.120 (0.055)	-0.141 (0.068)	-0.155 (0.085)
Tobin's q	-0.010 (0.008)	-0.034 (0.020)	0.028 (0.025)	-0.012 (0.049)	0.042 (0.058)	0.055 (0.059)	0.030 (0.054)	0.069 (0.067)	0.059 (0.084)
ROS	0.110 (0.043)	0.223 (0.112)	0.305 (0.141)	0.346 (0.276)	-0.066 (0.323)	-0.508 (0.331)	-0.575 (0.304)	-1.133 (0.377)	-1.856 (0.455)
Capex/PPE	0.041 (0.037)	-0.155 (0.096)	-0.120 (0.122)	-0.095 (0.238)	-0.263 (0.278)	0.004 (0.286)	0.024 (0.262)	0.466 (0.325)	0.133 (0.396)
Diversification	0.060 (0.017)	-0.007 (0.044)	-0.134 (0.055)	-0.224 (0.107)	-0.073 (0.125)	-0.193 (0.129)	0.012 (0.118)	-0.063 (0.147)	-0.162 (0.188)
Div. exper.	-0.001 (0.001)	-0.010 (0.003)	-0.013 (0.004)	-0.030 (0.008)	-0.023 (0.009)	-0.015 (0.009)	-0.013 (0.008)	-0.002 (0.011)	0.007 (0.013)
CEO tenure	-0.003 (0.001)	-0.010 (0.003)	-0.014 (0.003)	-0.018 (0.006)	-0.009 (0.008)	0.000 (0.008)	-0.010 (0.007)	0.006 (0.009)	0.025 (0.011)
CEO duality	0.011 (0.009)	-0.013 (0.023)	-0.036 (0.029)	-0.081 (0.057)	-0.131 (0.066)	-0.093 (0.068)	-0.065 (0.062)	-0.040 (0.077)	-0.207 (0.095)
CEO turnover	0.003 (0.011)	-0.015 (0.030)	-0.033 (0.038)	0.015 (0.073)	-0.010 (0.086)	-0.005 (0.088)	0.037 (0.081)	0.141 (0.100)	0.293 (0.123)
ln(CEO total comp)	-0.029 (0.011)	0.050 (0.030)	0.005 (0.037)	0.032 (0.073)	0.090 (0.085)	0.206 (0.088)	0.182 (0.080)	0.201 (0.100)	0.376 (0.120)
Deal value	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Spinoff	0.047 (0.019)	-0.083 (0.050)	-0.016 (0.063)	-0.262 (0.123)	-0.390 (0.144)	-0.444 (0.148)	-0.309 (0.136)	-0.146 (0.168)	-0.065 (0.203)
Relatedness	0.022 (0.009)	0.040 (0.025)	-0.056 (0.031)	-0.004 (0.061)	0.062 (0.071)	-0.016 (0.073)	-0.035 (0.067)	0.036 (0.084)	-0.066 (0.101)
Constant	0.137 (0.077)	0.713 (0.200)	0.076 (0.252)	0.896 (0.493)	1.689 (0.576)	1.086 (0.592)	0.936 (0.544)	0.027 (0.674)	-0.951 (0.827)
R ²	0.574	0.664	0.683	0.508	0.439	0.359	0.407	0.414	0.559
Observations	88	88	88	88	88	88	88	88	86

Standard errors appear in parentheses below the coefficients.