Corporate Focus and the Benefits from More Specialized Analyst Coverage

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Abstract

This paper investigates whether stock breakups, which typically increase corporate focus, have capital market consequences as a result of more specialized analyst coverage. Using a sample of 143 spin-offs, equity carve-outs, and targeted stock offerings between 1990 and 1995, we find that breakups are accompanied by an increase in analyst coverage and by a significant increase in analyst turnover, particularly for the breakup subsidiaries. This appears to be primarily due to the assignment by brokerage houses of new industry specialists to follow the breakup subsidiaries. There is also a marked increase in analysts earnings forecast accuracy and in consensus among analysts about their forecasts following the breakup. Increases in analyst earnings forecast accuracy are greatest for firms that are successful in attracting new analysts following breakups. Finally, there is weak evidence that increases in the sample firms’ market-to-book ratios after breakups are associated with improvements in analyst forecast accuracy.
Stock breakups, where a company splits its stock into two or more publicly-traded financial claims, have become increasingly popular. For example, in April 1996 AT&T spun-off its communication systems and computer units into two separate publicly-traded companies (Lucent Technologies and NCR). RJR Nabisco followed a somewhat different approach but achieved much the same effect by selling 19% of its Nabisco food business to investors through a public offering. In yet another way to breakup its stock, USX Corp. created pure plays on its steel and energy businesses by issuing stockholders two new classes of shares, USX-US Steel Group and USX-Marathon Oil Group [Gilson (1996)].

A number of explanations for stock breakups have been discussed in the financial press and in academic studies. Proponents of stock breakups argue that they improve management incentives by enabling compensation for management of sub-units to be tied to sub-unit stock performance rather than to sub-unit accounting performance or to stock performance of the consolidated entity.\(^1\) In addition, some forms of stock breakups are viewed as creating value by splitting poor-performing conglomerates into more focused business units.\(^2\)

Practitioners have argued that stock breakups can also improve firms’ capital market intermediation. Investment bankers frequently assert that stock breakups are accompanied by a significant change in the industry specialization of analysts that follow the breakup firms.\(^3\) Brokerage firms typically assign only one analyst to follow a firm.

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\(^1\)See Schipper and Smith (1983), Jensen (1986), and Jensen and Murphy (1990).


\(^3\)For example, one investment banker with whom we spoke stated that “one motivation for spinoffs is to get improved analyst coverage and more efficient pricing of the firm’s stock.” He/she cited casual evidence from the USX targeted stock offer to support this view. Following the USX targeted stock offer, 30 additional analysts began following the new stocks, including energy specialists with CS First Boston.
Consequently, firms in multiple businesses tend to be followed by analysts who have expertise in only one of their business segments. Stock breakups along industry lines, therefore, can lead to a better match between the company’s industry focus and the industry expertise of its analysts. For example, a recent *Business Week* article on Westinghouse’s decision to spin-off its industrial unit claimed that the breakup will help Wall Street “figure out how to value a $9.5 billion company with one foot in a TV studio, and the other in a nuclear-waste dump.”

Prior to the breakup Westinghouse was followed by a combination of power and entertainment analysts, neither with expertise in the full range of Westinghouse’s activities. The breakup permits each analyst group to focus only on the segment in which it specializes, leading to more accurate analysts’ forecasts and better monitoring of management by analysts.

To our knowledge no academic studies have directly examined whether stock breakups lead to more specialized analysts following, the topic of this study. Some recent papers provide indirect evidence on this question. For example, Bliss (1998) documents that analysts’ earnings forecast errors for parent firms after a spin-off are lower than errors for the combined firm prior to the spin-off. Krishnaswami and Subramaniam (1998) show that prior to spin-offs, the combined companies have larger analyst earnings forecast errors and forecast variability than a matched industry sample. Following the spin-off, they also show that the earnings forecast accuracy for parent firms improves.

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5. A number of academic papers have also argued that there can be information benefits from breakups through reduced information asymmetry among market participants [see Kudla and McInish (1988), Nanda (1991), Habib, Johnsen and Naik (1997), and Nanda and Narayanan (1997)].
This paper examines whether stock breakups lead to more specialized analyst coverage for the breakup firms. We compare the identity of analysts covering the combined firm prior to the breakup with the identities of analysts that cover the parent and subsidiary firms in post-breakup years. Four specific research questions are analyzed: (1) does analyst following change after stock breakups? (2) is there a better match between the companies’ business focus and their analysts’ industry specialization after breakups? (3) are improvements in matching associated with better analysts’ earnings forecasts after breakups? and (4) is there any link between improvements in analysts’ earnings forecasts and firm valuation?

In section II we discuss how we identify breakup firms for our empirical tests. The final sample comprises 143 spin-offs, equity carve-outs, and targeted stock offerings over the period 1990 to 1995. Section II also presents descriptive statistics on the sample firms.

Our findings are reported in section III. We show that breakups are accompanied by an increase in analyst following. On average, 19 analysts covered each of the sample firms prior to the breakup, compared to 24 different analysts that cover the parent and subsidiary firms after. There is also evidence of an increase in analyst turnover following the breakup, particularly for subsidiaries. On average, 88% of the analysts following subsidiaries turn over in the two-year period surrounding the breakup. For comparison, the average two-year turnover rate is 62% for the sample firms in the non-breakup period.

The change in analyst composition is also reflected in the degree of industry specialization of analysts following the sample firms. Prior to the breakup, analysts that
covered the combined firm were primarily specialists in the parent firm’s industry while relatively few specialized in the subsidiary’s industry. Following the breakup, however, the percentage of analysts covering the subsidiary that specialize in its industry increases significantly. In contrast, the frequency of industry specialization among analysts covering parent firms remains comparable to the pre-breakup rate.

To examine whether changes in analyst coverage following a breakup are accompanied by any improvements in analyst’s forecasting ability, we analyze analysts earnings forecast accuracy and consensus in years surrounding the breakup. Average earnings forecast accuracy for the breakup firms increases by 25-40% following the breakup. Mean consensus among analysts increases by 65-80%. Further, the increase in forecast accuracy is positively related to the percentage of new analysts that cover the parent and subsidiary firms after the breakup.

Finally, we document a positive association between improvements in earnings forecast accuracy for the sample firms after breakup and their market-to-book ratios after controlling for factors likely to influence these ratios. This finding suggests that there may be direct valuation benefits from the intermediation improvements surrounding breakups.

II. Sample selection and data sources

This section describes our sample selection. It also presents descriptive data on the sample firms and outlines the data sources used in the paper.

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6We refer to the firms created after the breakup as the parent and the subsidiary firm(s).
A. Sample

The sample comprises 143 firms that undertake spin-offs, equity carve-outs, or targeted stock offerings in the period 1990 to 1995. Securities Data Corporation maintains a historical database of all mergers, acquisitions, divestitures, and stock offerings. This database was searched between 1990 and 1995 to obtain the initial sample of spin-offs, equity carve-outs, and targeted stock offerings. This search identified approximately 300 such deals. Next, the I/B/E/S Summary Tape was searched for data on analyst coverage and forecasts. Sample deals were included in the final sample if they had analyst data for the year prior to the stock breakup, and at least one year of available data in the post-breakup period for both the parent and subsidiary firm(s).

Some of the sample deals are difficult to analyze separately, since they are part of a sequence of breakups made by the same parent in adjacent years. Our empirical tests treat these transactions as single events. For example, ITT’s spin-off of Rayonier in late February 1994, its December 1994 equity carve-out for 19% of ITT Educational Services, and the spin-off of ITT Hartford and ITT Industries in December 1995 are treated as one observation in the empirical tests, rather than as three separate events. After these consolidations, the empirical tests have a maximum of 131 observations.

Table I provides information on the timing and nature of the sample deals. The number of deals increases almost every year from 1990 (14 deals) to 1995 (25 deals). This pattern is primarily due to an increase in the number of equity carve-outs during the period. Equity carve-outs represent 57% of the total sample deals, spin-offs represent 39%, and targeted stock offerings only 4%.
Table I

Table II provides summary statistics on the transactions (in Panel A) and selected financial data for the sample firms around the breakup (in Panel B). As reported Panel A, subsidiaries represent 16% of the combined firms’ assets for the median firm (and 29% on average). The median parent firm sells 100% of the equity in the subsidiary firm(s). We also provide data on the business overlap between the parent and subsidiary, using industry codes for each of the firms reported by I/B/E/S after the breakup. Seventy-one percent of the parent and subsidiary firms matched by deal operate in different industries, and 40% operate in different sectors. Finally, we provide data on the extent of segment disclosure for by the combined firms prior to a breakup. Sixty-nine percent of the sample firms provide some level of segment disclosures. However, at least a casual review of disclosures by some of these companies indicates the segment disclosures often do not provide any information specifically on the breakup subsidiary prior to the breakup.

As reported in Panel B, breakup firms are relatively large and tend to show improvements in performance following the breakup. Median assets for the breakup firms are approximately 3.0 billion one year prior to the breakup (fiscal year -1). At the end of the first full fiscal year following the breakup (fiscal year +1), median assets for the parent are somewhat lower at $2.9 billion, and are almost $0.5 billion for the subsidiary. A similar pattern is reported for sales.

Table II

Median returns on equity (ROE) show some evidence of an improvement in performance for the sample firms after the breakup. The median ROE for the combined firm one year prior to the breakup is 9%. After the breakup, median ROEs are 12% for
the parent firms and 10-11% for the subsidiaries. A similar pattern is observed for
returns on assets (ROA), indicating that the ROE improvements are not due to a change
in leverage for the parent and/or subsidiary firms after the breakup. These findings are
consistent with the view that breakups lead to improved performance by either improving
management’s incentives or splitting poor-performing conglomerates into more focused
business units. Finally, breakups do not appear to affect firms’ long-term investment
opportunities since capital expenditures are relatively stable at 5% of assets for the
median combined firm prior to the breakup and for the median parent and subsidiary
firms following the breakup.

B. Data Sources

Our empirical tests use data on analyst coverage, analyst turnover, and the
industry specialization of analysts following the sample firms in years surrounding the
breakup. In addition, we require data on analysts’ earnings forecasts and the dispersion
in forecasts for the sample firms in the breakup period. Finally, we collect valuation data
for breakup firms to test whether there is an association between changes in
intermediation and firm valuation.

The primary source of data for our study is the I/B/E/S Detail Tape. From this
database we collect the number and the identity of analysts that covered the sample firms
in the two years before the breakup (fiscal years -2 and -1), and that covered the parent
and subsidiary firms in the two subsequent years (fiscal years +1 and +2). We also use
the I/B/E/S Detail Tape to assess the industry specialization of analysts that follow the
sample firms by collecting the names and industry codes of all other firms covered by

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7 I/B/E/S uses over fifty different industry classifications and eleven sector breakdowns.
8 Because Bliss (1998) and Krishnaswami and Subramaniam (1998) use the I/B/E/S Summary Tape, they...
III. Tests and Results

A. Motivation

Practitioners argue that stock breakups are likely to create additional demand for analyst coverage in the capital market as well as lower the cost of analyst research for brokerage houses. Since investors do not directly reimburse brokerage firms for the costs of analysts’ research, the demand for analyst coverage is derived from the trading commissions and investment banking fees they generate for their brokerage firms. Breakups are likely to affect both these factors, and, therefore, provide brokerage firms with an incentive to undertake additional research or to increase research quality for breakup firms. Post-breakup increases in trading volumes can arise because investors are unable to examine the identity and industry specialization of individual analysts.
attracted by anticipated improvements in performance for breakup firms or because they are interested in the pure-play stocks resulting from the breakup. Demand for investment banking services is likely to increase after breakups because breakups create additional growth options for parents and subsidiaries and because breakup firms can no longer use excess cash from one unit to finance shortfalls for others. In addition to the above demand effects, breakups are likely to lower the cost of research for brokerage houses since more information on each of the breakup units is available.

The composition of analysts covering the breakup firms is also likely to change. Two features of analyst coverage underlie this prediction. First, analysts typically specialize in following firms by industry. And second, brokerage firms usually assign only one analyst to follow a particular firm. Prior to the breakup, a firm is likely to be followed primarily by analysts that specialize in its dominant business. Further, given the costs of analyzing a conglomerate, it is unlikely that all of the analysts that specialize in this dominant industry will find it attractive to follow the breakup firm. Subsequent to the breakup, two types of changes are therefore expected to occur. New analysts will cover the spun-off segments which had previously been under-covered, and additional analysts specializing in the more-focused parent firm’s industry will begin following the parent.

Changes in analyst coverage and composition after breakups, in turn, are likely to have an impact on the precision and consensus of analysts’ earnings forecasts. In the long run, forecast accuracy and consensus are likely to improve because there is more information available about breakup units and more specialized analysts following the units. However, in the short-term these effects can be offset by increased uncertainty
about changes in operations associated with the breakup and by the lack of firm-specific experience of new analysts following the breakup firms. It is uncertain how long it will take for these short-run effects to be dominated by the long-run benefits.

Finally, if increases in analysts’ earnings forecast accuracy and consensus are valued by investors, breakup firms are likely to show improved valuation after controlling for expected performance and growth [see Barry and Brown (1984) and (1985) and Merton (1987)].

B. Changes in Analyst Following

To test whether stock breakups are associated with changes in analyst following, we examine analyst coverage for breakup firms in the two years before and two years after the breakup. In the pre-breakup period, coverage is the number of analysts that issued at least one report for the breakup firm during the fiscal year in question. Following the breakup, separate analyst reports are issued for the parent and the subsidiary firms. We, therefore, define coverage as the number of different analysts that issued at least one report on either the parent or subsidiary firms. This ensures that analysts that cover both the parent and subsidiary firms are counted only once.

Table III reports mean and median analyst coverage for the sample firms in each of the two fiscal years before and after the breakup. The evidence supports the hypothesis that analyst coverage increases after a breakup. In fiscal years -2 and -1 coverage is relatively stable, with a mean of 19.1 and 18.7 analysts per firm respectively. However, one year after the breakup the parent firm and subsidiary are covered by a combined 24.4 different analysts, a significantly higher level than during the pre-breakup
level. This higher level of average following persists into fiscal year +2 and also exists for median coverage.

Table III also reports summary statistics on post-breakup coverage for the parent and subsidiary firm(s) separately. The findings indicate that coverage for the parent firm is approximately twice the level of the subsidiaries, 17.2 versus 9.7.\(^9\) Once again, this pattern persists into fiscal year +2 and also holds for sample medians. Coverage for the parent firm in the post-breakup period actually declines modestly relative to pre-breakup coverage for the combined firm. Mean coverage for the parent is 17.2 and 17.0 in fiscal years +1 and +2, versus 19.1 and 18.7 for the combined firms in fiscal years -1 and -2.

C. Changes in Analyst Composition

We next test whether stock breakups are accompanied by an increase in analyst turnover and in analysts’ industry specialization. Turnover is defined as the number of new analysts that follow a firm at the end of a given year, relative to total coverage for that year. Industry specialization is the percentage of sample firm analysts that cover other firms in the same industry as the parent (or the subsidiary firms(s)).

Summary statistics on analyst turnover in years surrounding stock break-ups are reported in Table IV for both parent and subsidiary firms. There is strong evidence of an increase in turnover for subsidiaries subsequent to the breakup. On average, 88.3% of the analysts that cover the subsidiary firm(s) in fiscal year +1 do not cover the combined firm in fiscal year -1. On an annualized basis, this figure is significantly higher than the 31.3% mean turnover rate for the same firms between fiscal years +1 and +2.

\(^9\)The sums of the fiscal year +1 and +2 parent and subsidiary firm(s) coverage are higher than the combined totals for these years because of analysts who follow both the post-breakup parent and subsidiary firm(s).
This increase in analyst turnover seems to arise because brokerage houses that cover the breakup firms assign new analysts to follow subsidiaries. Using the same methodology that we use to estimate analyst turnover, we find no evidence of a change in brokerage house coverage during the event period (not reported in the table). On average, 49% of the brokerage houses that cover the subsidiary in fiscal year +1 do not cover the combined firm in fiscal year -1. On an annualized basis, this is comparable to the 22.3% brokerage house turnover rate for the same firms from fiscal year +1 to +2 and is significantly lower than the 88% mean turnover rate for analysts.

Table IV

Curiously, there is actually lower turnover for the parent firms around the time of stock breakups than in adjacent years. On average, 47.7% of the analysts that cover the parent firm in fiscal year +1 do not cover the combined firm in fiscal year -1. On an annualized basis, this figure is significantly lower than the 31.2% mean turnover rate for the same firms between fiscal years +1 and +2. This implies that few industry specialists that had avoided covering the pre-breakup firm are attracted to the parent after the breakup.

As noted above, a change in the composition of analysts covering subsidiaries can arise if brokerage houses assign industry specialists to these firms in place of parent firm analysts. Table V reports the degree of industry specialization among analysts covering the parent and subsidiary firm(s) in years surrounding the breakup. Two findings emerge. First, prior to the breakup analysts that covered the sample firms tended to specialize in the parent firms’ industries. For the median firm, 55.6% of its analysts in fiscal year -1 also followed five or more other firms in the parent’s industry, compared to
only 12.3% for the subsidiary’s industry. Similar results are reported for analyst coverage of one or more, two or more, and three or more firms in the parents’ and subsidiaries’ industries.

Table V

Second, following the breakup there is a significant increase in industry specialist coverage for subsidiaries and very little increase for parent firms. Approximately 58% of the analysts covering the median subsidiary in fiscal year +1 as well as 57.1% in fiscal year +2 also cover five or more other firms in the subsidiary’s industry. These estimates are significantly higher than the estimated 12.3% for fiscal year -1. For parent firms, analyst coverage of five or more other firms in their industries increases only modestly, from 55.6% in fiscal year -1, to 62.9% in fiscal year +1 and to 60.8% in fiscal year +2. Similar results are reported for analyst coverage of one or more, two or more, and three or more firms in the parents’ and subsidiaries’ industries.

Taken together, the analyst turnover and industry specialization findings suggest that prior to breakups, analysts that cover the sample firms tend to specialize in the parent firms’ industries. After the breakup, there is a dramatic turnover of analysts that follow the subsidiary firm(s), as analysts for the combined firms are replaced by analysts that specialize in the subsidiary firms’ industries. For parent firms the breakup is accompanied by little change in the composition of their analysts.

D. Changes in Analysts’ Forecasting Ability

To test whether there are improvements in analysts’ ability to predict firms’ performance after stock breakups, we examine analysts’ earnings forecast accuracy and forecast divergence surrounding the breakup. In the long-term the accuracy of analysts’
forecasts is likely to increase and divergence in forecasts is likely to decline after
breakups, both because more industry specialists are attracted to the sample firms and
because more information is available about the breakup units. However, in the short-
term, the increase in analyst turnover could reduce forecast accuracy and consensus
because the new analysts have little experience covering the sample firms and because
the impact of any operating changes accompanying the breakup are difficult to forecast.

One research design issue that arises in examining changes in analyst earnings
forecast accuracy and divergence is how to treat the subsidiary following the breakup.
Prior to the transaction, analyst forecast data is available for the consolidated firm,
whereas after the breakup information is reported for the parent and subsidiary units
separately. We consolidate the earnings for the parent and subsidiaries after the breakup
so that our measures of analyst earnings forecast accuracy and divergence are comparable
before and after the transaction.\textsuperscript{10} However, our consolidations are sometimes imperfect
since following the breakup we are unable to eliminate any inter-company transactions
between the parent and subsidiaries, which had been eliminated in the pre-breakup
consolidation.

Consensus analyst earnings forecasts and actual earnings reported on the \textit{I/B/E/S}
Summary Tape in the final month for fiscal years -1, +1, and +2 relative to each sample
breakup are used to define analysts’ earnings forecast accuracy. Accuracy is calculated
for each sample deal year as follows:\textsuperscript{11}

\textsuperscript{10}In contrast, earlier studies of analyst forecast accuracy surrounding spin-offs by Bliss (1998) and
Krishnaswami and Subramaniam (1998) examined whether spin-offs are accompanied by an increase in
forecast accuracy for the parent company. However, it is difficult to interpret these findings if there is a
systematic difference in risk for the parent and the broken-out units.
\[ FE(t) = \left( \frac{\sum_{i=1}^{n} (ACT(t)_i - EST(t)_i) \times SHRSOUT(t)_i}{\sum_{i=1}^{n} ACT(t)_i \times SHRSOUT(t)_i} \right) \]  

(1)

where \( n \) is the number of parent and subsidiary firm(s) in fiscal year \( t \) for each sample deal. \( ACT_t \) is actual EPS in year \( t \) relative to the breakup. \( EST_t \) is the mean of the individual EPS forecasts that make up the I/B/E/S consensus EPS forecast in fiscal year \( t \) relative to the breakup. This variable is measured in the final month of the year. \( SHRSOUT_t \) is the number of shares outstanding in year \( t \) relative to the breakup.

To estimate whether there is a change in the degree of divergence among analysts in their earnings forecasts, we examine the variance of individual earnings estimates that make up the I/B/E/S consensus analyst EPS forecast for fiscal years -1, +1 and +2 relative to the breakup. Once again, forecast data is measured in the final month of the fiscal year as reported on the I/B/E/S Summary Tape.

Several estimation issues arise in comparing pre- and post-breakup variances. First, because analysts forecast earnings per share, which depend on the number of shares issued, the scale of the variances differs across sample firms. For each firm in the pre-breakup period and for each parent and subsidiary firm(s) in the post-breakup period, therefore, we transform the variance measures into variances of net income. A second issue is how to aggregate the variances for the firms following the breakup so that they can be compared to pre-breakup variances for the combined firm. This aggregation requires that we recognize the effect of any covariance between parent and subsidiary forecasts following the breakup and also weight the volatility for the units by their

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\(^{11}\)Values of \( FE \) greater than 100% are truncated to 100%.
relative contribution to earnings. In a previous version of this paper, we made attempts to
correct for these factors in our divergence measure and they had no effect on our
findings. In this version of the paper, therefore, we present a simplified measure of
divergence that ignores the covariance issue in the post breakup period. This divergence
measure also equally weights variances across firms in the post-breakup period.
Divergence among analyst earnings forecasts is calculated for each sample deal as
follows:\textsuperscript{12}

\[
DV(t) = \frac{-n}{i=1} \frac{SHRSOUT(t)^2 \cdot VAR(t)}{n^2} \frac{1}{\sqrt{i=1} \left| ACT(t) \cdot SHRSOUT(t) \right|}
\]  

where \( n \) is the number of parent and subsidiary firm(s) in fiscal year \( t \) for each sample
deal. \( ACT_t \) is actual EPS in fiscal year \( t \) relative to the breakup. \( VAR_t \) is the variance of
the individual EPS forecasts that make up the I/B/E/S consensus EPS forecast in fiscal
year \( t \) relative to the breakup. This variable is measured in the final month of the fiscal
year. \( SHRSOUT_t \) is the number of shares outstanding in fiscal year \( t \) relative to the
breakup.

As reported in Table VI, the stock breakup has an immediate effect on both
forecast errors and forecast divergence. In Panel A, the mean and median consensus
earnings forecast errors for the sample decline significantly following stock breakups.
The mean consensus forecast error is 0.213 in fiscal year -2 and 0.260 in fiscal year -1

\textsuperscript{12}Values of \( DV \) greater than 100\% are truncated at 100\%
compared to only 0.160 in fiscal year +1 and 0.142 in fiscal year +1. Thus, following the breakup there is roughly a 38% decline in mean analyst earnings forecast errors relative to fiscal year -1 values and approximately a 25% decline relative to fiscal year -2 estimates. These declines are highly statistically significant. Identical conclusions emerge from the median results.

Table VI

Panel B of Table VI reports mean and median estimates of the divergence among analyst earnings forecasts surrounding stock breakups. These findings indicate that there is a sharp decrease in the divergence of analysts’ earnings forecasts following stock breakups. On average, the mean divergence among analyst earnings forecasts is 0.148 in fiscal year -2 and 0.170 in fiscal year -1 versus 0.051 and 0.029 in fiscal years +1 and +2, respectively. These translate into roughly a 70% decline in divergence in fiscal year +1, and approximately a 83% decline in fiscal year +2 against a benchmark of fiscal year -1. These declines are highly statistically significant. The median divergence measures also lead to identical conclusions.

To examine whether improvements in analyst forecast accuracy and divergence are related to observed changes in analyst coverage, we estimate the following regression models for each of the post-breakup years (fiscal year \( t = +1 \) and +2):

\[
FEDIFF_t = \alpha + \beta_1 ASSETS + \beta_2 RATIO + \beta_3 ANEW_t + \beta_4 DS + \beta_5 DT + \epsilon_t, \tag{3}
\]

\[
DVDIFF_t = \alpha + \beta_1 ASSETS + \beta_2 RATIO + \beta_3 ANEW_t + \beta_4 DS + \beta_5 DT + \epsilon_t, \tag{4}
\]
$FEDIFF_t$ is the difference between analyst earnings forecast accuracy in fiscal year $t$ ($t = +1$ or $+2$) and analyst earnings forecast accuracy in year -1. $DVDFIFF_t$ is the difference between analyst earnings forecast divergence in fiscal year $t$ ($t = +1$ or $+2$) and analyst earnings forecast divergence in fiscal year -1. $ASSETS$ is the natural log of the combined firm’s assets at the end of fiscal year -1. $RATIO$ is the natural log of the ratio of the subsidiary’s assets at the beginning of fiscal year +1 over the pre-breakup firm’s assets at the end of fiscal year -1. $ANEW_t$ is the percentage of total analysts covering the parent and subsidiary firms in fiscal year $t$ ($t = +1$ and $+2$) that are new. $DS$ takes on the value of one (zero otherwise) if the sample deal is a spin-off, and $DT$ takes on the value of one (zero otherwise) if the sample deal is a targeted stock offering.

If firms attract new analysts with industry-specific knowledge relevant to the parent and subsidiary firms, the coefficient on the $ANEW_t$ variable will be negative. That is, declines in analyst forecast errors and divergence will be greatest for firms with relatively high rates of analyst turnover. The size of the subsidiary relative to the parent indicates whether the breakup is a significant economic event for the breakup firm. We expect that forecast and consensus reductions are less likely to be observable when the subsidiary is small relative to the parent, implying a negative coefficient on the variable $RATIO$. The coefficient on the other control variable, $ASSETS$, is uncertain. Finally, indicator variables are included for spin-offs and targeted stock offerings to capture any potential informational differences between these types of deals and equity carve-outs. We do not have definitive predictions on the signs of these two variables.

The regression estimates are presented in Table VII. The results for changes in analyst earnings forecast errors between fiscal years -1 and +1 as well as between fiscal
years -1 and +2 are reported in Panel A. Panel B shows the results for changes in
forecast divergence for these same periods. The earnings forecast accuracy findings
indicate that the extent of new analyst coverage is negatively associated with consensus
forecast errors in both fiscal years +1 and +2. The estimated coefficients indicate that a
10% increase in new analyst coverage is associated with approximately a 7% decrease in
consensus forecast errors in fiscal year +1 and roughly a 15% decrease in fiscal year +2.
As predicted, the relative size of the subsidiary to the combined firm is negatively
associated with forecast errors in both regressions, indicating that reductions in forecast
errors are difficult to observe for small breakups. All the other variables in the forecast
accuracy regressions are statistically insignificant.

**Table VII**

For the forecast divergence models, we find no evidence that new analyst
coverage is related to the reduction in analyst forecast divergence in either fiscal year +1
or +2. The relative size of the subsidiaries to the combined firm is negatively associated
with forecast divergence in fiscal year +1 but not in fiscal year +2. The dummy variable
for targeted stock transactions is positive and significant at the 1% level in both
regressions, suggesting that declines in earnings forecast divergence may be less
pronounced for these deals. All of the other variables in these regressions are
insignificant.

In summary, the above results indicate that after a stock breakup analysts are able
to forecast earnings for the parent and subsidiary firms more precisely than prior to the
breakup. They also appear to agree more about the firms’ earnings prospects, as reflected
in a decline in the divergence of their forecasts. Finally, we find that the improved
accuracy of analysts’ forecasts is related to increased turnover among analysts covering breakup firms.

E. Valuation Effects of Intermediation Changes

To test whether the above changes in intermediation affect firm valuation, we examine the association between changes in market-to-book ratios and changes in analyst earnings forecast accuracy as well as changes in forecast divergence around stock breakups. Our tests control for other factors that explain changes in market-to-book ratios suggested by earlier research. If intermediation benefits accompanying breakups have an impact on firm value, we expect to observe a negative relation between changes in forecast accuracy and changes in market-to-book ratios as well as changes in forecast divergence and market-to-book ratios. That is, as forecast errors and divergence decline around stock breakups, we predict greater relative improvements in the sample firms’ market-to-book ratios over this time period. Differences between pre- and post-deal analyst estimates of short-term and long-term earnings growth are included in this analysis as control variables. The coefficients on these variables are predicted to be positive.

The valuation tests are based on the following models:

\[
MBDIFF_t = \alpha + \beta_1 \Delta STG_t + \beta_2 \Delta LTG_t + \beta_3 FEDIFF_t + \epsilon_t, \quad (5)
\]

\[
MBDIFF_t = \alpha + \beta_1 \Delta STG_t + \beta_2 \Delta LTG_t + \beta_3 DVDIFF_t + \epsilon_t, \quad (6)
\]

\(MBDIFF_t\) is the difference between the aggregate market-to-book value of the parent and subsidiary firm(s) in fiscal year \(t\) (\(t = +1\) or \(+2\)) and the market-to-book value of
the combined firm in fiscal year -1 relative to the sample deal. \( \Delta STG_t \) is the difference between the aggregate year-ahead analyst earnings forecast of the parent and subsidiary firm(s) in fiscal year \( t (t=+1 \text{ or } +2) \) and the year-ahead analyst earnings forecast of the combined firm in fiscal year -1 relative to the sample deal. \( \Delta LTG_t \) is the difference between the aggregate analyst long-term earnings growth forecast of the parent and subsidiary firm(s) in fiscal year \( t (t=+1 \text{ or } +2) \) and the analyst long-term earnings growth forecast of the combined firm in fiscal year -1 relative to the sample deal. Both of the earnings growth variables are measured in the final month of the fiscal year. \( FEDIFF_t \) and \( DVDIFF_t \) are defined as in Table VII.

The regression estimates are reported in Table VIII. Panel A describes the results for changes in analyst earnings forecast errors. Consistent with improved forecast accuracy having an effect on valuation, we find that the coefficients on changes in forecast accuracy are negatively associated with changes in market-to-book ratios in both fiscal years +1 and +2. However, only the fiscal year +2 coefficient is statistically significant at conventional levels. The estimated coefficient is -0.150 in fiscal year +1 and -0.425 in fiscal year +2, significant at the 1% level using a one-tailed test. No significant association is documented in Panel B between changes in market-to-book ratios and changes in analyst earnings forecast divergence around breakups.

**Table VIII**

As predicted, the coefficients on changes in long-term growth are positively associated with changes in market-to-book ratios. The estimated coefficient on this variable in the analyst forecast accuracy regression is 4.827 in fiscal year +1 and 5.893 in fiscal year +2. Both are significant at the 5% level in a one-tailed test. Similar results are
found for this variable in Panel B. In both Panels A and B, the coefficients on changes in short-term growth are also positive, as predicted. However, the coefficients on this variable are only significant in fiscal year +2.

IV. Conclusions

This paper studies whether stock breakups—spin-offs, equity carve-outs, and targeted stock offerings—are accompanied by more specialized analyst coverage, leading to capital market benefits. Breakups create new classes of traded common stock that represent direct claims against a firm’s individual business segments. One alleged benefit of stock breakups is that they facilitate improved intermediation for a firm’s stock by inducing brokerage firms to assign more analysts and more industry-specialists to cover the new firms. This, in turn, it is argued improves valuation of the firm’s assets. Investment bankers, for example, often argue that the level and quality of analyst coverage significantly improves following these transactions. We investigate these claims for a sample of 143 stock breakups undertaken during the period 1990-1995.

We find that breakups are accompanied by an increase in analyst following for the breakup firms. We also find that there is substantial turnover of analysts around the sample deals. This appears to be primarily due to the assignment by brokerage houses of new industry specialists to follow the breakup subsidiaries. These changes are accompanied by an increase in analyst earnings forecast accuracy and in consensus among analysts about their forecasts. The increases in analyst earnings forecast accuracy are greatest for firms that are successful in attracting new analysts following breakups. Finally, we find weak evidence that increases in analyst earnings forecast accuracy after
breakups are associated with improved valuation as reflected by a significant association with increases in market-to-book ratios. The findings, therefore, indicate that there are both intermediation and valuation implications from breakups.
References


Nanda, V. and M.P. Narayanan, 1997, Disentangling value: Mis-valuation and the scope of the firm, working paper, University of Michigan.


Table I
Number of sample deals per calendar year

Each sample deal is classified into a calendar year according to its distribution date.

<table>
<thead>
<tr>
<th>Year</th>
<th>Spin-offs</th>
<th>Equity carve-outs</th>
<th>Targeted stock offerings</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>8</td>
<td>6</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>1991</td>
<td>5</td>
<td>10</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>1992</td>
<td>10</td>
<td>15</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>1993</td>
<td>8</td>
<td>20</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>1994</td>
<td>13</td>
<td>19</td>
<td>0</td>
<td>32</td>
</tr>
<tr>
<td>1995</td>
<td>11</td>
<td>12</td>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>55</td>
<td>82</td>
<td>6</td>
<td>143</td>
</tr>
</tbody>
</table>
Table II
Select transaction and financial data on sample firms

Panel A. Transaction data (sample size = 131)

Mean (median) percentage of assets of break-out firm in year +1 as percentage of combined firm’s assets in year -1 29% (16%)

Mean (median) percentage of subsidiary stock sold by parent 74% (100%)

Percentage of subsidiaries in different industry from parent 71%

Percentage of subsidiaries in different sector from parent 40%

Percentage of sample firms disclosing segment data in year -1 69%

Panel B. Performance data

<table>
<thead>
<tr>
<th>Fiscal year</th>
<th>Assets ($M)</th>
<th>Sales ($M)</th>
<th>ROE (%)</th>
<th>ROA (%)</th>
<th>Capex/ Assets (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Combined firm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td>2,975</td>
<td>2,245</td>
<td>9%</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>-1</td>
<td>3,003</td>
<td>2,394</td>
<td>9%</td>
<td>2%</td>
<td>5%</td>
</tr>
<tr>
<td>B: Parent firm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+1</td>
<td>2,905</td>
<td>2,532</td>
<td>12%</td>
<td>3%</td>
<td>5%</td>
</tr>
<tr>
<td>+2</td>
<td>3,213</td>
<td>2,560</td>
<td>12%</td>
<td>3%</td>
<td>5%</td>
</tr>
<tr>
<td>C: Subsidiary firm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+1</td>
<td>447</td>
<td>398</td>
<td>11%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>+2</td>
<td>407</td>
<td>347</td>
<td>10%</td>
<td>4%</td>
<td>4%</td>
</tr>
</tbody>
</table>
Table III
Analyst coverage around spin-offs, equity carve-outs, and targeted stock offerings

Analyst coverage is defined as the number of different analysts that issue at least one report on a given firm in a particular fiscal year relative to the stock breakup. The combined numbers in fiscal years +1 and +2 count an analyst who covers both the parent and subsidiary firm(s) only once.

<table>
<thead>
<tr>
<th>Fiscal year</th>
<th>Mean</th>
<th>Median</th>
<th>Number of firms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A: Combined</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2</td>
<td>19.1</td>
<td>(17.0)</td>
<td>127</td>
</tr>
<tr>
<td>-1</td>
<td>18.7</td>
<td>(17.0)</td>
<td>131</td>
</tr>
<tr>
<td>+1</td>
<td>24.4**</td>
<td>(20.5)**</td>
<td>126</td>
</tr>
<tr>
<td>+2</td>
<td>24.2**</td>
<td>(19.0)**</td>
<td>113</td>
</tr>
<tr>
<td><strong>B: Parent firm</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+1</td>
<td>17.2</td>
<td>(14.0)</td>
<td>126</td>
</tr>
<tr>
<td>+2</td>
<td>17.0</td>
<td>(13.0)</td>
<td>113</td>
</tr>
<tr>
<td><strong>C: Subsidiary firm</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+1</td>
<td>9.7</td>
<td>(7.0)</td>
<td>126</td>
</tr>
<tr>
<td>+2</td>
<td>9.2</td>
<td>(6.5)</td>
<td>113</td>
</tr>
</tbody>
</table>

**Mean (median) is significantly different from fiscal years +1 to +2 at the 0.01 level in a two-sided pairwise differences (Wilcoxon signed rank) test.
Table IV
Analyst turnover around spin-offs, equity carve-outs, and targeted stock offerings

Maximum sample size is 130. Turnover is defined as the number of new analysts that follow a given firm at the end of a particular fiscal year relative to the stock breakup divided by total coverage for that firm in that fiscal year. Analyst coverage is defined as in Table III.

<table>
<thead>
<tr>
<th>Fiscal year</th>
<th>Percentage of new analysts</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>-2 to -1</td>
<td>Combined firm</td>
<td>31.2%</td>
</tr>
<tr>
<td>-1 to +1</td>
<td>Parent firm</td>
<td>47.7%**</td>
</tr>
<tr>
<td></td>
<td>Subsidiary firm</td>
<td>88.3%**</td>
</tr>
<tr>
<td>+1 to +2</td>
<td>Parent firm</td>
<td>31.2%</td>
</tr>
<tr>
<td></td>
<td>Subsidiary firm</td>
<td>31.3%</td>
</tr>
</tbody>
</table>

**Annualized mean (median) is significantly different from fiscal years +1 to +2 at the 0.01 level in a two-sided pairwise differences (Wilcoxon signed rank) test.
### Table V
Changes in analyst specialization around spin-offs, equity carve-outs, and targeted stock offerings

Maximum sample size is 130. The industry of the parent firm and the subsidiary firm(s) are each defined using I/B/E/S’s definition of each entity’s industry immediately following the stock breakup (fiscal year +1).

**Panel A. Parent firm**
Median percentage of analysts covering parent firm who maintain coverage on at least \( n \) other firms in parent firm’s industry

<table>
<thead>
<tr>
<th>( n )</th>
<th>Fiscal year -1</th>
<th>Fiscal year +1</th>
<th>Fiscal year +2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1+ firms</td>
<td>91.4%</td>
<td>92.3%</td>
<td>91.5%</td>
</tr>
<tr>
<td>2+ firms</td>
<td>83.0%</td>
<td>83.3%</td>
<td>83.3%</td>
</tr>
<tr>
<td>3+ firms</td>
<td>71.0%</td>
<td>76.2%</td>
<td>72.7%</td>
</tr>
<tr>
<td>5+ firms</td>
<td>55.6%</td>
<td>62.9%</td>
<td>60.8%</td>
</tr>
</tbody>
</table>

**Panel B. Subsidiary firm**
Median percentage of analysts covering subsidiary firm(s) who maintain coverage on at least \( n \) other firms in newly-created firm’s industry

<table>
<thead>
<tr>
<th>( n )</th>
<th>Fiscal year -1</th>
<th>Fiscal year +1</th>
<th>Fiscal year +2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1+ firms</td>
<td>50.0%</td>
<td>97.7%**</td>
<td>100.0%**</td>
</tr>
<tr>
<td>2+ firms</td>
<td>26.8%</td>
<td>80.0%**</td>
<td>83.3%**</td>
</tr>
<tr>
<td>3+ firms</td>
<td>19.1%</td>
<td>75.0%**</td>
<td>75.0%**</td>
</tr>
<tr>
<td>5+ firms</td>
<td>12.3%</td>
<td>57.7%**</td>
<td>57.1%**</td>
</tr>
</tbody>
</table>

**significantly different from fiscal year -1 at the 0.01 level in a two-sided Wilcoxon signed rank test**
Table VI
Characteristics of analyst earnings forecasts around spin-offs, equity carve-outs, and targeted stock offerings

Panel A. Accuracy
Accuracy of analyst earnings forecasts is calculated for each sample deal as follows:

\[
FE_t = \left( \frac{\sum_{i=1}^{n} [ACT_{it} - EST_{it}] \times SHRSOUT_{it}}{\sum_{i=1}^{n} ACT_{it} \times SHRSOUT_{it}} \right)
\]

where \( n \) is the number of parent and subsidiary firm(s) in fiscal year \( t \) for each sample deal. \( ACT_t \) is actual EPS in fiscal year \( t \) relative to the sample deal. \( EST_t \) is the mean of the individual EPS forecasts that make up the I/B/E/S consensus EPS forecast in fiscal year \( t \) relative to the sample deal. This variable is measured in the final month of the fiscal year. \( SHRSOUT_t \) is the number of shares outstanding in fiscal year \( t \) relative to the sample deal.

<table>
<thead>
<tr>
<th>Fiscal year</th>
<th>Number of firms</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2</td>
<td>127</td>
<td>0.213</td>
<td>0.069</td>
</tr>
<tr>
<td>-1</td>
<td>131</td>
<td>0.260</td>
<td>0.073</td>
</tr>
<tr>
<td>+1</td>
<td>126</td>
<td>0.160**</td>
<td>0.040**</td>
</tr>
<tr>
<td>+2</td>
<td>113</td>
<td>0.142**</td>
<td>0.049**</td>
</tr>
</tbody>
</table>
Panel B. Divergence

Divergence among analyst earnings forecasts is calculated for each sample deal as follows:

\[
DV(t) = -\frac{\sum_{i=1}^{n} \sqrt{\frac{SHRSOUT(t)^2 \times VAR(t)}}}{n^2} \sqrt{\frac{1}{n}} \cdot \exp\left(\frac{1}{2} \cdot \sum_{i=1}^{n} \left|ACT(t) \times SHRSOUT(t)\right| \right)
\]

where \(n\) is the number of parent and subsidiary firm(s) in fiscal year \(t\) for each sample deal. \(ACT_t\) is actual EPS in fiscal year \(t\) relative to the sample deal. \(VAR_t\) is the variance of the individual EPS forecasts that make up the I/B/E/S consensus EPS forecast in fiscal year \(t\) relative to the sample deal. This variable is measured in the final month of the fiscal year. \(SHRSOUT_t\) is the number of shares outstanding in fiscal year \(t\) relative to the sample deal.

<table>
<thead>
<tr>
<th>Fiscal year</th>
<th>Number of firms</th>
<th>Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2</td>
<td>127</td>
<td>0.148</td>
<td>0.065</td>
</tr>
<tr>
<td>-1</td>
<td>130</td>
<td>0.170</td>
<td>0.052</td>
</tr>
<tr>
<td>+1</td>
<td>126</td>
<td>0.051(^*)</td>
<td>0.016(^++)</td>
</tr>
<tr>
<td>+2</td>
<td>113</td>
<td>0.029(^*)</td>
<td>0.015(^++)</td>
</tr>
</tbody>
</table>

\(^*\)significantly different from fiscal year -1 at the 0.01 level in a one-sided pairwise differences test

\(^++\)significantly different from fiscal year -1 at the 0.01 level in a one-sided Wilcoxon signed rank test
Table VII
Cross-sectional analysis of changes in analyst earnings forecast characteristics around spin-offs, equity carve-outs, or targeted stock offerings

Panel A.

\[ \text{FEDIFF}_t = \alpha + \beta_1 \text{ASSETS} + \beta_2 \text{RATIO} + \beta_3 \text{ANEW}_t + \beta_4 \text{DS} + \beta_5 \text{DT} + \epsilon, \]

\( \text{FEDIFF}_t \) is the difference between analyst earnings forecast accuracy in fiscal year \( t \) and analyst earnings forecast accuracy in fiscal year -1. Analyst earnings forecast accuracy is defined as in Table VI. \( \text{ASSETS} \) is the natural log of parent firm assets at the end of fiscal year -1. \( \text{RATIO} \) is the natural log of the ratio of subsidiary firm(s) assets at the beginning of fiscal year +1 over parent firm assets at the end of fiscal year -1. \( \text{ANEW}_t \) is the percentage of analyst coverage in fiscal year \( t \) relative to the sample deal made up of new analysts. Analyst coverage is defined as in Table III. \( \text{DS} \) takes on the value of one (zero otherwise) if the sample deal is a spin-off. \( \text{DT} \) takes on the value of one (zero otherwise) if the sample deal is a targeted stock offering.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted sign</th>
<th>Estimated coefficient (p-value(^{ab}))</th>
<th>( t = +1 ) ((n=126; \text{adj. } R^2=0.06))</th>
<th>( t = +2 ) ((n=113; \text{adj. } R^2=0.15))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td></td>
<td>-0.133 (0.40)</td>
<td>-0.141 (0.41)</td>
<td></td>
</tr>
<tr>
<td>ASSETS</td>
<td>?</td>
<td>-0.001 (0.94)</td>
<td>0.010 (0.48)</td>
<td></td>
</tr>
<tr>
<td>RATIO</td>
<td>-</td>
<td>-0.065 (0.01)</td>
<td>-0.062 (0.02)</td>
<td></td>
</tr>
<tr>
<td>ANEW</td>
<td>-</td>
<td>-0.071 (0.01)</td>
<td>-0.150 (0.01)</td>
<td></td>
</tr>
<tr>
<td>DS</td>
<td>?</td>
<td>0.021 (0.77)</td>
<td>0.030 (0.67)</td>
<td></td>
</tr>
<tr>
<td>DT</td>
<td>?</td>
<td>0.111 (0.12)</td>
<td>0.091 (0.31)</td>
<td></td>
</tr>
</tbody>
</table>
Table VII cont.

Panel B.

\[ DVDIFF_t = \alpha + \beta_1 ASSETS + \beta_2 RATIO + \beta_3 ANEW_t + \beta_4 DS + \beta_5 DT + \beta_6 DSEG + \epsilon, \]

\( DVDIFF_t \) is the difference between analyst earnings forecast divergence in fiscal year \( t \) and analyst earnings forecast divergence in fiscal year \(-1\). Analyst earnings forecast divergence is defined as in Table VI. The other variables are defined as in Panel A.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted sign</th>
<th>Estimated coefficient (( p)-value(^{ab} ))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( t = +1 ) ((n=126; \text{adj. } R^2=0.01))</td>
<td>( t = +2 ) ((n=113; \text{adj. } R^2=0.00))</td>
</tr>
<tr>
<td>Intercept</td>
<td></td>
<td>-0.304 ( (0.01) )</td>
</tr>
<tr>
<td>ASSETS</td>
<td>?</td>
<td>0.010 ( (0.32) )</td>
</tr>
<tr>
<td>RATIO</td>
<td>-</td>
<td>-0.041 ( (0.02) )</td>
</tr>
<tr>
<td>ANEW</td>
<td>-</td>
<td>0.023 ( (0.83) )</td>
</tr>
<tr>
<td>DS</td>
<td>?</td>
<td>0.058 ( (0.11) )</td>
</tr>
<tr>
<td>DT</td>
<td>?</td>
<td>0.131 ( (0.01) )</td>
</tr>
</tbody>
</table>

\(^a\text{Standard errors of the coefficients are adjusted as described in White (1980).}\)

\(^b\text{For independent variable with a predicted sign, the numbers in parentheses are one-sided } p\text{-values. Otherwise, they are two-sided } p\text{-values.}\)
Table VIII  
Cross-sectional analysis of changes in market-to-book ratios around spin-offs, equity carve-outs, and targeted stock offerings

Panel A.

\[ MBDIFF_t = \alpha + \beta_1 \Delta STG_t + \beta_2 \Delta LTG_t + \beta_3 FEDIFF_t + \varepsilon, \]

\( MBDIFF_t \) is the difference between the aggregate market-to-book value of the parent and subsidiary firm(s) in fiscal year \( t \) (\( t=+1 \) or \( +2 \)) and the market-to-book value of the combined firm in fiscal year -1 relative to the sample deal. \( \Delta STG_t \) is the difference between the aggregate year-ahead analyst earnings forecast of the parent and subsidiary firm(s) in fiscal year \( t \) (\( t=+1 \) or \( +2 \)) and the year-ahead analyst earnings forecast of the combined firm in fiscal year -1 relative to the sample deal. \( \Delta LTG_t \) is the difference between the aggregate analyst long-term earnings growth forecast of the parent and subsidiary firm(s) in fiscal year \( t \) (\( t=+1 \) or \( +2 \)) and the analyst long-term earnings growth forecast of the combined firm in fiscal year -1 relative to the sample deal. Both of the earnings growth variables are measured in the final month of the fiscal year. \( FEDIFF_t \) is defined as in Table VII.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted sign</th>
<th>Estimated coefficient (( p)-value\textsuperscript{a,b})</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>\textit{t} = +1 \hspace{1cm} (n=88; adj. ( R^2=0.02 ))</td>
</tr>
<tr>
<td>Intercep</td>
<td></td>
<td>0.128 \hspace{1cm} (0.08)</td>
</tr>
<tr>
<td>( \Delta STG )</td>
<td>+</td>
<td>0.120 \hspace{1cm} (0.20)</td>
</tr>
<tr>
<td>( \Delta LTG )</td>
<td>+</td>
<td>3.138 \hspace{1cm} \textbf{(0.03)}</td>
</tr>
<tr>
<td>( FEDIFF )</td>
<td>-</td>
<td>-0.150 \hspace{1cm} (0.19)</td>
</tr>
</tbody>
</table>
Table VIII cont.

Panel B.

\[ MBDIFF_i = \alpha + \beta_1 \Delta STG_i + \beta_2 \Delta LTG_i + \beta_3 DVDIFF_i + \varepsilon_i \]

\( DVDIFF_i \) is defined as in Table VII. The other variables are defined as in Panel A.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Predicted sign</th>
<th>Estimated coefficient (( p )-value(^{ab} ))</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>( t = +1 ) \hspace{1cm} (n=88; adj. ( R^2=0.02 ))</td>
</tr>
<tr>
<td>Intercept</td>
<td></td>
<td>0.115 (0.14)</td>
</tr>
<tr>
<td>( \Delta STG )</td>
<td>+</td>
<td>0.107 (0.22)</td>
</tr>
<tr>
<td>( \Delta LTG )</td>
<td>+</td>
<td>2.951 (0.04)</td>
</tr>
<tr>
<td>( DVDIFF )</td>
<td>-</td>
<td>-0.205 (0.18)</td>
</tr>
</tbody>
</table>

\(^a\) Standard errors of the coefficients are adjusted as described in White (1980).

\(^b\) For independent variable with a predicted sign, the numbers in parentheses are one-sided \( p \)-values. Otherwise, they are two-sided \( p \)-values.