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Corporate focus and value creation Evidence from spinoffs

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Abstract

We test a prediction from the corporate focus literature that cross-industry spinoff distributions, where the continuing and spunoff units belong to different two-digit Standard Industry Classification codes, create more value than own-industry spinoffs. Our results indicate significant value creation around the announcement of cross-industry spinoffs only. We then provide evidence on whether the value creation comes from operating performance improvements, or bonding benefits, or both, where bonding refers to a pre-commitment by managers to avoid cross-subsidizing relatively poor performing units within the firm. We find a significant improvement in operating performance for cross-industry spinoffs, and none for own-industry cases. We do not find strong evidence of bonding to explain spinoff-related value creation. Further, the operating performance improvement is associated with the continuing rather than the spunoff entity, consistent with the hypothesis that spinoffs create value by removing unrelated businesses and allowing managers to focus attention on the core operations they are best suited to manage.

Keywords: Spinoff; Divestiture; Focus; Cross-subsidization

JEL classification: G34; G35

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1. Introduction

Recent research on asset sales has documented that dispositions involving assets outside of the core business of a firm are viewed by the market as increasing value while disposition of core assets is not. (See the Journal of Financial Economics, 1995, special issue on corporate focus; in particular, see Comment and Jarrell, 1995; John and Ofek, 1995; Berger and Ofek, 1995. These studies generally conclude a positive relation between corporate focus and firm value.) The shedding of these non-core assets is referred to as 'increasing corporate focus'. While corporate restructuring that increases focus appears to increase value, there is little evidence on what the source of this value creation is. In this study we employ a sample of asset dispositions referred to as corporate spinoffs to investigate several issues relating to the value of increased corporate focus.

Spinoffs differ from other modes of asset divestitures in that they do not involve any cash. A spinoff occurs when a firm creates a subsidiary to hold a portion of its assets, and then distributes the shares of the subsidiary to its shareholders to create an independent company. We refer to the pre-spinoff and continuing entity as the parent, and the spunoff unit as the subsidiary, even though there is no parent/subsidiary relation following the spinoff. We exploit the fact that spinoffs are unique among divestiture modes in that they allow us to observe the post-spinoff performance of both the retained and divested assets, permitting a direct comparison with the performance of the pre-spinoff firm. A similar observation cannot be made for asset sales. Thus it is not possible to examine performance changes around asset sales because there is no observable post-sale performance benchmark for the sold assets.

First, we test the prediction arising from the corporate focus literature that spinoffs that increase corporate focus should create more value than spinoffs that do not materially change corporate focus. While there is considerable evidence that spinoffs create value, (see, e.g., Miles and Rosenfield, 1983, Kudla and McInish, 1983; Hite and Owers, 1983; Schipper and Smith, 1983) there has been no attempt to relate the value creation to corporate focus. Schipper and Smith (1983) and Davidson and McDonald (1987) examine samples of spinoffs where explicit tax benefits lay behind the spinoff. Schipper and Smith (1983) and Hite and Owers (1983) examine spinoffs involving regulated firms. Schipper and Smith (1983) and Hite and Owers (1983) examine the importance of the bond holder to equity holder wealth transfer and conclude that it is not significant. Parrino (1997), however, finds a significant decline in the value of Marriott's bonds following Marriott's spinoff announcement. He concludes that the initial wealth transfer to Marriott's shareholders was largely dissipated in litigation and other transaction costs. Hite and Owers (1983) and Cusatis et al. (1993) examine the cases where one of the spunoff entities becomes a takeover target after the spinoff.

We define an increase in corporate focus as occurring when the business that is spunoff operates in a different two-digit Standard Industry Classification code from the core line of business for the pre-spinoff entity. We refer to these cases as cross-industry spinoffs. When the spunoff unit operates in the same industry, we classify the spinoff as not increasing corporate focus and refer to these as own-industry spinoffs. Our results indicate that only the cross-industry spinoffs are associated with positive and significant excess returns around spinoff announcements, consistent with the broader results from asset sale studies.

We also seek to provide evidence on whether the value increase we document for cross-industry spinoffs arises from performance improvements, or bonding benefits, or both. Performance improvement may follow focus-increasing events such as cross-industry spinoffs for several reasons. First, managerial skills may be well-suited to the management of core business, but not to the management of non-core assets. Consequently, freeing the managers from operations unrelated to the core business should improve corporate performance. We refer to this possibility as the Corporate Focus Hypothesis. John and Ofek (1995) refer to this condition as removal of 'negative synergies' between the retained and divested assets. Second, performance improvement may arise due to improvements in the alignment of incentives between managers and shareholders. The creation of a free-standing subsidiary allows for the writing of a variety of incentive plans for the subsidiary managers that may not have been optimal or feasible when the subsidiary was not publicly traded. In turn, the potential to write improved incentive contracts could improve the performance of the spunoff assets. We refer to this as the Incentive Alignment Hypothesis.

We capture performance by examining the change in return on assets (henceforth ROA, defined as the ratio of operating income to total assets) around the time of the spinoff. First, we compare the ROA measures for the pre-spinoff firm to that for the combined parent and subsidiary in the post-spinoff period. Accounting rules require that the assets transferred to the subsidiary be valued at carryover basis from the parent, implying that the total assets of the pre-spinoff firm are identical to the sum of the total assets held by the parent and the subsidiary immediately after the spinoff. This unique set of circumstances allows us to use accounting-based measures of performance to compare the pre-spinoff performance of the entity to the post-spinoff performance of the parent/subsidiary combined entity, without introducing measurement errors due to asset revaluations. In Healy et al. (1992), the authors provide a discussion of the problems they encountered in developing comparative accounting performance numbers for cases involving acquisitions, where accounting rules require revaluation of all assets and liabilities to market for the acquired entity. This results in non-comparable accounting ratios such as return-on-assets, return-on-sales, etc., because of the valuation changes booked at the time of the acquisition. Healy et al. were forced to make approximations of these effects that could introduce bias and measurement error into the comparative data. Since the

accounting rules for spinoffs do not allow such revaluations, we need not make any adjustments to the reported results and thereby eliminate this source of measurement error in the accounting performance measures we employ.

We document significant improvements in ROA at the raw level, and after controlling for size, industry, and pre-spinoff performance, for cross-industry parent/subsidiary portfolios, but no significant changes for own-industry cases. We interpret these results as indicating that performance improvements provide at least a partial explanation for the value increase surrounding cross-industry spinoff announcements, and that this is an advantage of increasing corporate focus.

Focus-related value increase can also arise from bonding benefits, where bonding refers to a pre-commitment by managers to avoid cross-subsidization of poorly performing units by using free cash flow from more profitable units. Cross-subsidies may be directed either from the parent firm to poorly performing subsidiaries, or from subsidiaries (e.g. after raising capital ostensibly for use in the subsidiary's operations) to the parent's operations. Capital market participants understand these incentives, and respond positively when managers post bonds to restrict their ability to cross-subsidize poorly performing units. The ultimate bond in these situations is to separate the two units into independent organizations which are both subject to direct market discipline when raising new capital.

To investigate whether bonding benefits can explain part of the value creation around spinoff announcements, we argue that bonding is especially valuable when a firm needs to raise new capital since efficient capital markets are likely to incorporate the benefits of bonding in pricing the offering. We examine the frequency of debt and equity issues made by firms engaged in cross-industry spinoffs immediately before and after the spinoff, and find no evidence of an increase. Furthermore, the frequency of capital issuance is no different for cross- and own-industry spinoffs.

We also examine other indicators of bonding, such as an increase in leverage (as suggested by Jensen, 1986), and cash dividends (as suggested by Easterbrook, 1984), that might be used in conjunction with the spinoff to increase the benefits of the spinoff event. We find weak evidence of an increase in dividends in the cross-industry group, although this occurs in the year after the performance improvements have been realized. Thus, it seems more likely that the dividend increase is related to increased profitability rather than bonding. We do not find evidence of a significant change in financial leverage in either group. Overall, the evidence suggests that firms engaging in spinoffs do not engage in other means of bonding around the time of the spinoff.

Given that we document significant performance increases for cross-industry parent and subsidiary portfolios, we also seek to determine whether the improvement comes from the parent's operations, the subsidiary's operations, or both. Most corporate spinoffs are accounted for as discontinued operations,

implying that the results of the subsidiary's operations are segregated from the parent in the financial statements of the pre-spinoff entity in the year the spinoff decision is made. We use this segregated information to obtain baseline estimates of the pre-spinoff performance levels of the parent and subsidiary units individually to examine whether the performance improvement lies in either or both of these operating units. Our results indicate that the performance increase is found in the parents alone. This is not consistent with the Incentive Alignment Hypothesis, which suggests that the performance improvement should arise in the subsidiary, as it is the incentive plans for the subsidiary managers which have the most potential to improve from the spinoff. The results are, however, consistent with the Corporate Focus Hypothesis, in which the removal of non-core businesses allows parent managers to focus attention on the core operations they are best suited to manage.

The remainder of the paper is organized as follows. Section 2 explains the sample selection criteria used to identify our sample of spinoffs. Section 3 defines our measure of announcement period excess returns and reports the results of tests for differences between own- and cross-industry spinoffs. Section 4 describes the construction of our performance measure and the statistical measures we utilize to detect performance changes, and the results of our analyses at the combined parent and subsidiary level. Section 5 describes the data used to examine the potential effects of bonding and discusses the results of our analysis. Section 6 re-examines the data on performance increases at the level of individual parents and subsidiaries. Our conclusions are presented in Section 7.

2. Sample selection

Our goal is to gain insight into the way focus-related value creation at the announcement of spinoffs is revealed in subsequent performance changes. However, we are not interested in cases where performance improvements lie in obvious candidate explanations such as tax savings, or the removal of regulatory constraints. We are also not interested in those cases where the spinoff was motivated by an ensuing acquisition. While these examples are part of the motivation for spinoffs, they represent only a part of the population of spinoffs and have been studied elsewhere. Moreover, value increases exist in spinoffs that are not motivated by these other factors. Our interest is in the source of this value creation.

We examine the performance of spinoff firms in a five-year window starting two years prior to, and ending two years following, the spinoff year. While it is possible that spinoffs may lead to changes in performance that are not in evidence in the first two years, and only appear in the more distant future, we believe that, at the announcement of spinoffs, such distant changes would be

harder to anticipate. Second, performance changes beyond the second year would have to be larger to create the same announcement-date excess returns due to the effect of discounting. As it is, our results indicate that performance changes, if any, occur in the first year after the spinoff.

Our sample of spinoffs was identified by pooling information from several sources. We began by obtaining the identity of the pre-spinoff firms examined by Schipper and Smith (1983).[1] Their sample ended in 1981 and includes 93 firms. We then identified additional spinoffs by searching the Wall Street Journal index for news stories regarding spinoffs after 1981. We further supplemented this list with spinoff cases discussed in Kudla and McInish (1988) and Vijh (1994). We identified a total of 212 spinoffs using these procedures.

We then imposed the following data requirements in order for a spinoff to remain in our sample:

(1) For any year in a five-year window centered on the spinoff year, both the parent and the subsidiary had to be listed for at least one year on the Compustat annual industrial files spanning 1975–1994. If Compustat had data for some years, but not others, and the entity was still in existence, it was necessary that annual report data be available in our library to fill in the missing years. Imposing the Compustat availability criterion reduced the total sample to 151 spinoffs (a reduction of 61 spinoffs).

(2) Five firms were lost because the parent was not available on the Center for Research in Security Prices (CRSP) files to estimate announcement period returns.

(3) A precise announcement date and ex-dividend date for the spinoff must have been available from either the Wall Street Journal, the CRSP files, or prior research. Six firms were lost due to lack of an announcement date or ex-dividend date or both.

(4) Spinoffs involving a royalty trust, a Real Estate Investment Trust, or a firm with operations in a regulated industry, were dropped, resulting in a loss of 19 spinoffs.

(5) Another 32 firms were dropped because the subsidiary or the parent firm was acquired within two years of the spinoff since we require two years of accounting data for calculating performance changes. A little over half of these cases (18 out of 32) are own-industry spinoffs. There is some concern that dropping the acquired firms from our sample may impart a bias to our announcement date excess returns. Cusatis et al. (1993) document that takeover activity subsequent to a spinoff is higher than in the average population of firms, though still low in absolute terms. They demonstrate that takeover premiums

[1]We thank Katherine Schipper and Abbie Smith for making their sample available to us. We only received the list of firms actually used in Schipper and Smith (93 firms). In their paper they report having identified 177 spinoffs, of which only 93 survive a number of sample selection criteria having to do with identifiable event dates and return data.

explain a significant portion of the cross-sectional variation in excess returns at the time of the spinoff announcement. To the extent these acquisitions were anticipated at the time of the spinoff announcement, and since a majority of the dropped firms are from the own-industry category, dropping them from our sample would impart a downward bias to the estimation of excess returns around own-industry spinoff announcements.[2] To address these concerns, we re-calculated our announcement-period excess returns together with these 32 firms and find that the announcement-date excess return results for cross-versus own-industry spinoffs are not affected by including the acquired firms in our sample.

(6) Finally, four spinoffs were lost because they represented cases in which one firm engaged in multiple spinoffs within the five-year window centered on the ex-dividend year.

Imposing these criteria reduced the sample to 85 firms engaged in spinoffs. Of these, 60 relate to spinoffs where the operations of the parent and the subsidiary differ at the two-digit SIC code level and 25 arise where the parent and the subsidiary have the same two-digit SIC code. Schipper and Smith (1983) find that 72 of their sample of 93 are cross-industry spinoffs. They do not condition their announcement-date returns on cross- versus own-industry spinoffs.

We determine the SIC codes using the first two Dun and Bradstreet industry listings for the parent and subsidiary entities in the year following the spinoff. Compustat lists only one SIC code per firm, and will tend to overstate the number of cross-industry spinoffs. Repeating our analysis using Compustat SIC codes has no material effect on our results. Table 1 reports the frequency of spinoffs by ex-dividend year.

The median book value of total assets of the pre-spinoff entity is \$657 million and \$442 million for cross- and own-industry spinoffs, respectively. The median asset value for cross- and own-industry subsidiaries (the spunoff assets) is \$119 million and \$148 million, representing a median fractional value equal to 0.25 and 0.29 of the asset value of the pre-spinoff entity.

3. Announcement date excess returns for cross- and own-industry spinoffs

The emerging literature on corporate focus suggests that decisions to terminate non-core business operations by diversified companies are met with significant share price improvements. Comment and Jarrell (1995) document a positive relation between changes in corporate focus and stock returns. John and Ofek (1995) show that performance improvements following asset sales are limited to focus increasing sales. Berger and Ofek (1995) provide a measure of

[2]We are grateful to the referee for bringing this to our attention.

Table 1
Distribution of 85 spinoffs executed in the period 1975–1991 by year of spinoff distribution. The sample excludes cases where the spinoff was tax driven, involved a firm in a regulated industry, or where one of the spinoff entities was acquired in a subsequent two-year period. Cross-industry spinoffs involve the creation of two entities operating in different two-digit SIC codes and own-industry spinoffs involve the creation of two entities operating in the same two-digit SIC code. Years refer to the spinoff distribution (ex-dividend) dates

Year	Cross-industry spinoffs	Own-industry spinoffs	Total
1975	3	0	3
1976	1	1	2
1977	4	0	4
1978	1	0	1
1979	5	1	6
1980	4	1	5
1981	2	1	3
1982	5	0	5
1983	1	1	2
1984	5	4	9
1985	3	2	5
1986	2	2	4
1987	2	1	3
1988	6	2	8
1989	9	2	11
1990	2	5	7
1991	5	2	7
Grand Total	60	25	85

the discount associated with conglomerates. We test the prediction from this literature that announcement-date excess returns for cross-industry spinoffs are greater than those for own-industry spinoffs. (Table 2).

We compute announcement-period excess returns for each spinoff firm in the two-day interval (− 1,0) including the day preceding and the day of the announcement of a spinoff in the Wall Street Journal, using the value-weighted market return available on the CRSP tapes. We also compute excess returns using the equally weighted market index. The pattern of significance is unaffected, and we report only the value-weighted results.

For the entire sample, the mean announcement period excess return is 3.4% (significant at the 1% level). This is very similar to the announcement date excess returns reported in earlier studies. Schipper and Smith (1983) report a two-day announcement return of 2.8% while Hite and Owers (1983) report 3.3%. Thus it does not appear that our sample selection procedures, in particular our elimination of spinoffs where either the parent or subsidiary was acquired within two years of the spinoff, have produced a particularly unusual set of spinoffs. The

Table 2
Announcement date returns for 85 spinoffs identified for the period 1975–1991. Sample excludes cases where the spinoff was tax driven, involved a firm in a regulated industry, or where one of the spinoff entities was acquired in a subsequent two-year period. Cross-industry spinoffs involve the creation of two entities operating in different two-digit SIC codes and own-industry spinoffs involve the creation of two entities operating in the same two-digit SIC code. All announcement date excess returns are computed by comparing the 2-day announcement date return (day −1 and 0) for the spinoff firm to the 2-day return for the Center for Research in Security Prices (CRSP) value-weighted market index. The announcement date excess returns are then averaged across all entities in each classification and the mean and median values are reported. Days are measured relative to the Wall Street Journal announcement date, which is defined as day 0. The first number reported is the mean value; medians are reported in brackets. Means and medians are tested against zero by the appropriate *t*-statistic and the Wilcoxon sign rank test statistic. Asterisks indicate significance at the 5%(**) and 1%(***) level

Spinoff classification	Sample size	Announcement date return	Excess return
Own-industry	25	1.6% [0.0%]	1.4% [−0.1%]
Cross-industry	60	4.5%*** [3.1%***]	4.3%*** [3.0%***]
Overall	85	3.6%*** [2.2%***]	3.4%*** [1.4%***]

median spinoff firm produces an announcement period excess return of 1.4% (*p*-value from the Wilcoxon sign rank test is less than 0.01).

What is remarkable about these announcement-date excess returns is the difference between the own-industry and cross-industry sub-samples. The positive excess return in the full sample is driven solely by the cross-industry spinoffs. The mean announcement-period excess return in the cross-industry sample is 4.3% (significant at the 1% level), while it is 1.4% (insignificant at the 10% level) for the own-industry sample. A *t*-test for the equality of means across the two sub-samples is rejected at the 1% level. The median excess return is 3.0% (significant at the 1% level) for cross-industry spinoffs and −0.1% for own industry spinoffs (insignificant at the 10% level). A Wilcoxon two-sample median test (based on normal approximation) rejects the null hypothesis that the medians across the two sub-samples are equal at the 5% level.

These results are consistent with our prediction that the resolution of internal problems of corporate focus is associated with value creation in spinoffs. We also measure the ex-dividend-date (days −1 and 0) excess return to replicate the results obtained in Vijh (1994). For the whole sample, the mean (median) two-day excess return based on the value weighted CRSP index is +3.6% (+2.1%), very similar to what is documented in Vijh (1994). The mean (median) excess return for cross-industry firms is +3.9% (+2.1%), and for own-industry firms is +2.8% (+1.1%). Both the means and medians are significant at

the 5% level, although they are not statistically different across the two subsamples. Ex-dividend-date excess returns based on the equally weighted CRSP index provide similar results. These results provide additional confirmation that our sample is similar to the broader sample of spinoffs examined in previous research. In the next two sections we investigate whether the value creation around spinoff announcements is followed by performance improvements, or arises from bonding benefits.

4. Accounting performance changes following spinoffs

We examine the accounting performance for spinoff firms in each of the five years centered around the ex-dividend year. The performance measure we employ is the ratio of operating earnings-to-assets, calculated using the Compustat annual data item #13 divided by annual data item #6, which we label return on assets (ROA). There are several reasons for selecting ROA as our performance measure. First, we wish to document operating performance changes that are separate from the effects of taxes and bonding. Since bonding benefits could partially appear in the interest expense, and, through the deductibility of interest expense in tax expense, these components of net income are excluded to isolate the performance effects we wish to examine. Second, the ROA measure also removes the effect of any special one-time charges to net income. Third, ROA is preferred to such measures as profit margin (operating income/sales) or asset turnover (sales/assets) because we have no a priori basis to suggest where the source of performance improvements may lie. Since ROA is the product of profit margin and turnover (ROA = profit margin × asset turnover), it may increase significantly due to small, non-significant increases in both profit margin and asset turnover. Our theory of corporate focus is insufficient to provide precise predictions as to whether it is profit margin or asset turnover that is the main source of value creation in spinoffs. ROA measures the performance change from both sources and therefore represents a better measure of performance for our purposes.

Ultimately, we do document improvements in ROA for cross-industry spinoffs. Once this has been documented, an examination of profit margins and asset turnovers can provide additional insight into how the performance improvement is obtained. We provide information on profit margins and asset turnovers in Section 4.1.

As a complement to our examination of ROA, we also examine changes in the level of net capital expenditures. Even if there were no changes in ROA, value could be created by an expansion of the scale of operations following the spinoff. Changes in the level of net capital expenditures capture changes in the scale of operations due to new investment. In addition, John (1993) provides a model in which the ability to overcome the under-investment problem associated with

debt use is the motivation underlying spinoffs. Our examination of changes in net capital expenditures should shed light on this possible source of value from spinoffs. We define net capital expenditure (CAP) as the ratio of capital expenditure to sales, using Compustat annual data item #128 divided by annual data item #12. We also computed CAP as the ratio of capital expenditures to assets. The results are identical to those reported in the paper and therefore not reproduced in the tables.

We examine the change in, rather than the level of, performance because changes incorporate a firm's past performance in its earnings expectations model. Barber and Lyon (1996) show that tests involving changes provide more power to detect abnormal performance than those based on levels.

We compute ROA and CAP during the post-spinoff period for each parent/subsidiary portfolio. We perform the analysis at the portfolio level to ascertain if performance improvements contribute to the value creation that occurs around spinoff announcements. Comparing the parent alone to the pre-spinoff entity may show performance improvement in cases where the poorly performing subsidiary unit was spun off even when there is no change in the performance of the parent's share of pre-spinoff assets, since the pre-spinoff entity's performance will be weighted by the retained and spunoff assets. Thus, comparing the parent alone to the pre-spinoff entity cannot address questions regarding net value creation at the portfolio level. Earlier studies (see, e.g., John and Ofek, 1995) that examine focus-increasing asset sales suffer from this shortcoming. It is not clear whether the increase in corporate focus brought about by the sale of unrelated assets results in overall performance gains since the performance of sold assets cannot be independently measured.

Combining performance data from the post-spinoff entities into a single portfolio is not difficult. Spinoffs are recorded at book value. This means that the reported value of total assets held by the parent and subsidiary immediately following the spinoff is identical to the total book value of assets recorded by the parent immediately before the spinoff. With the exception of per-share amounts, computing the value of combined financial statement amounts can be accomplished by simply adding up the reported values of the parent and subsidiary. For example, combined assets or operating income are just the sum of parent assets or operating income and the subsidiary assets or operating income. This approach ignores inter-corporate transactions. When the parent and subsidiary were a single financial reporting entity, consolidated financial reporting requirements would eliminate the effects of any inter-corporate exchanges from sales and costs. Profits on such exchanges would ultimately be recognized over time, but not necessarily in the period of the exchange. This may create an upward bias in measures such as sales, but should not create significant problems for measures such as return on assets.

We compare the change in the portfolio's ROA and CAP from the fiscal year preceding the spinoff distribution (the ex-dividend year) to the fiscal year

following the spinoff distribution, that is, from year − 1 to year + 1 centered on the spinoff distribution year. We also report ROA and CAP changes for other intervals, in particular from year + 1 to year + 2 following the spinoff distribution, to check whether these changes are reversed in the second year.

An important issue in measuring abnormal performance is defining the appropriate benchmark. For the ROA and CAP measures, we produce both raw and three separate benchmark adjusted measures. Our analysis and tests closely follow the procedure outlined in Barber and Lyon (1996). We describe below our procedure for estimating abnormal performance using the ROA measure. Raw and adjusted changes in CAP are estimated similarly using Eqs (1)–(3) below.

Our first benchmark is the median return on assets ($IROA_{j,t}$) for all firms, excluding the spinoff firm, that share the same two-digit SIC code with the spinoff firm. We use

$$AROA_{j,t} = ROA_{j,t} - IROA_{j,t} \tag{1}$$

to compute the adjusted ROA by subtracting the benchmark return on assets from the return on assets of the spinoff firm. We call this industry-adjusted ROA. We then compute the change in the industry-adjusted ROA

$$\Delta AROA_j = AROA_{j,\,post} - AROA_{j,\,pre} \tag{2}$$

for each spinoff firm and report the median change

$$\overline{\Delta AROA} = \text{Median}\,(\Delta AROA_j) \tag{3}$$

across all spinoffs. We do not report mean changes since they are affected by extreme observations, and provide less powerful tests to detect changes in performance than tests based on medians. We also report the Wilcoxon sign rank test statistics associated with the median change in the industry-adjusted ROA.

Our second benchmark is defined as the median ROA for all firms, excluding the spinoff firm, that are in the same two-digit SIC code as the spinoff firm and with asset values within 20% of the asset value of the spinoff firm in the same fiscal year. We were unable to find three or more matches for 22 of the 85 firms in our sample. For these cases we relaxed the size criterion to within 50% of the spinoff firm's assets to obtain at least three matches for each spinoff firm. We re-estimate Eqs (1)–(3) to obtain the median change in size-adjusted ROA. We perform the size adjustment to address concerns expressed by Fama and French (1995), among others, that small firms have lower earnings-to-book-equity ratios.

Our third and last benchmark is the median ROA for all firms, excluding the spinoff firm, that are in the same two-digit SIC code as the spinoff firm, and whose ROA performance measure in the year prior to the ex-dividend year is within 20% of the ROA measure of the spinoff firm in the same year. Again, we

use Eq. (1)–(3) to obtain median change in performance-adjusted ROA measures for the spinoff firms. Performance adjustment is necessary where the time series properties of accounting measures are characterized by a reversion to the mean. Comparing the performance measure of spinoff firms with an out-of-phase control group performance measure reduces the power of tests designed to detect abnormal performance. Barber and Lyon (1996) show that in cases where the sample firms have even slight differences in performance from population firms, test statistics that are not based on performance adjustment are poorly specified in the sense that the empirical rejection rates in their tests differ from the theoretical rejection rates.

4.1. Changes in return on assets

Table 3 presents portfolio level results for changes in ROA from year − 1 to year + 1, with the ex-dividend year defined as year 0. We also report ROA changes from year + 1 to year + 2 to check whether the spinoff related performance changes are reversed in the second year. The portfolio ROA measure in the post-spinoff period is computed by adding the operating income of the parent and subsidiary units in the fiscal year following the ex-dividend year and dividing the sum by the combined parent and subsidiary asset value at the beginning of the fiscal year. Pre-spinoff ROA is measured directly as the ratio of the parent's operating income to total assets in year − 1.

For cross-industry spinoffs, the median change in ROA from year − 1 to year + 1 is 3.0% (significant at the 5% level). The industry, size, and performance-adjusted change in ROA are 3.0% (significant at the 1% level), 2.8% (significant at the 10% level), and 3.1% (significant at the 5% level). For own-industry spinoffs, the median change in ROA is 0.0%. Neither the raw nor any of the adjusted measures of ROA change around the spinoff year (year − 1 to year + 1) are significant at the 10% level for own-industry spinoffs. A Wilcoxon two-sample median test based on normal approximation rejects the equality of median ROA changes across own- and cross-industry sub-samples at the 10%, 5%, and 10% levels for raw differences, and for the industry- and size-adjusted median changes, respectively. The test fails to reject equality of median ROA changes, for the cross- and own-industry sub samples at the 10% level for the performance-adjusted median changes.

We check the persistence of ROA changes by examining the ROA change in the second year following the spinoff (from year + 1 to year + 2). The raw differences, and the industry-, size-, and performance-adjusted ROA changes from year + 1 to + 2 are − 0.4%, + 0.1%, + 1.8%, and − 0.1% for cross-industry spinoffs. None are significant at the 10% level, indicating that ROA changes surrounding the spinoff distribution are not reversed in the second year following the spinoff. For own-industry spinoffs, we find weak evidence of ROA improvement during the second year after the spinoff distribution. The raw

Table 3
Median change in operating earnings-to-asset ratio (ROA) and capital expenditure-to-sales ratio (CAP) for parent/subsidiary portfolios for 85 spinoffs identified for the period 1975–1991. The sample excludes cases where the spinoff was tax driven, involved a firm in a regulated industry, or where one of the spinoff entities was acquired in a subsequent two year period. Cross-industry spinoffs involve the creation of two entities operating in different two-digit SIC codes and own-industry spinoffs involve the creation of two entities operating in the same two-digit SIC code. The term parent refers to the continuing entity that existed both before and after the spinoff. The term subsidiary refers to the independent newly created entity subsequent to the spinoff. The post-spinoff portfolio ROA is computed by adding the operating income of the parent and subsidiary units in the fiscal year following the ex-dividend year and dividing the sum by the combined parent and subsidiary beginning-of-fiscal-year asset value. CAP in the post-spinoff period is computed by dividing the combined capital expenditure by the combined sales figure for the parent and subsidiary units from the same fiscal year. Pre-spinoff variables are defined in the same way and measured directly in the fiscal year preceding the spinoff distribution. Industry-adjusted medians are computed by subtracting the median value for all firms in the same two-digit SIC code from the corresponding spinoff firm variable. Size-adjusted medians are computed by subtracting the median value for all firms in the same two-digit SIC code, whose asset value is within 20% of the asset value of the parent. Performance-adjusted medians are computed by subtracting the median value for all firms in the same two-digit SIC code, whose operating ROA in the year prior to the spinoff is within 20% of the operating ROA of the spinoff firm. Only changes in ROA and CAP (with the spinoff distribution year defined as year 0) are reported. Median changes (denoted by Δ followed by the variable name) are tested against zero using the Wilcoxon sign rank test statistic. Asterisks indicate significance at the 10%(*), 5%(**) and 1%(***) level

	Relative year (from, to)	Median change			
		Unadjusted	Industry-adjusted	Size-adjusted	Performance-adjusted
Cross-industry spinoffs ($N = 60$):					
ΔROA	$(-1, +1)$	3.0%**	3.0%***	2.8%*	3.1%**
	$(-1, 0)$	0.8%	1.6%	0.8%	0.6%
	$(0, +1)$	2.0%**	1.2%**	2.0%**	2.1%**
	$(+1, +2)$	−0.4%	0.1%	1.8%	−0.1%
ΔCAP	$(-1, +1)$	0.1%	−0.1%	−0.3%	−0.4%
	$(+1, +2)$	0.0%	0.2%	−0.1%	−0.2%
Own-industry spinoffs ($N = 25$):					
ΔROA	$(-1, +1)$	0.0%	−1.3%	−2.4%	−0.2%
	$(-1, 0)$	−2.5%**	−2.3%*	−1.5%	−1.6%
	$(0, +1)$	0.6%	1.3%	−0.4%	0.7%
	$(+1, +2)$	0.9%*	0.8%	0.8%	0.9%*
ΔCAP	$(-1, +1)$	−0.2%	−0.4%	−1.2%	0.1%
	$(+1, +2)$	0.2%	0.4%	0.8%	0.6%

ROA change from year + 1 to + 2 is 0.9% (significant at the 10% level). The changes in ROA adjusted for industry, size, and performance are 0.8%, 0.8%, and 0.9%, respectively, with only the performance-adjusted ROA change being significant at the 10% level.

While we concentrate on the ROA change from year − 1 to year + 1, we also examine performance changes from year − 1 to year 0, and from year 0 to year + 1 to isolate more precisely the timing of such changes. Our results show that for cross-industry spinoffs, the performance change is significant in year 0 to year + 1. For own-industry spinoffs, the ROA change is not significant over this period, although the point estimate is negative in the period − 1 to 0.

We also examined changes in profit margin (ROS), defined as the ratio of operating income to sales, and asset turnover, defined as the ratio of sales to total assets. For portfolios of cross-industry parents and subsidiaries, changes in ROS from year − 1 to year + 1, at the raw level, and for the industry-, size-, and performance-adjusted basis are 4.2%, 5.2%, 4.9%, and 5.0%. All are significant at the 1% level. The corresponding own-industry changes are 1.2%, − 0.2%, − 0.4%, and − 1.8%, with none being significant at conventional levels. In both cross- and own-industry spinoffs, the change in asset turnover is negative at the raw level and positive at the industry-, size-, and performance-adjusted levels, but never statistically significant. These results suggest that on average the source of the ROA improvement lies in cost savings which increases the ROS, but not in significant turnover increases.

4.2. Changes in capital expenditure

Table 3 also reports portfolio level results on changes in the ratio of capital expenditure to sales (CAP). For the cross-industry spinoffs, the change in CAP from year − 1 to year + 1 is 0.1% and is statistically not significant. The changes adjusted for industry, size, and performance are also statistically insignificant at the 10% level. Changes in CAP from year + 1 to year + 2 are also insignificant. For own-industry spinoffs too, the raw difference and adjusted changes in CAP from year − 1 to year + 1 are statistically insignificant at conventional levels. Changes from year + 1 to year + 2 are mostly positive, but statistically insignificant.

Overall, our portfolio-level results show significant positive changes in operating performance for cross-industry spinoffs only. Own-industry spinoffs do not seem to exhibit operating performance improvement immediately following the spinoff, although there is weak evidence supporting an ROA increase from year + 1 to year + 2. There is no evidence to support increases in capital investment subsequent to spinoffs for either cross- or own-industry spinoffs, inconsistent with the predictions of John's (1993) model. Rather, these results suggest that operating performance improvements, especially in the area of cost

controls, lie behind at least part of the excess returns associated with cross-industry spinoff announcements. Moreover, the lack of operating performance changes for own-industry spinoffs is consistent with the lack of significant price effects at the announcement of own-industry spinoffs.

5. Spinoff's as a bonding mechanism

If equity markets discount the value of the pre-spinoff entity due to a potential for cross-divisional subsidies within the corporate whole, the spinoff may have been necessary as a mechanism to bond management against future subsidies to unprofitable divisions. The literature on assets sales suggests that part of the value from increased corporate focus comes from bonding against cross-subsidization of poorly performing units (bonding against the free cash flow problem identified in Jensen, 1986). Lang et al. (1995) provide evidence that the equity price revision around announcements of asset sales depends on how the proceeds from the asset sales are used. The price effect is significantly larger when the proceeds are used to increase dividends and repay debt than when the proceeds are retained. This is consistent with the managers having to bond by both disposing of the assets that could be cross-subsidized, and committing to use the proceeds in a manner that does not worsen the free cash flow problem. Since spinoffs do not involve any cash proceeds, we ask the following questions to examine whether bonding considerations play a role in spinoffs. First, when is bonding likely to be particularly valuable? Second, do we see increased use of alternative bonding mechanisms around the time of the spinoff?

From management's perspective, a pre-commitment to avoid future cross-subsidization makes particular sense if they need to raise capital, since the capital markets are likely to incorporate the benefits of such bonding in pricing the new issue. Bonding benefits may lie with the parent, if cross-subsidization of the subsidiary is a problem, or with the subsidiary, if the problem is that capital raised by the subsidiary would be sent upstream to the parent for other uses. In Section 5.1 we investigate whether the frequency of capital sourcing by spinoff firms increases after the spinoff.

We are also interested in whether spinoff firms use other methods for bonding against problems involving free cash flow around the time of the spinoff. Healy and Palepu (1993) discuss how a firm may engage in a variety of mechanisms to convey a commitment against misuse of free cash flows. We wish to examine if the execution of the spinoff occurs in concert with or without these other mechanisms. The mechanisms we examine are increases in the debt-to-equity ratio of the firm, indicating increased use of leverage (suggested by Jensen, 1986), and increases in cash dividends (suggested by Easterbrook, 1984). Both financial leverage and cash dividends bond managers to distribute corporate cash flows

to capital providers and prevent re-direction of free cash flow to projects with negative net present values.

5.1. Frequency of external capital issuance

We collected data on the number of new equity and debt issues placed in public markets and reported in the Wall Street Journal over a 24-month span preceding the announcement date of the spinoff, and a second 24-month span following the ex-dividend date. Thus, pre-spinoff relative years are defined as

Table 4
Frequency of capital sourcing by relative year of issue for 85 spinoffs executed during 1975–1991 and reported in the Wall Street Journal. Panels A and B provide the frequency of capital issues for parent firms in years − 2 and − 1, the two years preceding the spinoff, and for the combination of parents and subsidiaries in years + 1 and + 2, the two years following the spinoff. Panels C and D provide the same information for subsidiaries alone. Pre-spinoff relative years are defined as 12-month periods with reference to the announcement month of the spinoff distribution. Post-spinoff relative years are defined as 12-month periods with reference to the ex-dividend month of the spinoff distribution. A one-tailed binomial test (or a normal approximation to a binomial test where appropriate) is used to test the statistical significance of the increase in frequency of capital issues following spinoffs. None of the test statistics reported here are significant at the ten-percent level.

Relative year	All issues	Debt issues	Equity issues
Panel A: Cross-industry parents and subsidiaries ($N = 60$)			
Year − 2	13	5	8
Year − 1	18	13	5
Year 1	17	9	8
Year 2	18	12	6
Year 1 − Year − 1	− 1	− 4	3
Year 2 − Year − 1	0	− 1	1
(Year 1 + Year 2)-(Year − 2 + Year − 1)	4	3	1
Panel B: Own-industry parents and subsidiaries ($N = 25$)			
Year − 2	5	3	2
Year − 1	2	1	1
Year 1	3	3	0
Year 2	4	3	1
Year 1 − Year − 1	1	2	− 1
Year 2 − Year − 1	2	2	0
(Year 1 + Year 2)-(Year − 2 + Year − 1)	0	2	− 2
Panel C: Cross-industry subsidiaries ($N = 60$)			
Year 1	6	2	4
Year 2	7	4	3
Panel D: Own-industry subsidiaries ($N = 25$)			
Year 1	0	0	0
Year 2	0	0	0

12-month intervals preceding the announcement date of the spinoff, and post-spinoff relative years are defined as 12-month intervals following the ex-dividend date. We ignore the offerings made between the announcement and ex-dividend dates of the spinoffs since it is not clear whether the spinoff announcement influences the market's perception of the potential for cross-subsidization within the pre-spinoff entity.

The combined frequency of issues by parents and subsidiaries is reported in Panels A and B of Table 4. Panels C and D provide similar results for subsidiaries alone, and, in conjunction with Panels A and B, can be used to obtain the results for parents alone. Cross-industry spinoffs engaged in a total of 31 offerings (18 debt and 13 equity issues) in the 24-month period prior to the spinoff announcement, and a total of 35 offerings (21 debt and 14 equity issues) in the 24-months following the ex-dividend date. The increase in the frequency of total, debt, or equity issues over this interval is not significant using a one-tailed test based on a binomial frequency distribution (or a normal approximation to the binomial distribution where appropriate). The increase in the frequency of issues from year -1 to year $+1$, and from year -1 to year $+2$, is also insignificant at the ten-percent level.

By comparison, own-industry spinoff firms engaged in a total of seven offerings both in the 24-months prior to the spinoff announcement and in the 24-months following the ex-dividend date. The increase in the frequency of issues from year -1 to years $+1$ and $+2$ is not significant at the ten-percent level. Furthermore, given the relative sizes of the own- and cross-industry sub-samples (25 versus 60), the frequencies of total offerings are not significantly different for the two sub-samples. However, cross-industry subsidiaries are more active in issuing debt and equity (six debt and seven equity offerings) than own-industry subsidiaries (no offerings) in the 24-months following the ex-dividend date of the spinoff.

Overall, we view the evidence on the frequency of capital issues as failing to support a significant role for bonding in explaining value creation around spinoffs.

5.2. Changes in book leverage and dividends per share

The book value of the debt-to-assets ratio (book leverage or LEV) is computed by dividing the combined debt by the combined book-value of assets of the parent and subsidiary units from the same fiscal year. Pre-spinoff leverage is defined in the same way and is measured directly. Results are reported in Table 5.

We find that the median change in LEV for cross-industry spinoffs from year -1 to year $+1$ is -1.5%, although it is not significant at the 10% level. Industry-, size-, and performance-adjusted median LEV changes are -2.9%, -1.8%, and -3.1%, respectively. Only the performance-adjusted median

Table 5
Median change in accounting ratios for parent/subsidiary portfolios for 85 spinoffs identified for the period 1975–1991. The sample excludes cases where the spinoff was tax driven, involved a firm in a regulated industry, or where one of the spinoff entities was acquired in a subsequent two-year period. Cross-industry spinoffs involve the creation of two entities operating in different two-digit SIC codes, and own-industry spinoffs involve the creation of two entities operating in the same two-digit SIC code. The term parent refers to the continuing entity that existed both before and after the spinoff. The term subsidiary refers to the independent entity newly created subsequent to the spinoff. The book value of the debt-to-assets ratio (book leverage or LEV) is computed by dividing the combined debt by the combined book value of the assets of the parent and subsidiary units from the same fiscal year. Dividend per share (DIV) in the post-spinoff period is computed by adding the total dividends for the parent and subsidiary and dividing the sum by the number of shares for the parent company. Pre-spinoff variables are defined in the same way and are measured directly in the fiscal year preceding the spinoff distribution. Industry-adjusted medians are computed by subtracting the median value for all firms in the same two-digit SIC code from the corresponding spinoff firm variable. Size-adjusted medians are computed by subtracting the median value for all firms in the same two-digit SIC code, whose asset value is within 20% of the asset value of the parent. Performance-adjusted medians are computed by subtracting the median value for all firms in the same two-digit SIC code, whose ratio of operating earnings to assets in the year prior to the spinoff is within 20% of the operating earnings to asset ratio of the spinoff firm. Only changes in the above measures (with the spinoff distribution year defined as year 0) are reported. Median changes (denoted by Δ followed by the variable name) are tested against zero using the Wilcoxon sign rank test statistic. Asterisks indicate significance at the 10%(*), 5%(**) and 1%(***) level

	Relative year (from, to)	Median change			
		Unadjusted	Industry-adjusted	Size-adjusted	Performance-adjusted
Cross-industry spinoffs ($N = 60$):					
ΔLEV	$(-1, +1)$	−1.5%	−2.9%	−1.8%	−3.1% *
	$(+1, +2)$	−0.7%	−1.1%	−0.7%	0.1%
ΔDIV	$(-1, +1)$	0.0 c	1.1 c	−2.8 c	−3.0 c
	$(+1, +2)$	0.0 c	3.8 c ***	2.5 c	1.0 c
Own-industry spinoffs ($N = 25$):					
ΔLEV	$(-1, +1)$	0.3%	−1.0%	2.2%	2.4%
	$(+1, +2)$	−1.7% *	−0.6%	−0.5%	−0.1%
ΔDIV	$(-1, +1)$	−0.1 c	1.6 c	0.0 c	−4.1 c
	$(+1, +2)$	1.0 c	5.1 c	5.1 c	−1.2 c

change is significant at the 10% level. For own-industry spinoffs, the raw change in LEV from year − 1 to year + 1 is + 0.3% (insignificant at the 10% level). The industry-, size-, and performance-adjusted median changes in LEV are also statistically not significant at the 10% level.

It is possible that spinoff firms take more than one year to increase their leverage. We examine leverage changes for both cross- and own-industry spinoffs from year + 1 to + 2. We do not find any evidence of an increase in LEV for either group of spinoffs in the two years following the ex-dividend date, although there is weak evidence that the unadjusted change in LEV for the own-industry spinoffs is negative.

Dividends per share (DIV) in the post-spinoff period is computed by adding the total dividends for the parent and subsidiary, and dividing this sum by the number of shares for the parent company. A potential problem with our dividend measure is that equity issues in the year following the spinoff make dividend comparisons difficult to interpret. As a practical matter, only two parents and five subsidiaries in our sample sold equity shares in the year following the spinoff; these companies are all from the cross-industry subsample. Removing them from the sample makes no material difference to our results.

For cross-industry spinoffs, we do not find any significant change in either raw or adjusted DIV from year − 1 to year + 1, although there is some weak evidence that the industry-adjusted DIV change from year + 1 to year + 2 is positive ($0.038, significant at the 1% level). We believe that this increase can be attributed to the increase in profitability for cross-industry spinoffs in the prior period. For own-industry spinoffs, the median change in unadjusted DIV from year − 1 to year + 1 is − $0.001, although this result is not significant at the 10% level. The industry-, size-, and performance-adjusted median changes in DIV are also not significant at the 10% level. DIV changes from year + 1 to year + 2 are also insignificant for own-industry spinoffs.

Because dividends per share are difficult to compare across firms, we also look at the number of cases where dividends are increased, decreased, or remain constant from year − 1 to year + 1. As many cross-industry firms increase their per-share dividends as those that decrease their per-share dividends. Seven own-industry firms increase per-share dividends, ten decrease per-share dividends, and eight leave them unchanged following spinoffs.

Overall, we fail to find evidence of an increase in leverage or dividends per share at the portfolio level for either group of spinoffs. We also estimate, but do not report, leverage and dividend changes for parents and subsidiaries individually. For cross-industry spinoffs, we find small declines in book leverage for both parents and subsidiaries in the year after the spinoff. Own-industry parents and subsidiaries do not show any significant change in book leverage following the spinoff year. The median change in dividends per share for own-industry parents alone is two cents (significant at the 5% level). There is no change in

dividends per share for cross-industry parents. The median change in dividends for both cross- and own-industry subsidiaries is 0 cents. The median subsidiary does not pay dividends in the year of or the year following the spinoff. We view the evidence as failing to support the hypothesis that spinoffs are engineered to bond management against cross-subsidization of weak units within the corporate whole.

6. Tracing performance improvements to individual parent and subsidiary units

In Section 4, we documented a significant increase in return on assets (ROA) for the cross-industry spinoffs, but no significant improvement for own-industry spinoffs at the portfolio level. While operating performance improvement at the portfolio level for cross-industry spinoffs is consistent with corporate focus creating value in spinoffs, alternative explanations exist concerning which part of the portfolio, that is, either the parent or the subsidiary, might drive the observed operating performance improvement. By examining changes in the operating performance of the parents and subsidiaries individually, we provide evidence on which explanation of the two, or both, appear to be at work.

Schipper and Smith (1986), in their study of equity carve-outs, argue that carve-outs create value by creating a publicly traded subsidiary where market-based incentives can be applied. The implication is that value creation around equity carve-out announcements comes principally from performance improvements in the subsidiary rather than the parent. If the Incentive Alignment Hypothesis applies to value creation in spinoffs too, we should see performance improvements in the subsidiary following spinoffs. Alternatively, if getting back to core business is the source of gains behind spinoffs, we should see performance improvements to arise mainly from the parent companies. John and Ofek (1995) show that performance improvement for selling firms is limited only to those firms where they sell off unrelated assets, consistent with the hypothesis that getting back to core business leads to improved performance for selling firms. While managers of the subsidiary do not see a decrease in their span of operations following the spinoff, managers of the parent firm do. Thus, under the Corporate Focus Hypothesis, performance improvements should come mainly from the parent firms. We note that the above hypotheses are not mutually exclusive. Thus, we may see performance improvements in both the parent and the subsidiary.

We examine parents and subsidiaries separately by measuring the performance change from the fiscal year containing the spinoff distribution date to the following fiscal year (year 0 to year + 1). Accounting data for the subsidiaries are not available prior to the spinoff distribution, and data for the parent firms are available only as part of the combined pre-spinoff entity prior to the ex-dividend year. While accounting rules require retroactive

segregation of net income of the subsidiary from that of the parent for financial reporting purposes, there is no such segregation for assets and no detail is provided in financial reports concerning individual revenues and expenses. Therefore, it is not possible to compute our ROA numbers for the years prior to year 0. Year 0 data are available from financial statements of the subsidiary produced after the year of the spinoff. Thus, our base year for measuring parent- and subsidiary-level performance changes is the year of the spinoff distribution itself. We report median changes in ROA from the year of the spinoff to the first fiscal year following it (year 0 to year + 1), and for an additional second year (year + 1 to year + 2) for parent and subsidiary entities in Table 6.

For cross-industry parents, the median change in ROA from year 0 to year + 1 is 2.4% (significant at the 5% level). The industry-, size-, and performance-adjusted median changes in ROA are 2.2% (significant at the 5% level), 2.3% (significant at the 1% level), and 1.1% (significant at the 5% level). The median ROA change from year + 1 to year + 2 is positive, albeit insignificant, indicating that it is not reversed in the second year after the spinoff.

For own-industry parents, the median change in ROA from year 0 to year + 1 is 1.8% (not significant at the 10% level). The industry-, size-, and performance-adjusted median ROA changes for own-industry parents are 0.7%, -1.3%, and 1.1%. None are significant at the 10% level. A Wilcoxon two-sample test for equality of median ROA changes for the cross- and own-industry sub-samples is rejected at the 10% level for unadjusted change in ROA, and rejected at the 5% level for industry- and size-adjusted change in ROA. The test is unable to reject the equality of medians for the performance-adjusted change in ROA. For own-industry parents, there is weak evidence that the unadjusted change in ROA in the second year (year + 1 to year + 2) is positive (+ 1.3%) and significant at the 10% level, whereas the industry, size, and performance adjusted ROA changes are positive, but not significant at the 10% level.

For subsidiaries, we do not report performance-adjusted measures since the performance match is done in year − 1, prior to the creation of the subsidiary. Thus, for subsidiaries we report only industry- and size-adjusted measures. For both own- and cross-industry subsidiaries, we do not see any significant change in any measure of ROA for the two intervals examined here (year 0 to year + 1, and year + 1 to year + 2).

Overall, our evidence suggests that the basis for portfolio-level operating performance improvement lies with the cross-industry parents, consistent with the Corporate Focus Hypothesis that managers become more effective at managing core assets when they eliminate unrelated assets. We fail to find evidence supporting the incentive alignment explanation as a source of operating performance gains from spinoffs.

Table 6
Median change in operating earnings-to-asset ratios for parents and subsidiaries for 85 spinoffs identified for the period 1975–1991. The sample excludes cases where the spinoff was tax driven, involved a firm in a regulated industry, or where one of the spinoff entities was acquired in a subsequent two-year period. Cross-industry spinoffs involve the creation of two entities operating in different two-digit SIC codes and own-industry spinoffs involve the creation of two entities operating in the same two-digit SIC code. The term parent refers to the continuing entity that existed both before and after the spinoff. The term subsidiary refers to the independent entity newly created subsequent to the spinoff. The return on assets (ROA) measure is computed by dividing operating income by the end-of-fiscal-year asset value. Industry-adjusted medians are computed by subtracting the median value for all firms in the same two-digit SIC code from the corresponding spinoff firm variable. Size-adjusted medians are computed by subtracting the median value for all firms in the same two-digit SIC code, whose asset value is within 20% of the asset value of the parent. Performance-adjusted medians are reported only for the parent units and computed by subtracting the median value for all firms in the same two-digit SIC code, whose operating ROA in the year prior to the spinoff is within 20% of the operating ROA of the spinoff firm. Only changes in the above measures from the spinoff distribution year to the following year are reported. Median changes (denoted by followed by the variable name) are tested against zero using the Wilcoxon sign rank test statistic. Asterisks indicate significance at the 10%(*), 5%(**) and 1%(***) level.

	Relative year (from, to)	Median change			
		Unadjusted	Industry-adjusted	Size-adjusted	Performance-adjusted
Panel A: *Cross-industry parents* ($N = 60$)					
ROA	(0, + 1)	2.1%***	2.3%***	2.3%***	1.1%**
	(+ 1, + 2)	0.3%	0.6%	1.5%	0.5%
Panel B: *Own-industry parents* ($N = 25$)					
ROA	(0, + 1)	1.8%	0.7%	− 1.3%	1.1%
	(+ 1, + 2)	1.3%*	1.0%	0.8%	1.1%
Panel C: *Cross-industry subsidiaries* ($N = 60$)					
ROA	(0, + 1)	− 0.2%	0.2%	0.1%	a
	(+ 1, + 2)	0.3%	− 0.2%	0.8%	
Panel D: *Own-industry subsidiaries* ($N = 25$)					
ROA	(0, + 1)	− 0.9%	− 0.1%	− 0.7%	a
	(+ 1, + 2)	− 0.8%	− 0.7%	− 0.1%	

[a]Performance adjusted measures are not reported in Panels C and D since subsidiaries do not exist in year − 1, the base year for the performance benchmark.

7. Conclusion

We test a prediction from the corporate focus literature that cross-industry spinoff distributions, where the continuing and spunoff units belong to different two-digit Standard Industry Classification codes, create more value than own-industry spinoffs. Our results indicate significant excess returns around the announcement of cross-industry spinoffs only. We interpret these findings as supporting the hypothesis that spinoffs create value only when they increase corporate focus, consistent with the broader results from asset sale studies. We then seek to determine whether the value increase in cross-industry spinoffs is empirically related to operating performance improvements, or bonding benefits, or both, where bonding refers to a pre-commitment by managers to avoid cross-subsidizing relatively poorly performing units within the firm.

We find significant increases in the operating-return-on-assets ratio (operating income/assets), which we refer to as ROA, for the cross-industry spinoffs using unadjusted numbers and numbers adjusted for firm size, industry, and performance, from the fiscal year preceding to the fiscal year following the spinoff distribution. ROA changes for the own-industry spinoffs are smaller in magnitude and insignificant over the same time period. We interpret these results as indicating that performance improvements provide at least a partial explanation for the value increase surrounding spinoff announcements, and that this is associated with increasing corporate focus.

Spinoffs may also create value by bonding management against future cross-subsidies to relatively poorly performing units within the firm. We argue that bonding is especially valuable when a firm needs to raise new capital, since efficient capital markets are likely to incorporate the benefits of bonding in pricing new issues. We examine the frequency with which firms involved in spinoffs make debt and equity offerings immediately before and after the spinoff, and find no evidence that firms engaged in cross-industry spinoffs increase their frequency of capital issuance, or have a greater frequency of capital issuance than firms engaged in own-industry spinoffs. We also examine changes in financial leverage and dividends around spinoff distributions to determine whether firms employ additional bonding means at the time they execute a spinoff. We do not find evidence of a significant change in leverage or dividends following spinoffs.

In summary, our evidence supports the theory that increased corporate focus through spinoffs creates value. We believe that this value creation arises primarily from performance improvements following the spinoff. Further, we find that the operating performance improvement is associated with the continuing rather than the spunoff entity, consistent with the hypothesis that spinoffs create value by removing unrelated businesses and allowing managers to focus attention on the core operations they are best suited to manage.

References

Barber, B.M., Lyon, J.D., 1996. Detecting abnormal operating performance: the empirical power and specification of test-statistics. Journal of Financial Economics 41, 359–399.

Berger, P.G., Ofek, E., 1995. Diversification's effect on firm value. Journal of Financial Economics 37, 39–65.

Comment, R., Jarrell, G.A., 1995. Corporate focus and stock returns. Journal of Financial Economics 37, 67–87.

Cusatis, P.J., Miles, J.A., Woolridge, J.R., 1993. Restructuring through spinoffs: the stock market evidence. Journal of Financial Economics 33, 293–311.

Davidson, W.N., III McDonald, J.L., 1987. Evidence of the effect on shareholder .wealth of corporate spinoffs: the creation of royalty trusts. The Journal of Financial Research 10, 321–327.

Easterbrook, F.H., 1984. Two agency-cost explanations of dividends. The American Economic Review 74, 650–659.

Fama, E.F., French, K., 1995. Size and book-to-market factors in earnings and returns. Journal of Finance 50, 131–155.

Healy, P.M., Palepu, K.G., 1993. The effect of firms' financial disclosure strategies on stock prices. Accounting Horizons 7, 1–11.

Healy, P.M., Palepu, K.G., Ruback, R.S., 1992. Does corporate performance improve after mergers. Journal of Financial Economics 31, 135–175.

Hite, G.L., Owers, J.E., 1983. Security price reactions around corporate spinoff announcements. Journal of Financial Economics 12, 409–436.

Jensen, M.C., 1986. Agency costs of free cash flow, corporate finance, and takeovers. American Economic Review 76, 323–329.

John, K., Ofek, E., 1995. Asset sales and increases in focus. Journal of Financial Economics 37, 105–126.

John, T., 1993. Optimality of spinoffs and allocation of debt. Journal of Financial and Quantitative Analysis 28, 139–160.

Kudla, R.J., McInish, T.H., 1983. Valuation consequences of corporate spinoffs. Review of Business and Economic Research 18, 71–77.

Kudla, R.J., McInish, T.H., 1988. Divergence of opinion and corporate spinoffs. Quarterly Review of Economics and Business 28, 20–29.

Lang, L., Poulsen, A., Stultz., R., 1995. Asset sales, firm performance, and the agency costs of managerial discretion. Journal of Financial Economics 37, 3–37.

Miles, J.A., Rosenfeld, J.D., 1983. An empirical analysis of the effects of spinoff announcements on shareholder wealth. Journal of Finance 38, 1597–1606.

Parrino, R., 1997. Spinoffs and wealth transfers: the Marriott case. Journal of Financial Economics 43, 241–274.

Schipper, K., Smith, A., 1983. Effects of recontracting on shareholder wealth: the case of voluntary spinoffs. Journal of Financial Economics 12, 437–467.

Schipper, K., Smith, A., 1986. A comparison of equity carve-outs and seasoned equity offerings: share price effects and corporate restructuring. Journal of Financial Economics 15, 153–186.

Vijh, A.M., 1994. The spinoff and merger ex-date effects. Journal of Finance 69, 581–609.