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## **The Timing and Substance of Divestiture Announcements: Individual, Simultaneous and Cumulative Effects**

APRIL KLEIN\*

### **ABSTRACT**

This paper examines differences in announcement day effects among firms engaged in voluntary sell-offs. While, on average, an initial sell-off announcement results in a significant positive excess return, not all divestiture announcements are accompanied by positive price movements. Dividing the sample into two subsamples based on whether the transaction price is announced shows that the announcement day effect is significantly positive for the price group but not statistically different from zero for the no-price group. In addition, a positive relation is found between the relative size of the sell-off and the announcement day return.

RECENT PUBLISHED STUDIES of spin-offs show evidence of positive announcement day and pre-announcement day stock price effects.<sup>1</sup> However, empirical studies on voluntary sell-offs have not produced uniform positive or negative price movements.<sup>2</sup> Instead, they show positive or zero announcement day cumulative average returns (CARS) and mixed (i.e., positive, negative or zero) pre- and post-announcement day share price changes.

The purpose of this paper is to examine the discrepancies in announcement day excess returns for the selling firms engaged in voluntary sell-offs and to isolate factors behind the differences in share price responses. As we show, two such factors are the relative size of the divestiture and whether the sales (transaction) price is initially announced.

Examining the samples of recent divestiture event studies support these findings. Previous papers that restrict their samples to initial announcements containing transaction price or relatively large divestitures report significantly positive announcement day returns. Studies that do not discriminate among price or relative size find smaller or insignificant announcement days returns. This, of course, does not imply that price disclosure and size are the sole factors in determining announcement day effects. However, these findings are consistent with the results reported in this paper.

This study is divided into six sections. Section I presents the research design.

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<sup>1</sup> See Hite and Owers [5], Miles and Rosenfeld [10], and Schipper and Smith [13].

<sup>2</sup> See Boudreaux [2], Hearth and Zaima [4], Hite and Owers [6], Jain [7], and Rosenfeld [12].

Section II measures the average effect of a sell-off. Sections III and IV explore the role of the transaction price on the announcement day abnormal returns. Section V compares the results of this paper with other sell-off studies. Finally, the summary and conclusions are presented in Section VI.

## I. Research Design

A sample of 215 major voluntary corporate sell-offs from 1970 through 1979 was obtained from *Announcements of Mergers and Acquisitions*, *Mergers and Acquisitions*, *The Wall Street Journal Index (WSJI)*, *Moody's Industrials*, *The New York Times Index (NYTI)* and the *F and S Index*. Involuntary divestitures, equity carve-outs, liquidations, leveraged buy-outs and spinoffs were excluded.

If we assume that security returns are generated by a single-index model, then the daily abnormal stock return for firm  $i$  on day  $t$  is defined as:

$$e_{it} = R_{it} - (a_i + b_i R_{mt}) \quad t = -40, \dots, +40 \quad (1)$$

where  $e_{it}$  is the excess return for stock  $i$  in day  $t$ ,  $R_{it}$  is the realized return to stock  $i$  in day  $t$ , taken from the CRSP Daily Returns Tape,  $a_i$ ,  $b_i$  are the single-index model intercept and slope coefficients estimated by OLS for each firm over a 100 trading day period ending 50 days before the initial divestiture announcement, and  $R_{mt}$  is the realized CRSP value-weighted index of returns on ASE and NYSE stocks on day  $t$ .

The daily average prediction error for day  $t$  is

$$AR_t = (\sum_{i=1}^N e_{it})/N \quad (2)$$

where  $N$  is the number of announcements in the sample. Cumulative portfolio abnormal returns are computed for  $T$  days as

$$CAR_T = \sum_{k=t_1}^{t_2} AR_k \quad (3)$$

where  $T = t_2 - t_1 - 1$ .

The event day (day zero) is defined as the date the announcement is published. To capture a possible discrepancy in timing between the true announcement day and the press release, a three-day summed announcement day prediction error is reported as:<sup>3</sup>

$$SAR = \sum_{k=-2}^0 AR_k \quad (4)$$

Two tests are used to determine the statistical significance of the excess returns: the  $t$ -test and the non-parametric sign test.<sup>4</sup> The  $t$ -statistic tests the null hypoth-

<sup>3</sup> Usually, days  $-1$  and  $0$  are treated as the announcement day effect. However, in this sample, there appears to be some leakage of information on day  $-2$ . Thus, the three-day SAR. The overall results or conclusions reported in this paper, however, are *unaffected* by the choice of a two or three day SAR.

<sup>4</sup> The  $t$ -statistic is defined as:  $[CAR_T / (\sum_{k=t_1}^{t_2} s^2(AR_k))^{1/2}]$ , where  $s^2(AR_k)$  is the cross-sectional variance of excess returns of the  $N$  firms in the portfolio on day  $k$ . The  $z$ -statistic of the sign test is defined as:  $z = [SAR(+) - N/2 - .50] / [N(.50)(.50)]$ , where  $SAR(+)$  is the number of positive SARs in the sample. The asymptotic approximate  $p$ -values reported are the right-tail probabilities taken from a normal distribution table.

esis of zero mean  $CAR_T$  (or  $AR$  if  $T = 1$ ) and the non-parametric sign test is used to test the null hypothesis that the median excess return across firms on day  $t$  is zero.

To assess the impact on shareholder wealth of disclosing different pieces of information on the announcement day, multiple regressions are used.  $T$ -values and  $R$ -squares are reported as tests of significance.

## II. The Average Effect of the Initial Divestiture Announcement

Table I lists the daily and cumulative average returns for all non-overlapping sell-offs for the 81-day period surrounding and including the *initial* announcement date. This reduces the sample size to 202 announcements.<sup>5</sup> The announcement day effect (SAR) for the complete sample is +1.12%. This yields a  $t$ -statistic of 2.83, significant at the .01 level, and allows us to reject the null hypothesis that on average, a sell-off announcement has a zero or negative effect on the common stockholders' wealth. A non-parametric sign test supports this conclusion in that it rejects at the .01 level the hypothesis that the median announcement effect is zero.

The CAR for days  $-40$  through  $-3$  is 1.84%; its  $t$ -statistic is 1.81 ( $p$ -value = .07). The CAR for days  $+1$  through  $+40$  is 1.29%, and its  $t$ -statistic is 1.31 ( $p$ -value = .17). For the shorter periods, days  $-10$  through  $-3$  and days  $+1$  through  $+10$ , the CARs are +0.19% and +0.45%, respectively. Neither CAR is significantly different than zero. It appears, then, that the initial sell-off announcement is not anticipated more than two days before day zero. Nor is there evidence that on average, sell-offs are immediately preceded by nor followed by trends of abnormally good or bad news.

## III. The Effect of Announcing the Transaction Price on the Value of the Firm

Section II presented evidence that, on average, the common share price of a divesting firm significantly rises on the initial sell-off announcement date. This supports the hypothesis that since the sell-off is voluntarily undertaken by the divesting firm, the NPV of the project is greater than zero. In this section, we examine the role of the transaction price on the announcement day abnormal returns.

Since, from Table I, there is little evidence of pre-event day information leakage from days  $-10$  through  $-3$ , all non-overlapping sell-off announcements for the 20-day period around the event are used. This increases the overall sample size to 215 sell-offs. Of these 215 sell-offs, the sales price is disclosed 91 times in the initial announcement, 37 times in subsequent announcements and is never publicly announced for the remaining 87 cases.

<sup>5</sup> Sell-offs are considered to be overlapping if the firm announces two separate divestitures within 80 days. For these firms the second (and possibly third and fourth) sell-offs were removed from the sample. This reduces the probability of recording multiple price shocks to the firm on any particular day.

**Table I**  
**Daily Average Residuals (ARs) and Cumulative Average Residuals (CARs) for 202 Divestiture Attempts around the Initial Announcement Day**

| Day | AR    | CAR   | Day | AR     | CAR   |
|-----|-------|-------|-----|--------|-------|
| -40 | 0.15% | 0.15% | 1   | -0.22% | 2.72% |
| -39 | 0.14  | 0.29  | 2   | -0.07  | 2.65  |
| -38 | 0.27  | 0.56  | 3   | 0.43   | 3.08  |
| -37 | 0.07  | 0.63  | 4   | 0.06   | 3.14  |
| -36 | 0.26  | 0.89  | 5   | -0.10  | 3.04  |
| -35 | 0.17  | 1.07  | 6   | -0.02  | 3.02  |
| -34 | -0.11 | 0.96  | 7   | 0.08   | 3.10  |
| -33 | 0.16  | 1.12  | 8   | -0.07  | 3.03  |
| -32 | 0.12  | 1.24  | 9   | -0.03  | 3.00  |
| -31 | 0.06  | 1.30  | 10  | 0.27   | 3.27  |
| -30 | 0.02  | 1.32  | 11  | -0.26  | 3.01  |
| -29 | -0.00 | 1.31  | 12  | -0.20  | 2.81  |
| -28 | 0.13  | 1.45  | 13  | 0.22   | 3.03  |
| -27 | 0.13  | 1.58  | 14  | -0.03  | 3.00  |
| -26 | 0.27  | 1.85  | 15  | 0.53   | 3.53  |
| -25 | -0.09 | 1.76  | 16  | 0.07   | 3.60  |
| -24 | -0.09 | 1.67  | 17  | -0.25  | 3.35  |
| -23 | 0.06  | 1.73  | 18  | 0.03   | 3.38  |
| -22 | -0.05 | 1.68  | 19  | 0.05   | 3.44  |
| -21 | 0.45  | 2.13  | 20  | -0.03  | 3.41  |
| -20 | -0.02 | 2.11  | 21  | -0.02  | 3.39  |
| -19 | -0.16 | 1.95  | 22  | 0.04   | 3.43  |
| -18 | 0.13  | 2.08  | 23  | 0.12   | 3.55  |
| -17 | -0.07 | 2.01  | 24  | -0.05  | 3.50  |
| -16 | -0.29 | 1.72  | 25  | 0.12   | 3.62  |
| -15 | -0.22 | 1.50  | 26  | -0.04  | 3.58  |
| -14 | -0.17 | 1.33  | 27  | -0.18  | 3.40  |
| -13 | 0.06  | 1.39  | 28  | 0.09   | 3.49  |
| -12 | -0.06 | 1.33  | 29  | -0.16  | 3.33  |
| -11 | 0.06  | 1.39  | 30  | -0.16  | 3.17  |
| -10 | 0.26  | 1.65  | 31  | 0.28   | 3.45  |
| -9  | 0.17  | 1.82  | 32  | 0.16   | 3.61  |
| -8  | -0.03 | 1.79  | 33  | 0.27   | 3.88  |
| -7  | -0.06 | 1.73  | 34  | 0.07   | 3.95  |
| -6  | 0.09  | 1.82  | 35  | -0.08  | 3.87  |
| -5  | 0.01  | 1.83  | 36  | 0.03   | 3.90  |
| -4  | -0.10 | 1.73  | 37  | 0.00   | 3.90  |
| -3  | 0.13  | 1.84  | 38  | 0.16   | 4.06  |
| -2  | 0.39  | 2.23  | 39  | 0.01   | 4.07  |
| -1  | 0.55  | 2.78  | 40  | 0.17   | 4.24  |
| 0   | 0.17  | 2.95  |     |        |       |

#### *A. Announcing the Transaction Price on the Initial Date*

The null hypothesis to be tested is that the distribution of SARs is unaffected by whether the initial announcement contains the transaction price. This would be true if the sell-off announcement acts as a positive signal to outside investors about the future investment decisions of the selling firm or if investors believe

**Table II**  
**The Announcement Day Effect Of Announcing Price Based on**  
**the Percentage of the Firm Sold**

| Percentage of the<br>Equity Sold <sup>a</sup>  | SAR    | t Stat. | No. of<br>Announcements | Percentage of<br>Announcements <sup>b</sup> |
|------------------------------------------------|--------|---------|-------------------------|---------------------------------------------|
| <b>A. Firms Initially Announcing Price</b>     |        |         |                         |                                             |
| Less than 10%                                  | 0.54%  | 0.95    | 39                      | 43%                                         |
| 10% through 50%                                | 2.53%  | 2.63**  | 36                      | 40%                                         |
| Greater than 50%                               | 8.09%  | 3.40**  | 16                      | 17%                                         |
| <b>B. Firms Not Initially Announcing Price</b> |        |         |                         |                                             |
| Less than 10%                                  | 0.56%  | 0.62    | 20                      | 16% (43)                                    |
| 10% through 50%                                | -0.06% | -0.11   | 21                      | 17% (46)                                    |
| Greater than 50%                               | 0.90%  | 0.35    | 5                       | 4% (11)                                     |
| Price Unknown                                  | -0.29% | 0.58    | 78                      | 63%                                         |

<sup>a</sup> The percentage of the firm sold is measured by the announced price of the sell-off divided by the market value of the equity on the last day of the month prior to the announcement.

<sup>b</sup> The numbers in parenthesis under Percentage of Announcements are the percentages of announcements in the subsample for the 46 known prices.

\*\* Significant at the .01 level.

that on average, a sell-off is a positive NPV project to the divesting firm. If the null hypothesis is true, then no differential in announcement day effects should be observed between subsamples based on price disclosure. If the alternative hypothesis holds, then the "price" and "no-price" subsamples will have statistically different announcement day excess returns.

The full sample is divided into two subsamples based on whether the transaction price is disclosed on the *initial* announcement date. The SAR for initial day announcements containing price is 2.47%, with a *t*-value of 3.41. The SAR for the 124 firms not announcing price is 0.02%, with a *t*-value of 0.06. Testing for the difference between the SARs yields a *t*-statistic of 3.00, significant at the .01 level.<sup>6</sup> These results suggest that the expected NPV of the proposed sell-off is positive for those firms initially announcing both a voluntary sell-off and the sales price but zero for firms only announcing the divestiture decision. This finding rejects the proposal that any divestiture announcement results in a positive price response on the initial announcement day.

### *B. The Relative Size of the Sell-off*

Table II contains the CARs for subsamples of the price group based on the relative size of the divested assets. The relative size of the divestiture is measured as the announced transaction price divided by the market value of the divesting firm's common shares, taken on the last trading day of the month prior to the initial announcement. Three subgroups are formed: firms divesting assets for a price less than 10% of their market share value; firms selling assets for between 10% and 50% of market value; and companies selling assets at greater than 50%

<sup>6</sup> The *t*-statistic is  $(SAR_1 - SAR_2) / [\{(\sum_{i=1}^0 \sigma_{1i}^2) / N_1\} + \{(\sum_{i=1}^0 \sigma_{2i}^2) / N_2\}]$  where subscripts 1 and 2 correspond to the price sample and no-price sample, respectively.

of their market share value. Panel A contains the announcement day prediction errors for the subsample of firms disclosing price. The SARs for the three groups are 0.54%, 2.53% and 8.09%, respectively. It appears that "larger" voluntary divestitures result in larger gains for the shareholders. Furthermore, only those sell-offs with a market value at least as large as 10% of the divesting firm's equity are significantly different than zero.

Panel B of Table II presents the *initial* announcement day SAR for the no-price group for subsamples based on the relative size of the sell-offs. Although price was not given on the initial date, 46 of the 124 relative sizes were ultimately known; 37 firms disclosed the transaction price on a subsequent date and 9 prices were found in either *Moody's* or in subsequent financial statements. None of the CARs for the initial announcements not disclosing price are significantly different from zero. Also, comparing Panels A and B suggests that firms do not disclose the sales price only for relatively large sell-offs. Only 57% of the price group and only 57% of the known 46 relative sizes for the no-price group consist of sell-offs larger than 10% of the divesting firm's equity value. Thus, the correlation between disclosing the sales price and the size of the divestiture is not high.

To further examine the impact of the size of the divestiture and the effect of announcing the price on the abnormal return, the following equations are estimated:

$$\text{SAR} = B_0 + B_1 \text{Size} \quad (5)$$

$$\text{SAR} = B_0 + B_1 \text{Size} + B_2 \text{Price} \quad (6)$$

where Size is the relative size of the divestiture as defined above, and Price is a dummy variable defined as 1 when price is announced and 0 when price is not announced.

Table III presents the regression results for Equations (5) and (6). Price2 contains the 139 observations in which relative size was eventually known. For

**Table III**  
Regression Results between Announcement Day Residuals and the Relative Size of the Sell-off and Price Disclosure

| SAR = $B_0 + B_1 \text{Size} + B_2 \text{Price}$ |             |       |          |       |          |       |          |       |
|--------------------------------------------------|-------------|-------|----------|-------|----------|-------|----------|-------|
| Sample                                           | Sample Size | $B_0$ | $t(B_0)$ | $B_1$ | $t(B_1)$ | $B_2$ | $t(B_2)$ | $R^2$ |
| Price2 <sup>a</sup>                              | 137         | .008  | 1.56     | .35   | 4.28*    |       |          | .12   |
| Price2                                           | 137         | -.007 | -0.85    | .35   | 4.37*    | .19   | 2.34*    | .16   |
| Price1 <sup>b</sup>                              | 91          | .013  | 1.92     | .42   | 4.34*    |       |          | .17   |

Note:  $R^2$  is corrected for degrees of freedom. Size is the relative size of the divestiture, measured as the price of the sell-off divided by the market value of the equity. Price is a dummy variable, defined as 1 when price is announced and 0 when price is not announced.

\* significant at the .01 level.

<sup>a</sup> Price2 contains the 91 firms initially announcing price plus the 46 firms subsequently revealing price.

<sup>b</sup> Price1 contains the 91 firms initially announcing price.

this sample, the slope coefficient for size in Equation (5) is significant at the .01 level. Adding the binary variable, Price, significantly increases the explanatory power of the regression. The coefficient for Price in Equation (6) is significant at the .01 level while the  $t$ -value and coefficient for size are similar to their counterparts in Equation (5). Furthermore, the  $R$ -square rises from .12 to .16.

To see the effect of size on only those firms announcing price, Equation (5) was fitted for Price1, the subsample of firms initially disclosing price. For this subsample, the slope coefficient of size is .42 and significant at the .01 level. The  $R$ -square of the equation is .17.

### C. Transaction Price as a Proxy for the Probability of Success

Thus far, this paper has shown that initial divestiture announcements containing the transaction price result in positive abnormal returns. In addition, the relative size of the sell-off is positively correlated to the excess returns. However, it is not clear whether these results occur because the transaction price relays information about the net present value of the investment or if the price disclosure is masking as a proxy for the probability of success. For example, do firms (or the financial press) report more details at an earlier date for potentially successful divestitures than for eventually broken-off deals? Similarly, is there a relation between reporting the size of the transaction and the probability of success?

This section examines the proxy hypothesis by studying the interactive (simultaneous) effects of disclosing both the transaction price and the probability of success on the initial announcement day. If the transaction price is proxying for the likelihood of completion, then the slope coefficient of price should be insignificant in a regression containing price, size and probability of completion.

To assess the likelihood of success, the contents of the initial announcements were examined to determine if a signed agreement between both parties had been reached. A higher probability of success should be attached to an announced signed agreement between the buyer and seller than to an announcement of ongoing talks between the two parties. As a result, the sample of initial announcements was categorized into two groups: those in the *consideration* stage (i.e., no signed agreement reached) and those disclosing a *signed agreement*.

Of the 91 initial announcements containing price, 76 simultaneously reveal a signed agreement between buyer and seller and 15 are in the consideration stage. The 124 initial announcements not disclosing price can be divided into 87 signed agreements and 37 considerations. Thus, the complete sample can be partitioned into four subsamples based on whether the transaction price and a signed agreement were simultaneously or separately announced.

Panel A of Table IV contains the announcement day SARs and their corresponding  $t$ -values for each of the four subsamples based on the stage of completion and price information. Only those announcements containing the transaction price have significantly positive average returns. The SAR for firms simultaneously disclosing price and a signed agreement is 1.62% ( $t$ -value = 2.23); the SAR earned by the shareholders announcing a transaction price but no signed agreement is 0.02% ( $t$ -value = 0.49). Similarly, firms announcing a sales price but no

Table IV  
Transaction Price as a Proxy for the Probability of Success

| A. SARs for the Simultaneous Announcement of the Transaction Price and a Signed Agreement              |                        |        |         |       |          |       |          |       |       |
|--------------------------------------------------------------------------------------------------------|------------------------|--------|---------|-------|----------|-------|----------|-------|-------|
|                                                                                                        |                        |        |         |       | Price    |       | No Price |       |       |
| Agreement Reached                                                                                      |                        |        |         |       | 1.62%    |       | 0.02%    |       |       |
|                                                                                                        |                        |        |         |       | (2.23)*  |       | (0.49)   |       |       |
|                                                                                                        |                        |        |         |       | N = 76   |       | N = 87   |       |       |
| Consideration (No signed agreement)                                                                    |                        |        |         |       | 6.79%    |       | 0.02%    |       |       |
|                                                                                                        |                        |        |         |       | (2.97)*  |       | (0.03)   |       |       |
|                                                                                                        |                        |        |         |       | N = 15   |       | N = 37   |       |       |
| B. Announcement Day Residuals and the Effect of Price, Size of the Divestiture, and a Signed Agreement |                        |        |         |       |          |       |          |       |       |
| SAR = $B_0 + B_1\text{Size} + B_2\text{Price} + B_3\text{Agreement}$                                   |                        |        |         |       |          |       |          |       |       |
| Sample                                                                                                 | No. of<br>Observations | $B_0$  | $(B_0)$ | $B_1$ | $t(B_1)$ | $B_2$ | $t(B_2)$ | $B_3$ | $R^2$ |
| Price2                                                                                                 | 137                    | -0.007 | -.85    | .35   | 4.37*    | .19   | 2.34*    |       | .16   |
| Price2                                                                                                 | 137                    | 0.005  | .47     | .34   | 4.28*    | .25   | 2.95*    | -.18  | .18   |
| Price1                                                                                                 | 91                     | 0.057  | 4.12*   | .43   | 4.72*    |       |          | -.33  | .28   |

Note:  $t$ -statistics are in brackets.

\* significant at the .01 level.

\*\* significant at the .05 level.

signed agreement earn an abnormal return of 6.79% ( $t = 2.97$ ), while divesting firms announcing neither an agreement nor price earn 0.02% ( $t = 0.03$ ).<sup>7</sup>

The regression results presented in Panel B of Table IV confirm the view that investors do not use the transaction price as a barometer of how likely the divestiture will be completed. The estimated equation is:

$$\text{SAR} = B_0 + B_1 \text{Size} + B_2 \text{Price} + B_3 \text{Agreement} \quad (7)$$

where SAR, Size and Price are defined as before and Agreement is a dummy variable defined as 1 when a signed agreement is announced and 0 when no signed agreement is announced. Adding the dummy variable 'signed agreement' to the already included variables 'price announced' and 'relative size of the sell-off' does not diminish the explanatory power or the magnitude of either variable, suggesting that price is not proxying for the probability of success. Furthermore, the slope coefficient for 'signed agreement' is negative and statistically significant for both the full and price samples. These results, though counter-intuitive, suggest that investors react more positively to a non-signed agreement than to a signed agreement. The reasons behind this anomaly are as yet unknown.

#### IV. Subsequent Announcements of the Transaction Price

The preceding empirical findings demonstrate that announcing the transaction price on the initial day has a significant positive impact on the value of the divesting firm's common shares. This section examines whether announcing the price on a *second* or *subsequent* date has a similar effect on shareholders' wealth.

Of the 124 sell-offs having an initial no-price announcement, 37 eventually announced the price. For this group, the SAR around the subsequent price announcement is +0.79%, with a corresponding  $t$ -value of 0.72. These results suggest that no significant revaluation of shareholder wealth takes place on a delayed announcement of price.

Next, the cumulative effects of shareholder wealth of the initial announcement and the transaction price are measured for all divesting firms ultimately announcing both. For each company, a cumulative firm residual (CFR<sub>*i*</sub>) is calculated by adding the summed residuals for the initial announcement day and the subsequent price disclosure date.

The average cumulative effect, ACE, for those firms announcing price on the initial disclosure date is the already reported 2.47%, with a corresponding  $t$ -value of 3.41. The ACE for spreading the information over two announcements is 0.82%, with a corresponding  $t$ -value of 0.79.<sup>8</sup>

The findings of this section suggest that a delayed price disclosure contains no

<sup>7</sup> Testing for the difference in SARs between these groups produces a significant  $t$ -value of 3.50. This suggests that announcements containing price but not a signed agreement earn statistically higher returns than firms with signed agreements. No explanation is offered for this anomaly at this time.

<sup>8</sup> The  $t$ -value is measured as the ACE divided by the standard deviation of the sum of the daily cross-sectional variances for days -2 through 0. In addition, a standardized  $t$ -value was calculated by dividing the CFR for each firm by its standard error, taken over the estimation period. This latter  $t$ -value was 0.06.

unexpected information about the value of the divesting firm. This would be true if either the "news" was already released (anticipated) or if the NPV of the sell-off was, on average, zero to the seller. Since there is no evidence of a leakage of information before the subsequent announcement, it appears that the latter view is more appropriate.<sup>9</sup> One consistent explanation is that a subsequent price disclosure is preceded by a period of "hard bargaining" between the buyer and seller, resulting in a zero or insignificantly positive profit for the selling firm. A second explanation is that managers like to reveal good news early and bad or neutral news at a later date.<sup>10</sup>

## V. Relation to Other Sell-Off Studies

Table V contains a summary of previous empirical studies on voluntary sell-offs. As previously noted, the announcement day effects for the selling firm vary substantially across studies. On the announcement day, Alexander, Benson and Kampmeyer (ABK) reports insignificant returns; Jain reports significant, but excess returns less than 1% over a five day period; and Hite and Owers, Linn and Rozeff, and Rosenfeld report significant returns between 1.40 and 2.33%.

In this study, we find an average announcement day excess return of 1.12% for the complete sample of sell-offs. Within this sample, firms announcing price earn 2.47%, while firms not disclosing price earn a paltry 0.02%. In addition, the positive and significant returns of the "price" group are earned primarily by firms divesting over 10% of their equity value.

As reported in his paper, Rosenfeld restricts his sample to divestitures larger than 10% of the equity of the divesting firm. Linn and Rozeff report that the average size of the sell-off in their sample is 9% of the divesting firm's wealth and Hite and Owers only include sell-offs greater than \$10 million in their sample. ABK and Jain, on the other hand, do not distinguish between price and no-price announcements. Thus, evidence is presented that the mixed findings for the announcement day prediction errors of earlier works might be related to the size of the divestiture and whether price is disclosed. Of course, these may not be the sole factors behind the differences in the magnitude and significance of the reported announcement day returns. Also, no explanation for the discrepancies among reported pre- and post-announcement day returns is apparent.

## VI. Summary and Conclusions

This paper examines differences in announcement day effects among firms engaged in voluntary sell-offs. We find that, on average, an initial sell-off announcement results in a significant but small positive average excess return

<sup>9</sup> The pre-announcement day CAR for the subsequent price disclosure group is not significantly different from zero. Post-announcement day CARs for the initial announcement (no-price) for these firms are also insignificantly different from zero. This suggests that there is no leakage of price information before the subsequent price announcement.

<sup>10</sup> There have been several studies outside of the divestiture literature suggesting that managers prefer to announce good news early while delaying bad news until a later date. French puts forth this hypothesis as a possible explanation for the "weekend effect". Wolfson shows that managers announce favorable earning reports during market trading hours but unfavorable earnings after the market is closed.

Table V  
Results of Selected Divestiture Studies: Selling Firms

| Study                             | Methodology <sup>1</sup> | Sample Size | Announcement Day CAR <sup>2</sup> | Pre-Announcement Day CAR <sup>2</sup> | Post-Announcement Day CAR <sup>2</sup> |
|-----------------------------------|--------------------------|-------------|-----------------------------------|---------------------------------------|----------------------------------------|
| Alexander, Benson & Kampmeyer [1] | MAR                      | 53          | +0.17% <sup>a</sup><br>(0.68)     | -2.54% <sup>b</sup><br>(-1.67)        | -2.47% <sup>c</sup><br>(-1.16)         |
| Hite & Owers [6]                  | SIM                      | 110         | +1.40% <sup>a</sup><br>(5.42)     | +2.60% <sup>d</sup><br>(1.72)         | Not applicable                         |
| Jain [7]                          | SIM                      | 1107        | +0.70% <sup>e</sup><br>(4.04)     | -0.02% <sup>b</sup><br>(-4.29)        | -0.00 <sup>i</sup><br>(-1.03)          |
| Linn & Rozeff [9]                 | SIM                      | 77          | +1.45% <sup>a</sup><br>(5.35)     | +3.62% <sup>e</sup><br>(3.36)         | +0.61% <sup>f</sup><br>(not given)     |
| Rosenfeld [12]                    | MAR                      | 62          | +2.33% <sup>a</sup><br>(4.60)     | +1.13% <sup>b</sup><br>(1.14)         | +1.80% <sup>c</sup><br>(0.96)          |

<sup>1</sup> MAR = Mean-Adjusted Returns Model; SIM = Single-Index Model.

<sup>2</sup> *t*-Statistics in parenthesis.

<sup>a</sup> defined as days (-1, 0).  
<sup>b</sup> defined as days (-30, -2).  
<sup>c</sup> defined as days (+1, +30).  
<sup>d</sup> defined as days (-50, -2).  
<sup>e</sup> defined as days (+1, +40).  
<sup>f</sup> defined as days (-40, -2).  
<sup>g</sup> defined as days (-5, -1).  
<sup>h</sup> defined as days (-60, -11).  
<sup>i</sup> defined as days (+1, +5).

for the selling firm. However, not all initial divestiture announcements result in positive price movements. Dividing the sample into two subsamples based on whether the transaction price is announced shows that the announcement day effect is significantly positive for the price group but not statistically different from zero for the no-price group. In addition, a positive relation is found between the relative size of the divestiture and the announcement day returns, with larger sell-offs producing larger share day price responses.

The timing of the price disclosure appears to be important too. Unlike initial sell-off announcements containing price, subsequent price disclosures produce insignificantly positive abnormal returns. The cumulative effect of the initial divestiture announcement and the second announcement is not statistically different from zero.

The findings of this paper are consistent with those found in other recent empirical sell-off studies. Papers restricting their samples to initial announcements with transaction price information report significant positive announcement day returns. Studies not discriminating among price or relative size find smaller or insignificant announcement day effects.

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## DISCUSSION

GAILEN L. HITE\*: April Klein has presented a paper that deals with divestiture announcements with the primary focus being on the form and content of the announcement itself and little emphasis on the economics of sell-offs, per se.