

Restructuring Using Operating Asset Exchanges: Issues and Evidence

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Abstract

This study examines restructuring in which a firm divests an operating asset in exchange for another operating asset. Since liquidity, capital structure, and distributional issues are not immediately associated with tax-free asset-for-asset exchanges, they are well suited for examining the competing hypotheses related to divestitures. We find that the abnormal returns associated with asset exchanges are generally smaller than those associated with other divestiture restructurings except when indications of value are provided. Our analysis identifies positive valuation effects for firms undertaking focus-enhancing exchanges, but a dominating consideration is whether the value of the units traded is indicated.

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1. Introduction

Restructuring has received considerable attention from both academic researchers and practitioners over the past three decades. Several strategies for restructuring such as sell-offs, spin-offs, and equity carve-outs have been extensively researched. In addition, the impact of how the type and use of consideration affects the outcome of restructuring has also been examined.

This paper examines a category of restructuring activity that has received very little attention in the research literature: asset-for-asset exchanges. The nature of these transactions requires a “co-occurrence of wants” as illustrated in the article below that presents a typical asset-for-asset exchange.

Business Wire--Feb. 10, 1997—Ameron International Corp. (NYSE:AMN) announced today that it has signed an agreement to acquire the maintenance coatings business of The Valspar Corp., a major coatings manufacturer headquartered in Minneapolis, Minn. Valspar will, in turn, acquire Ameron's product finishes business, which includes both liquid and powder coatings. "This is a 'win-win' agreement that enhances the strengths of both companies," said James A. Marlen, Ameron chairman, president and chief executive officer. "Valspar is a leading manufacturer of product finishes, a segment in which Ameron has historically been only a niche player. Conversely, Ameron is an acknowledged industry leader in high-performance protective coatings. By exchanging product lines, each company gains a stronger position in its area of specialization."

Given that these exchanges require two firms to identify each other and have reciprocal interest in exchanging assets, it is not surprising that they represent less than 1% of the total restructuring deals each year. Firms involved in these transactions are sizeable, with a mean (median) market capitalization of \$8.3 billion (\$1.3 billion).

Previous divestiture studies that have examined spin-offs, equity carve-outs, and sell-offs have not specifically categorized their samples into those that result in an increase in focus, an increase in liquidity, or provide information regarding the value of the transaction. Because our sample of asset-exchanges can be categorized into these

three areas, we use their unique nature to examine the competing hypotheses put forth for the abnormal returns shown for divesting firms.

Of the main competing explanations, the first proposes that divestor gains come from the elimination of negative synergies and improved focus and management of assets remaining after the divestiture. The liquidity explanation draws from the ability to raise funds when alternative sources would prove too expensive. A third explanation suggests that the positive returns experienced by divesting firms are primarily a result of the market reaction to the disclosure of the transaction value. Since most asset-for-asset exchanges do not involve cash payments, we are able to identify transactions that are not confounded by an increase in liquidity as a result of the swap. We are also able to identify a subset of transactions where there is some indication of the value of the deal. Therefore, we conclude that these transactions are uniquely valuable in allowing us to conduct further tests of the focus/synergy improvement, liquidity, and information explanations for divestitures.

In an asset exchange, both firms are simultaneously divestors and acquirers, and it is this particular attribute that provides the context for addressing the issues raised above. Given the respective parties' awareness of the businesses being exchanged, it can also be reasoned that asymmetric information will be less of a factor than in typical sell-off divestitures. While there may be less asymmetry between the exchanging firms, an asset exchange where value is disclosed may mitigate the asymmetry of information between insiders and investors.

Anticipating the analysis, we find results that provide some support for the focus/synergy explanation, while none is evident for the liquidity explanation. However,

the strongest and most consistent evidence supports the information explanation. We find that transactions which disclose or provide some indication of the value of the assets traded have the most significant abnormal returns and this holds even after controlling for the other factors that might be associated with the exchange. This is a major finding and contribution of this paper. When value is disclosed or indicated, the CAR over (-1,+1) is 3.45%, which is significant at the 5% level. The result is consistent with the hypothesis that asset exchanges wherein value is disclosed or indicated reduce information asymmetry and result in upward revaluation of divesting firms.

2. Asset exchanges: Attributes and examples

Asset exchanges are also known as asset “swaps.”¹ These are predominantly voluntary and very specific types of barter transactions where there is a requirement of “co-incident of wants” not often found in more typical divestitures for cash or equity. Clearly such transactions will be appealing to the transacting firms only if each firm values the assets acquired at least as much as the assets divested in the exchange. In contrast to most sell-offs, spin-offs, or equity carve-outs, the asset size, revenues, and capital structure of the transacting firms will remain substantially unchanged after the restructuring transaction.

Before developing a set of testable hypotheses, it is important to review the significant attributes of asset swaps/exchanges. First, these exchanges are typically tax-free transactions.² While asset exchanges are widely used in tax-free real estate

¹ Certain transactions referred to as “swaps” are used by firms to create “revenues” as demonstrated by an examination of some aggressive and unacceptable accounting practices in the late 1990s. Such “transactions” are not part of this study.

² See Wiesner and Meulmester (1990) for full details on the tax treatment of these transactions.

transactions, this study focuses on “operating assets” and excludes purely real estate transactions. Secondly, both firms are simultaneously divestors and acquirers in the same transaction. Thirdly, liquidity needs do not seem to be the primary driver in these transactions. Cash is part of the consideration in approximately 36% of all transactions. Fourth, value is given or indicated in some asset exchanges. Lastly, asset swaps are negotiated deals between two parties and there does not seem to be any evidence of a bidding contest (either explicit or implicit) leading up to the final transaction.

An examination of the sample of transactions indicates that asset swaps can be classified as either geographic asset swaps or product asset swaps.³ Geographic asset swaps involve an exchange of the same type of product/business between different geographic locations. The most often stated motive for such transactions is a need to cluster operations in contiguous regions, as in the following example:

“Business Wire: June 24, 1996--American Radio Systems (NASDAQ:AMRD) and Chancellor Broadcasting Company today announced that they have signed a letter of intent to exchange radio stations in West Palm Beach, Fla. and Sacramento, Calif. - Steven B. Dodge, America's chairman and CEO, stated, "While we were reluctant to give up KSTE-AM in Sacramento, the ownership of WEAT-FM, WEAT-AM and WOLL-FM is critical to our strategic positioning in West Palm Beach. We've enjoyed our dialogue with Chancellor's management team and we look forward to completing this transaction." - Steven Dinetz, Chancellor's president and CEO, stated, "This station exchange reflects our focus on developing leading station clusters in large, rapidly growing markets across the country. We look forward to working with American Radio in closing this transaction.”

Identifying pairs of firms that are both seeking to exchange operating assets where the motivation is not based on geographical considerations is relatively rare. Confirming this reasoning, we find that product asset swaps account for only approximately 23% of the sample in this study. The typical product asset swap allows both firms to trade

³ It is possible that a product swap might result in a change in geographic location and hence could also be categorized as a geographic swap. However, after examining the transaction details, we do not identify any case in which there is ambiguity in the categorization of the swap.

business operations that are not part of their core operations for ones that are more closely related to their existing core. The result is that each firm improves its focus and concentration in a particular business area. The transaction between Ameron International Corp. and The Valspar Corp., as cited in the introduction, is an example of a focus enhancing transaction. Product asset swaps are characterized by an enhancement in focus, in terms of a firm's product or service offering. In contrast, geographic asset swaps can be viewed as focus neutral.

3. Literature review and hypotheses

There are no theoretical models that focus primarily on exchanges of operating assets between firms. The most closely related study is by Margrabe (1978), who examines the value of the option to exchange one asset for another. The ownership of a potential asset exchange option (i.e., both a call and a put) may be valuable, which is what Margrabe models. But if the value is already impounded in the value of the potential exchanging firms' equities because of high anticipated probability of exercise, then the exercise itself (as studied in this paper) may have little effect on the value of the exchanging firms.

While a theoretical model of asset exchanges is not developed in this paper, the insights from findings in previous divestiture studies are used to develop testable hypotheses pertaining to asset exchanges. The extensive literature on spin-off restructuring includes studies by Hite and Owers (1983); Miles and Rosenfeld (1983); Schipper and Smith (1983); Woo, Willard, and Dallenbach (1992); Cusatis, Miles, and Woolridge (1993); Daley, Mehrotra, and Sivakumar (1997); Krishnaswami and

Subramaniam (1999); Gilson, Healy, Noe, and Palepu (2001); Dittmar and Shivdasani (2003); Gertner, Powers, and Scharfstein (2002); and Burch and Nanda (2003). These studies find that there are significant increases in firm value associated with spin-offs. Given that spin-offs result in an increase in focus for the firm, it is hypothesized that the positive returns can be attributed to this. Several other potential hypotheses for the value increase are liability/loss management, regulatory considerations, and the potential for misappropriation of wealth from bondholders.

Generally, increments of value have also been found to be systematically associated with sell-off restructuring. In contrast to the outcome with whole-firm transactions, acquirer abnormal returns are positive although less than the returns to divestors. In several of the studies of sell-off divestitures (Linn and Rozeff, 1984; Alexander, Benson, and Kampmeyer, 1984; Hite, Owers, and Rogers, 1987), the positive returns to divestors have been interpreted as supporting the focus/synergy hypothesis. Synergy means that the transacted assets may be worth more to the buyer than to the seller, and thus, the divestiture results in a more efficient deployment of resources. Therefore, there is an increment of value to be partitioned as a result of the more productive ownership of the transacted operating assets, and this is reflected in gains to both sellers and buyers.

Equity carve-outs are a form of divestiture wherein the divesting firm sells part of a unit for cash and retains control of the unit. These value-enhancing transactions increase the information regarding the subsidiary that is partially divested and also generate cash for the parent. Additionally, the managers of both the parent and subsidiary can focus more directly on their respective operations. Papers examining

equity carve-outs include Schipper and Smith (1986), Allen and McConnell (1998), Allen (1998), Vijh (1999), and Vijh (2002). There are focus, liquidity, and information motives for equity carve-outs. It is possible that any observed gains to swapping firms may not be solely attributed to the focus/synergy explanation but instead may be supported by another rationale. Another popular motive is the liquidity explanation. The general line of reasoning here is that underperforming firms divest assets to raise cash to cover liquidity needs. Studies addressing the liquidity motive include Jain (1985), Lang, Poulsen, and Stulz (1995), and Lasfer, Sudarsanam, and Taffler (1996).

Another explanation in the divestiture literature to explain the findings suggests that the excess returns observed at sell-off, spin-off, and equity carve-out announcements could be attributable to information effects. Klein (1986) examines the difference in share price response between sub-samples of sell-offs based on whether the transaction price is provided at the time of initial announcement. She finds that the announcement period return is significantly positive only for sellers disclosing the transaction price. In contrast, it is not statistically significant for the sub-sample where no price is disclosed. As shown below, this is of particular relevance to the present study. Klein interprets her findings to indicate that the disclosure of price can be a means of conveying favorable information about the net present value of the transaction. Clubb and Stouraitis (2002) find evidence to support Klein. Their findings suggest that market participants will only be able to react appropriately to sell-offs if they are given the necessary information in the financial details to evaluate whether the restructuring transaction represents a positive net present value decision for the firm.

Although there is broad agreement regarding the valuation effects of divestitures, there is no consensus as to which hypothesis dominates in explaining the increment in wealth. While achieving synergies and focus enhancement may be major motives in divestitures, we cannot *a priori* reject the possibility of liquidity and information considerations influencing the decision and outcomes.

In the context of these findings, an interesting research question is whether asset exchanges lead to value increases because of enhanced focus/synergy, liquidity, or information. Thus, we pose the following hypotheses for the examination of asset exchanges:

1. *Firms involved in asset-for-asset swaps will experience positive abnormal returns at the time of announcement.*
2. *Firms engaging in focus/synergy-enhancing product asset swaps will experience higher abnormal returns than firms engaging in geographic asset swaps, which are focus neutral.*
3. *Firms that receive cash in the asset exchange will experience higher abnormal returns than firms that do not receive cash.*
4. *Firms involved in asset exchanges where the value of the transaction is disclosed or indicated will experience higher abnormal returns than firms in transactions that do not disclose or indicate the value of the assets exchanged.*

4. Sample, data, and method

4.1 Sample identification procedure

We use the Thomson Financial SDC Platinum (SDC) Mergers and Acquisitions database and examine all transactions between January 1990 and December 2002 that satisfy the following criteria: (a) is classified as a divestiture (there is a loss of majority control; the parent company is losing majority interest in the target; or the target company is disposing of assets); (b) the majority of the consideration offered is an operating asset; (c) the majority of the consideration sought is an asset; and (d) “merged” or “merge” is not in the deal synopsis. The result is 201 asset-for-asset swaps or 404 firm events.⁴

The sample is then merged with the CRSP database to verify that returns data are available for the exchanging firms. To obtain the final sample, firms that have confounding events such as other acquisitions, earnings announcements, and other divestitures and mergers around days -10 to +10 at the time of the announcement date are eliminated. The result is a final sample of 195 firm events. Of the 195 firms in our final sample, 16 are eliminated because they were forced by the Federal Trade Commission (FTC) in order for the firm to comply with regulations regarding market share. The final analysis is conducted on the remaining 179 firms. Event dates are verified by examining the announcement details reported in various news sources.

4.2 Data description

A breakdown of the number of firms involved in swaps by year and type of swap in Table 1, Panel A, indicates that asset swaps seem to be an increasingly popular restructuring tool used by firms in the 1990s. This could be attributed to two changes in the business environment. First, asset swaps remained one of the few means of structuring tax-free deals at a time when legislative action and tax regulation changes

⁴ A small number of swaps involve a three-way exchange.

restricted various other forms of tax-free transactions. Second, there has been a large increase in Radio and Television (TV) station swaps since 1996, which resulted from the passage of the Telecommunications Act 1996 on February 01, 1996.⁵

Of the 179 firms in the final sample, 77% (137) are involved in geographic swaps while the remaining 23% (42) firms are involved in product swaps. Of the geographic swaps, the majority involve the swap of communications operations (in the radio, TV, cable, and telephone sectors), with energy and mining being the industry to next most frequently utilize this type of restructuring strategy. The bulk of the swaps in the energy and mining industry involve the exchange of oil fields or natural gas fields.

Panel B of Table 1 shows that cash is involved in 35% (62) of the events. We also construct a dummy variable set equal to one if there is some indicator of transaction value in the announcement details.⁶ “Value indicated” could be either reference to the revenue generated by the business units being swapped or the number of operating units being swapped. The “value disclosed” dummy is one if the actual monetary value of the transaction is disclosed. Only 25% (45) of the events have information regarding the value of the transaction.

We obtain information about the firm’s profitability and debt utilization from the quarter before the announcement and about market capitalization six days prior to the announcement. Table 2, Panel A, suggests that firms involved in asset swaps are sizeable with a mean (median) market capitalization of \$8.3 billion (\$1.3 billion). The average

⁵ Several provisions of this Act took effect immediately. The Act lifted the limits on ownership of both TV and radio stations. Group owners became permitted to own television stations with a maximum service area cap of 35% of the U. S. population, up from the previous limit of 25% established in 1985. Limits on the number of the radio stations that may be commonly owned were completely lifted, although the bill did provide limits on the number of licenses that can be owned within specific markets or geographical areas.

⁶ We rely on the transaction details disclosed in the announcement, instead of searching through subsequently filed 10K statements, because we are interested in the effect of disclosure at the time of the announcement.

(median) return on equity (ROE)⁷ is -1.5% (9.3%), while the average (median) debt ratio is 36% (36%) and the average (median) interest coverage ratio⁸ is 8.39 (2.71) for all firms. We sub-divide the sample to determine if there are differences in size, profitability, debt utilization, and interest coverage between firms that receive cash and those that do not, and between firms that are involved in swaps where there is some information regarding the transaction value and those where there is none. The summary statistics in the table indicate that there are no substantial differences in size, profitability, debt utilization, and interest coverage between firms that receive cash and those that do not. However, the mean market capitalization of firms involved in transactions where information is indicated/disclosed is significantly (at the 5% level) lower than that of firms where information is not disclosed/indicated about the value of the transaction. The difference in the median firm size however is not significant. Although the mean return on equity is markedly lower for value information indicated/disclosed firms, the difference is not statistically significant. The mean (median) of the debt (interest) coverage ratios are also not statistically different between the two information groups. Overall, the sub-samples of firms do not exhibit significant differences in characteristics.

Table 2, Panel B, shows the mean and median size of the transactions relative to the size of the firm (market capitalization) for the transactions in which the value is disclosed. The mean (29%) and median (20%) indicate that these transactions are relatively substantial events. Panel B also provides summary statistics for the amount of cash received relative to the receiving firm's market capitalization. The mean (median) value of cash received in the transactions is 26% (10.22%) of the firm's market

⁷ We also measure profitability in terms of return on assets (ROA) and this is reported in the table.

⁸ The interest coverage ratio is defined as earnings before interest and taxes divided by interest expense.

capitalization. This indicates that for the few swaps where cash is part of the consideration, the cash component of the transaction is relatively substantial for the receiving firm. It thus appears that while obtaining cash may not have been a major motive for the transaction, the cash inflow for this sub-sample is considerable and could reduce the debt burden for distressed firms or could be invested in core assets when alternative financing is not readily available.

4.3 Method

4.3.1 Event study analysis

We first examine the wealth effects of these transactions for firms involved in all swaps. Then various subsets of exchange transactions are examined based on the following attributes: product swaps, geographic swaps, firms that receive and do not receive cash, and firms that are involved in transactions where the value of the assets traded is indicated or disclosed.

The event study technique employed for this study is similar to that originally employed by Dodd and Warner (1983). For each security, we compute the expected return using estimates of the market model parameters over days -200 to -51 in relation to the announcement date. The return to the CRSP value-weighted index is the proxy for the market return. The excess return, or prediction error, is the difference between the actual return and the expected return. The technique calls for standardizing each excess return by the estimate of the standard error. Under the null hypothesis of zero excess return, the prediction errors are assumed to be normally distributed with a mean of zero, and the standardized prediction errors are assumed to follow a t-distribution. To form the test

statistic for any interval, we calculate a standardized cumulative prediction error. The z-statistic is the sum of the standardized cumulative prediction errors divided by the square root of the number of firms in the sample.

4.3.2 Cross-sectional regression analysis

The event study analysis is important in providing indications on which hypothesis is supported in a univariate setting. However, we also conduct a cross-sectional regression on the excess returns to control for all factors driving the positive excess returns observed and to determine which hypothesis dominates in the explanation of the results. The regression is of the following form:

$$CAR_i = \alpha + \beta_1 Cash\ received_i + \beta_2 Information_i + \beta_3 Product\ swap_i + Controls_i + \varepsilon_i \quad (1)$$

where CAR_i is the cumulative abnormal return for the specified event window for firm i .

The independent variables are defined as follows:

Cash received is a dummy variable = 1 if the firm involved in the transaction receives cash. It is anticipated that the coefficient of this variable will be positive if the liquidity hypothesis is supported.

Information is a dummy variable = 1 if the firm is involved in a transaction where transaction value information is indicated or disclosed. It is anticipated that the coefficient of this variable will be positive if the information hypothesis is supported.

Product swap is a dummy variable = 1 if the firm is involved in a product swap. It is anticipated that the coefficient of this variable will be positive if the focus/synergy hypothesis is supported.

Controls include: log of market capitalization computed six days prior to the announcement day to proxy for firm size, the debt ratio of the company one quarter before the announcement period to proxy for liquidity needs, and the return on equity of the company one quarter before the announcement period to proxy for firm profitability. The first control is obtained from the CRSP database, and the latter two controls are obtained from the Compustat database.

5. Findings and interpretation

5.1 Event study results

5.1.1 All swaps

Table 3 presents some evidence that firms engaging in asset-for-asset swaps experience positive wealth effects on the announcement day. The announcement day, (0), mean excess return of 0.83% is positive and significant at the 10% level. This implies that on average, investors regard asset swaps as a positive net present value transaction and supports hypothesis one. The overall findings are consistent with Margrabe's model that the option to exchange one asset for another can be valuable. A closer examination shows that the positive wealth effect on day zero is driven by product swaps; when separated out from geographic swaps, product swaps have a mean (median) excess gain of 1.10% (0.50%) that is significant at the 5% level. The abnormal returns associated with geographic asset swaps returns are not significant. The difference in the returns between product and geographic swaps is of marginal significance.⁹ Overall, these

⁹ We also conduct the analysis on matched pairs where we examine the wealth effects to both parties in the transaction together to determine if there is a division of gains. We find that the percentage of pairs in which both firms gain is similar to the percentage of pairs in which both firms lose for most of the event

results provide some support for the focus/synergy hypothesis (number two) that firms gain when they refocus their activities and can efficiently utilize their resources on business operations in which they have a comparative advantage.

5.1.2 Exchanging firms receiving cash as part of the consideration

The typical asset swap does not involve any cash consideration and is a tax-free transaction. Any cash received as part of a swap is taxable subject to the computation of cash value relative to basis. Due to this tax disadvantage, we assume that firms agreeing to accept cash would only undertake the transaction if the benefits that the cash provides, such as paying down debt or making a distribution, outweigh the tax consequences to the firm. We examine returns for the sub-sample of firms that receive partial cash payment and present the results in Panel A of Table 4. There is no evidence that supports the contention that firms receiving cash have statistically significantly positive excess returns or that they are significantly more positive than firms that do not receive cash. Thus, hypothesis number three is rejected.

5.1.3 Exchanging firms involved in swaps where information is disclosed/indicated

In transactions where there is some information disclosed/indicated about the value of the assets being exchanged, Panel B of Table 4 reports that the mean excess return is 2.73% on the announcement day and that the economic magnitude is significant at the 1% level. This result is also evident in other event windows and for the median excess return, although the magnitude is smaller. These findings imply that the gains in

windows. We also find that matched product swaps have weakly significant excess returns, but the difference between the returns for the matched product and geographic pairs is not significant.

asset swaps are closely related to the disclosure of information about the transaction value. The results indicate that firms involved in swaps where the value of the transaction is disclosed/indicated have higher abnormal returns than firms involved in transactions where the value of assets traded is not disclosed/indicated. The difference in returns is positive and significant for both the mean and median excess return for event windows (-1,0) and (-1,+1). This provides support for the information effect hypothesis (number four) that market participants can only react appropriately if they have signals of the value of the assets traded and can conclude that the firm has made a positive net present value decision. This is consistent with the findings of Klein (1986) and Clubb and Stouraitis (2002) in their respective studies of sell-off divestitures.

5.2 Cross-sectional variation in excess returns

The results presented above point to the possibility of multiple factors influencing returns to firms in asset swaps. We have shown that firms involved in product swaps, including those where there is some indication of the value of the assets exchanged, have significant positive excess returns. However, firms that receive cash and firms involved in geographic (focus neutral) swaps have overall insignificant returns.

Hence, we examine the relation between the cumulative abnormal return (CAR) over all event intervals and the variables of interest pertaining to the asset exchanges.¹⁰ Table 5 presents the regression results. Two of the three control variables are significant. The coefficients of the log of market capitalization and the return on equity terms are negative and significant, indicating that larger as well as more profitable firms have

¹⁰ The un-availability of ROE and debt ratio data from Compustat results in some attrition of firms and a reduction in the sample size from 179 to 126 for this analysis.

smaller, less positive returns. The corollary is that smaller or less profitable firms have higher CARs. Less profitable firms may use the asset exchange to start addressing substandard performance. The coefficient for the debt ratio term is insignificant, indicating that firms with higher debt ratios, and hence potentially greater liquidity needs, do not have significantly higher returns than those that do not.

A further examination of the regression results indicates that, of the competing hypotheses, the most dominant determinant of the excess returns is the information effect. The coefficient of the information dummy is positive and significant at the 5% level in most of the regressions reported in Table 5. In contrast, the coefficients for the product and cash received dummies are insignificant. This result suggests that firms which disclose the value of the transaction have significantly more positive returns while firms that are involved in product (focus enhancing) swaps or receive cash do not have significantly higher abnormal returns.

The mean ROE for firms where information is disclosed about the transaction value is -26%, as reported in Panel A of Table 2. Thus, it is possible that the significance of the information dummy is driven by poorly performing firms. Therefore, as a robustness check, we further explore the effect of information by including interaction terms between the information dummy and ROE, and the product and cash received dummies as well.¹¹ The information dummy remains positive and significant, indicating that regardless of the firm or transaction characteristics, the incremental effect of disclosing information results in higher CARs at the time of the announcement. The coefficient of the interaction between the information dummy and ROE is negative and significant at the 1% level in all event intervals. Since we observe that less profitable

¹¹ The results are not fully reported here but are available.

firms have higher CARs, this finding means that the less profitable firms will have even higher CARs if they disclose value information about their restructuring activity. The positive effect of information is neither apparent for firms involved in product swaps or if they receive cash. This is because the interactions between the information dummy and the product and cash received dummies are not statistically significant. Therefore, it is reasonable to conclude that information disclosure is most relevant for poorly performing firms. Poorly performing firms can therefore signal their intent to improve performance by initiating restructuring via asset exchanges and additionally by disclosing value information pertaining to the exchange.

6. Summary and conclusion

In this paper we examine restructuring by means of operating asset exchanges and provide evidence on the wealth effects of asset swaps, a type of divestiture that has not been previously examined in the finance literature. Since liquidity considerations are not major factors in asset swaps, they allow us to concentrate on the focus/synergy enhancement and information hypotheses for divestitures. In general, we find that the abnormal returns associated with asset exchanges are smaller than those found in previous divestiture studies. The stock price reaction to announcements of product asset swaps is significantly positive. However, average abnormal returns to geographic asset swaps are insignificant. Since product asset swaps can be viewed as focus enhancing transactions and geographic asset swaps are focus neutral, the univariate results are consistent with the hypothesis that gains arise due to improvement in product focus.

Even though most asset swap announcements do not disclose the value of the transaction, we find strong evidence that firms providing some indication of the value of the assets traded experience significantly higher abnormal returns than those that do not. This lends support for the hypothesis that information effects play a major role in explaining the excess returns to asset swaps.

Using a cross-sectional analysis and controlling for variables that could drive the positive returns to divestors, we test the focus/synergy, liquidity, and information effects hypotheses. Again, we find strong evidence that the excess returns are driven by information effects while support for the focus/synergy hypothesis is weak. Our results also indicate that information disclosure is most beneficial for poorly performing firms that are conducting restructuring activities. Overall, the results suggest that the positive returns observed for divesting firms are more closely related to the disclosure of information than to an increase in focus.

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Table 1
Sample attributes

Panel A shows the distribution of the sample of 179 firms involved in asset swaps by announcement year, type of swap, and industry for geographic swaps. The sample is collected from the SDC Mergers and Acquisitions database and includes all transactions between January 1990 and December 2002 that are classified as a divestiture, at least part of the consideration offered is an operating asset, and part of the consideration sought is an asset and did not have “merge” in the deal synopsis. Only firm events with returns data on CRSP and no confounding events around the announcement date are included. Panel B shows the distribution of the sample of the 179 firms involved in asset swaps by the type of swap and whether cash is received or the value of the transaction is disclosed or indicated in the announcement.

Panel A

Year	Number of firms	Product asset swaps total	Geographic asset swaps total	Industry breakup of geographic asset swaps						
				Communications	Finance, insurance and real estate	Manufacturing	Mining	Retail trade	Services	Other
1990	12	4	8	2	3	1	2			
1991	5	2	3	2			1			
1992	11	2	9		4		5			
1993	16	6	10	5			1	2		2
1994	13	3	10	2	2			5	1	
1995	10	6	4	4						
1996	27	5	22	19	1	2				
1997	34	8	26	17	2	5	2			
1998	16	1	15	7			5		1	2
1999	13		13	5		1	3	3	1	
2000	12	5	7	2			3			2
2001	9		9		2		3			4
2002	1		1	1						
Grand total	179	42	137	66	14	9	25	10	3	10

Panel B

Swap characteristics	Geographic asset swaps	Product asset swaps	Total
Cash involved	49 (79%)	13 (21%)	62 (35%)
Value indicated	18 (60%)	12 (40%)	30 (17%)
Value disclosed	10 (67%)	5 (33%)	15 (8%)
No cash or value	60 (83%)	12 (17%)	72 (40%)
Total	137 (77%)	42 (23%)	179 (100%)

Table 2**Description of firms involved in swaps where the transaction value is disclosed and where cash is involved**

Panel A shows the market capitalization (taken six days before the announcement day), return on equity (net income/shareholders equity), return on assets (net income/total assets), debt ratio (total debt/total assets), and interest coverage ratio (earnings before interest and taxes/interest expense) of firms in the sample. The firms are then divided into categories based on (1) whether they receive cash in the exchange along with the asset, and (2) whether they are involved in transactions where information about the transaction value is disclosed or indicated in the announcement details. The difference in means and medians are tested using a t-test and a median test, respectively. Panel B shows descriptive statistics for the value of the transaction as well as the amount of cash exchanged, (when disclosed in the announcement details), relative to the market capitalization of the firms involved in the transaction.

Panel A

Variable		All firms	Cash received	No cash received	Difference	Value information	No value information	Difference
Market capitalization	Mean	\$ 8,275,982,203	\$ 12,760,198,750	\$ 7,444,471,850		\$ 4,105,693,497	\$ 9,676,452,291	**
	Median	\$ 1,276,000,000	\$ 1,111,028,190	\$ 1,284,540,630		\$ 998,270,000	\$ 1,345,726,065	
Return on equity	Mean	-1.53%	-1.80%	-1.48%		-25.96%	4.80%	
	Median	9.29%	4.89%	9.69%		10.47%	8.95%	
Percent positive		73%	67%	74%		79%	71%	
Return on assets	Mean	1.16%	0.31%	1.32%		-1.33%	1.83%	
	Median	2.86%	1.87%	2.98%		2.63%	2.88%	
Debt ratio	Mean	35.95%	36.48%	35.85%		39.37%	34.95%	
	Median	35.87%	36.66%	35.46%		35.90%	35.55%	
Interest coverage ratio	Mean	8.39	2.35	9.53		-4.11	11.58	
	Median	2.71	1.51	3.04		2.39	2.88	

*, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

Panel B

	Value of transaction relative to firm market capitalization (n=15)	Cash received relative to firm market capitalization (n = 28)
Average	28.79%	26.15%
Median	20.12%	10.22%
Minimum	0.17%	1.29%
Maximum	113.87%	106.51%

Table 3**Event study results for all firms as well as product and geographic swaps**

This table shows the cumulative mean percentage excess returns for the whole sample of swaps, and for sub-samples of product and geographic asset swaps. Cumulative mean excess returns are obtained from market model prediction errors. Z-statistics for the mean and percentage of positive excess returns are given in parentheses. A sign rank test is employed to test for the significance of median excess returns. The last column provides the difference in mean and median excess returns. The difference in means and medians are tested using a t-test and a median test, respectively. N is the sample size.

Interval	All asset swaps N = 179	Geographic swaps N = 137	Product swaps N = 42	Difference
(-1,-1)				
Mean	0.06	0.26	-0.63	0.89 **
Median	-0.09	0.03	-0.41	0.44
(z, % positive)	(-0.772, 49%)	(0.004, 52%)	(-1.597, 38%)	
(0,0)				
Mean	0.83 *	0.75	1.10 **	-0.35
Median	-0.05	-0.19	0.50 **	-0.69 **
(z, % positive)	(1.759, 48%)	(0.614, 45%)	(2.515, 60%)	
(-1,0)				
Mean	0.89	1.02	0.47	0.55
Median	-0.01	-0.06	0.18	-0.24
(z, % positive)	(0.698, 50%)	(0.437, 49%)	(0.649, 52%)	
(-1,1)				
Mean	0.79	0.83	0.68	0.15
Median	-0.10 **	-0.10	-0.16	0.06
(z, % positive)	(0.454, 47%)	(0.059, 47%)	(0.827, 48%)	

*, **, *** denote significance at the 10%, 5%, and 1% levels, respectively.

Table 4**Event study results for liquidity and information swaps**

This table shows the cumulative mean percentage excess returns for sub-samples of asset swaps formed on the basis of whether cash is received by the firm, and whether the value of the transaction is indicated or disclosed. Cumulative mean excess returns are obtained from market model prediction errors. Z-statistics for the mean and percentage of positive excess returns are given in parentheses. A sign rank test is employed to test for the significance of median excess returns. The last column provides the difference in mean and median excess returns. The difference in means and medians are tested using a t-test and a median test respectively. N is the sample size.

Interval	Panel A			Panel B		
	Cash received by firm			Value of transaction indicated/disclosed		
	Yes	No	Difference	Yes	No	Difference
	N = 28	N = 151		N = 45	N = 134	
(-1,-1)						
Mean	-0.14	0.09	-0.23	0.83	-0.21	1.04
Median	0.27	-0.09	0.36	0.38	-0.16	0.54
(z, % positive)	(-0.412, 54%)	(-0.664, 48%)		(1.059, 53%)	(-1.506, 47%)	
(0,0)						
Mean	0.73	0.85	-0.12	2.73 ***	0.20	2.53
Median	-0.08	-0.05	-0.03	0.22 *	-0.12	0.34
(z, % positive)	(1.572, 50%)	(1.239, 48%)		(2.847, 53%)	(0.386, 46%)	
(-1,0)						
Mean	0.59	0.94	-0.35	3.56 ***	-0.01	3.57 *
Median	0.16	-0.02	0.18	0.68 **	-0.19	0.87 **
(z, % positive)	(0.821, 54%)	(0.407, 49%)		(2.762, 64%)	(-0.792, 45%)	
(-1,1)						
Mean	-1.04	1.13	-2.17	3.45 **	-0.10	3.55 *
Median	-0.98	-0.07	-0.91	0.80	-0.37	1.17 **
(z, % positive)	(-0.609, 46%)	(0.756, 48%)		(2.097, 60%)	(-0.690, 43%)	

*, **, *** denote significance at the 10%, 5%, and 1% levels respectively.

Table 5**Regression analysis**

This table shows the results for the regression of excess return on transaction characteristics. $CAR_i = \alpha + \beta_1 Cash\ received_i + \beta_2 Information_i + \beta_3 Product\ swap_i + Controls_i + \varepsilon_i$. CAR_i is the cumulative abnormal return for firm i for the intervals (-1,-1), (0,0), (-1,0), and (-1,1). p-values are given in parentheses below the coefficient estimates.

Interval	(-1,-1)	(0,0)	(-1,0)	(-1,1)
Regression	1	2	3	4
Sample size	126	126	126	126
Intercept	0.0281 (0.1633)	0.0752 * (0.0823)	0.1033 * (0.0619)	0.0817 (0.1198)
Cash received	0.0014 (0.8455)	-0.0120 (0.4339)	-0.0106 (0.5879)	-0.0260 (0.1629)
Product swap	-0.0031 (0.6450)	0.0049 (0.7300)	0.0019 (0.9190)	0.0072 (0.6787)
Information	0.0121 ** (0.0368)	0.0200 (0.1065)	0.0321 ** (0.0430)	0.0350 ** (0.0207)
Debt ratio	0.0085 (0.4888)	0.0212 (0.4219)	0.0298 (0.3780)	0.0346 (0.2819)
Log market cap	-0.0023 * (0.0742)	-0.0056 ** (0.0418)	-0.0079 ** (0.0250)	-0.0066 ** (0.0491)
ROE	-0.0084 *** (0.0000)	-0.0116 *** (0.0009)	-0.0200 *** (0.0000)	-0.0196 *** (0.0000)
Adjusted R-squared	0.2700	0.1598	0.2462	0.2617
p-value for F-test	0.0000	0.0001	0.0000	0.0000

*, **, *** denote significance at the 10%, 5% and 1% levels, respectively.