

Shareholder Wealth Effects of Corporate Spinoffs

The Worldwide Experience 1990-1998

by

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Abstract

This paper examines the effect of the initial spinoff announcement on shareholder wealth by means of an ex ante study. The event study is based on a sample of 210 worldwide spinoff announcements in the period 1990 to 1998. A Positive return of 2.6 % (3-day Cumulative abnormal return) is reported, consistent with previous studies. The results are compared across geographic regions and between completed and pending spinoffs. Moreover, evidence is provided for improved focus, the tax-status of the transaction and relative size of the spinoff as predictors for the wealth gain from spinoffs.

Key words: Restructuring, Ownership Relationships, Spinoffs, Asynergy, Mergers and Acquisitions

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Abstract

This paper examines the effect of the initial spinoff announcement on shareholder wealth by means of an ex ante study. The event study is based on a sample of 210 worldwide spinoff announcements in the period 1990 to 1998. A Positive return of 2.6 % (3-day Cumulative abnormal return) is reported, consistent with previous studies. The results are compared across geographic regions and between completed and pending spinoffs. Moreover, evidence is provided for improved focus, the tax-status of the transaction and relative size of the spinoff as predictors for the wealth gain from spinoffs.

Introduction

This paper examines the capital market reaction to corporate spinoff announcements. A spinoff transaction divides the assets and liabilities of a company into two parts. It is a demerger. The restructuring involves a pro rata distribution of shares of the newly formed corporate entity to shareholders of the original company. Shareholders become owners of two separate companies; the original company that is maintained and the spinoff entity.

An examination of 210 spinoffs announced in the period 1990 to 1998 reveals evidence of a positive share price reaction to restructuring by means of a spinoff. There are a variety of possible explanations for the wealth gain from spinoffs. Prior empirical research has sought to provide evidence for the sources of this gain. Empirical research on spinoffs in the form of ex-ante studies include Schipper and Smith (1983), Hite and

Owers (1983), Miles and Rosenfeld (1983), Rosenfeld (1984), Copeland, Lemgruber and Mayers (1987), Kudla and McInish (1988), Cusatis, Miles and Woolridge (1993), Seward and Walsh (1996), and Krishnaswami and Subramaniam (1999). The event studies are consistent in the conclusion of a positive shareholder response to the announcement of a spinoff transaction. Yet, they differ in empirical evidence provided to explicate the sources of the wealth gain from spinoffs. This paper provides a synthesis of the theories and evidence from prior event studies on corporate spinoffs. Moreover, evidence is provided for improved focus, the tax-status of the transaction and relative size of the spinoff as predictors for the wealth gain from spinoffs.

Other empirical research on corporate spinoffs in the form of ex-post studies, case studies or descriptive analyses include Aron (1991), Dittmar (1999), Woo, Willard and Daellenbach (1992), Daley, Mehrotra and Sivakumar (1997), Khan and Mehta (1996), Parrino (1997), Slovin, Sushka and Ferraro (1995), Vijh (1994), Wruck and Wruck (1999), and Desai and Jain (1999).

The paper is organized into four Sections as follows. Section 1 introduces the aforementioned prior research and describes the data and methodology used in this event study of worldwide spinoffs in the 1990s. Next, empirical results are shown in Section 2. Based on prior event studies, section 3 presents a synthesis of theories and empirical evidence of the sources of the wealth effects from spinoffs. In section 4, the effect and causal relation of the variable improved focus is examined by means of regression, taking

into account the control variables relative size, tax status and legal origin. Section 5 concludes the paper with a summary and interpretation of the findings.

1. Data and methodology

1.1. Background

Event studies on corporate spinoffs vary in methodology and explanatory variables for the gain in shareholder value. Nonetheless, empirical studies have been consistent in reporting positive abnormal returns for spinoff announcements. Parameters used for measuring abnormal returns are the mean adjusted returns, market adjusted returns and market-model returns. Table 1 shows synopses of prior event studies.

*** Insert Table 1 about here ***

There is an American bias in prior research. The samples of the various studies are mostly based on spinoffs by companies listed on the New York Stock Exchange and the American Stock Exchange. In addition, most of the event studies are based on spinoffs in the period 1963 to 1981. The latest studies are by Seward and Walsh (1996), Cusatis, Miles and Woolridge (1993), and Krishnaswami and Subramaniam (1999) who examine spinoffs up till 1987, 1988, and 1993 respectively.

The event study presented in this paper extends on prior research in two ways. Firstly, by examining worldwide spinoff announcements, and secondly, the period of analysis is from 1990 to 1998. Therefore, this study verifies the results from earlier event

studies, both on a global scale and for spinoffs in the 1990s. This paper also provides a summary and overview of the sources of the wealth gain from spinoffs, based on previous event studies. Finally, the study examines the causal effect of the variable improved focus on CAR, by using the firm's total diversification entropy index as proxy. The regression analysis is controlled for the effects of the variables relative size, tax status and legal origin.

1.2. Data

The research is based on a sample of corporate spinoffs announced in the period 1990 to 1998. The data are analyzed by means of an ex ante study using the event study methodology developed by Fama *et al.* (1969). The purpose of the research is to examine if the market reaction to the announcement of a spinoff is positive. The initial public announcement of the spinoff is taken as the 'event', of which the market reaction is examined in terms of security prices.

An initial sample of 336 corporate spinoff announcements was obtained from IFR Securities Data Corporation. The initial sample was reduced to a sample of 210 spinoffs, a large enough sample base for a reliable measurement of the announcement effect of a spinoff. Non-inclusion of spinoffs from the initial sample was due to:

- Filtering for involuntary spinoffs.
- Filtering of initial sample for spinoffs by trusts and funds (investment trusts and royalty trusts spinoffs are taxed as ordinary income).
- Double records in the database (due to a change in name of the spun off subsidiary).
- Non-inclusion because equity prices were not available from Datastream.

- Filtering for securities with unaltered stock prices throughout the entire period (day -261 through day +261).
- Filtering for spinoff announcements that coincide with another concurrent announcement.

The base date for the event of analysis is the announcement date of the spinoff, day 0. Daily stock prices were retrieved from the Datastream database. The daily stock prices represent the closing prices of the respective share. The share prices were corrected for cash dividends, stock-splits and stock-dividends. The correction of cash dividends is done by the purchase of the respective share on the day the dividend is paid out. For the same period, the overall market returns of the country where the demerging corporation is traded were also retrieved from the Datastream database. The overall market return is an index of the value-weighted aggregate of the respective country financial markets.¹

1.3. *Method of analysis*

Since the aim of the research is to examine ‘abnormal’ rates of return that can be attributed to the event of a spinoff announcement, it is necessary to isolate the daily returns from deviations in the security price that are considered ‘normal’. There are several methods for calculating abnormal returns, such as the mean-adjusted, market-adjusted and market-model approach. The most common method for measuring excess returns in event studies is the market-model approach. In this study market model-returns are reported.² The choice for the market-model approach is because the model takes into account both the past performance of the security and the sensitivity to market changes in the measurement of excess returns.

Using the market-model approach, the excess (abnormal) returns of an individual security is defined as:

$$A_{i,t} = R_{i,t} - \alpha_i - \beta_i R_{m,t} \quad (1)$$

where

$A_{i,t}$ = abnormal return of security i on day t

$R_{i,t}$ = raw returns of security i on day t

α_i = market model intercept, estimated by ordinary least squares regression

β_i = slope, estimated by ordinary least squares regression

$R_{m,t}$ = raw return of the respective market index on day t

Market-model intercept (α) and slope (β) are estimated by ordinary least squares regression over the period from day -240 through day -40 . The estimated intercept and slope coefficients are used to determine the abnormal return for each security during the analysis period. These abnormal returns are averaged for the sample and the level of significance is determined by a two-tailed t-test.

2. Empirical results

Empirical results are presented in this section as follows. Accumulated market-model returns of the sample (comprising of 210 spinoff announcements) over several selected time intervals is reported in Section 2.1. Next, results of geographical subsamples and completed/pending subsamples are reported in grid form in Section 2.2. In Section 2.3, graphical presentation are displayed of the cumulative abnormal returns as well as their corresponding t-values over a period of 30 days before the announcement to 30 days thereafter. Finally the difference between the means of the various subsamples are analyzed by means of a two-way analysis of variance in Section 2.4.

2.1. Daily market-model results

Table 2 reports market-model returns accumulated over several selected time intervals. A positive return of 1.76 percent is reported on the announcement day, at a significance level of 0.01. Significant cumulative abnormal returns are also reported for the intervals: -1 to 0; 0 to +1; -1 to +1 and -5 to +5. The highest abnormal returns (2.54 percent) are reported in the interval day -1 to +1. The positive returns for the intervals surrounding the announcement date shows that the capital market reaction to the announcement of a spinoff is generally favorable.

*** Insert Table 2 about here ***

2.2. Empirical results of subsamples.

Subsamples were developed from the sample. Firstly, the distribution according to legal market characteristics provide two subsamples. La Porta, Lopez-De-Silanes, Shleifer, and Vishny (1997) examine the legal determinants of external finance in a sample of 49 countries. Their study reveals that the legal environment matters for the size and extent of a country's capital market.

In this study we use the classification of countries by legal origin. Table 3 shows the geographical distribution of the sample of 210 spinoffs used in the research. The total sample is broken down into two categories: English legal origin and other legal origin (including French, German and Scandinavian origin).³ The majority of the sample comprises of spinoffs in the United States (117 spinoffs). In Europe, spinoffs have been

most commonplace in the United Kingdom (32 spinoffs). The sample is biased to spinoffs in Anglo-Saxon markets (176 spinoffs compared to 34 spinoffs in markets with other legal origin) due to the frequency of this form of divestitures in these markets. Overall, the developed sample is diverse, representing spinoffs in various nations.

*** Insert Table 3 about here ***

The other subsamples were developed based on the completed or pending status of the announced spinoff. Copeland, Lemgruber and Mayers (1987) provide evidence that completed spinoffs report higher returns than those of a larger sample comprising of both completed and non-completed announcements. They argue that the sample of completed spinoffs is biased in the manner that only successfully completed spinoffs are included. Lower results were reported for the larger sample that evades this post-selection bias. The sample used in this research is not partitioned into completed and non-completed, rather the subsamples were developed into completed and pending spinoffs.⁴ The subsample of pending spinoffs includes both non-completed spinoffs and spinoffs still to be completed.

The subsample of completed spinoff announcement amounts to 128. The subsample of pending spinoffs amounts to 82 spinoff announcements. For the sample of completed spinoffs, the average time for the spinoff transaction to be completed following the initial announcement is 110 financial trading days.⁵

Table 4 displays cumulative abnormal returns (3-day interval from day -1 to day +1) in grid form of the geographical subsamples and completed versus pending

subsamples. A two-tailed t-test is employed to measure the level of significance to test whether the reported CAR is significantly different from zero at a 1, 5 or 10 % level.

*** Insert Table 4 about here ***

Spinoffs completed in countries with an English legal origin provide the highest cumulative abnormal returns (3.57 %). The positive wealth gain from spinoffs is only evident in spinoffs that are announced in countries with English legal origin. Although the cumulative abnormal returns in countries with other legal origin are slightly positive, the figures are not significant at the 0.1 level. Possible explanations for spinoffs in countries of English legal origin to provide better returns are: financial markets in those countries are more favorable to this form of restructuring; tax-exemption of spinoff transactions is more commonly granted in countries of English legal origin.⁶

Higher cumulative abnormal returns are reported for the subsample of 128 completed spinoffs than for the entire sample, comprising of 210 completed and pending spinoff announcements. Hence, announced spinoffs that are successfully completed provide better returns around the announcement date. Other evidence supporting this argument is provided by examining the percentage positive of the two sub-samples. For the 3-day interval the percentage positive is greater for the sample comprising of completed spinoffs (68 %), with a post-selection bias, than for the entire sample (59 %). This supports the argument posed by Copeland, Lemgruber and Mayers (1987) that successful completion contributes to the wealth gain at the announcement of a corporate spinoff. The study of Copeland, Lemgruber and Mayers (1987) suggest that empirical

studies have underestimated the wealth effect of a completed spinoff, eminent by the following:

“Although the first announcement return is an unbiased estimate of the effect of a spinoff announcement on shareholders’ wealth, it is not a good estimate of the effect of a completed spinoff, because not all spinoffs are completed. Hence, earlier studies have underestimated the wealth effect of a completed spinoff.”⁷

Two possible explanations for completed spinoffs having higher abnormal returns than pending or non-completed spinoffs are:

- Company reputation - Some companies have a reputation for changing strategies and not following up announced events. Shareholders are familiar with these companies and consequently discount the respective announced event.
- Information flow from shareholders to management – When the price of the security drops in comparison to the market after the announcement, management regards this as an information flow from shareholders concerning the announced strategy. Acting in the shareholders’ interest, management does not follow through the announced event and looks for an alternative to the proposed restructuring. Hence, when the announcement effect of a spinoff is negative or lower than expected, management is more apt to abolish the proposed spinoff.

2.3. Graphical representations

Graphical representations of the cumulative abnormal returns (day –30 through day +30) are displayed in Fig. 1. The figures portray the results of the 128 completed

spinoffs to that of the entire sample, comprising of 210 spinoffs. Both CAR curves have a sharp increase on the announcement day. Yet, the announcement effect on day 0 is higher for completed spinoffs than for the entire sample.

*** Insert Figure 1 about here ***

Similar graphical representations of CAR are displayed for the geographical subsamples in Fig. 2. The sharp increase at the announcement day is especially evident for the subsample of spinoffs in markets with an English legal origin. The announcement effect on day 0 is not evident for spinoffs in non-Anglo-Saxon markets. Yet, the long-term announcement effect is higher. The accumulated return over the 61-day period rises above 5 % for spinoffs in Europe and the rest of the world. Additionally, the CAR curve of spinoffs in Non-Anglo-Saxon markets tends to show an increase before the announcement of the spinoff. This could be an indication of some information leakage to financial markets prior to the announcement.

*** Insert Figure 2 about here ***

2.4. *Two-way analysis of variance*

To analyze the differences between the means of the developed subsamples, a two-way analysis of variance is performed using the 3-day CAR as dependent variable and **origin** and **completion** as factors. The factor completion either takes the ordinal values of *yes or no*, signifying the completion or pending of the spinoff. The factor origin comprises of two ordinal categories according to the legal origin of the country (*English*

legal origin and *other legal origin*). The analysis of variance tests the hypothesis whether there is no difference in the reported CAR among the legal origin and among completed or pending spinoffs. The common interaction effect of both factors is also tested for.

*** Insert Table 5 about here ***

The results of the two-way analysis of variance according to the hierarchical method are reported in Table 5. The interaction effect of factor origin and completion is statistically insignificant ($p = 0.871$), i.e., little or no interaction among the factors exists. Hence, mean returns for the regions are equal for completed spinoffs and pending spinoffs. The main effects of the separate independent variables portray results that the influence of the factor completion is very significant ($p = 0.015$), while that of the variable origin is moderately significant ($p = 0.085$). This infers that completed spinoffs provide higher cumulative abnormal returns than those not completed or pending, which is in accordance with the empirical findings in the previous sections.

3. Sources of wealth gain from spinoff transaction

The event study reveals positive abnormal returns at the announcement of corporate spinoffs. Hence, it provides evidence that generally the market response to the announcement of spinoffs is favorable. The sources of the gains in shareholder wealth can be explained by a combination of factors. This section documents an interpretation of this positive abnormal return, as well as the explanatory variables that influence the gain in shareholder wealth.

The approach may be characterized as a synthesizing effort. It provides a synthesis of the state of the art on corporate spinoffs and integrates the empirically verified data. Prior event studies on corporate spinoffs provide several hypotheses and explanations. To promote the accumulation of knowledge, prior event studies are described in Section 3.1. The various hypotheses and explanations are used to come to an integral portrayal of what constitutes the share price movement at the announcement of a corporate spinoff. Section 3.2. provides a synthesized framework explicating the sources of the wealth gain from spinoffs.

3.1. Prior empirical research

The study of Schipper and Smith (1983) evaluates sources of contractual revisions that can occur from a spinoff transaction. Three contractual revisions are examined:

1. Contract between bondholders and stockholders – the expropriation hypothesis of Galai and Masulis (1976) claiming that abnormal returns are associated with the wealth transfer from bondholders to shareholders.
2. Contract between shareholders and regulators - alteration of contract with regulators (e.g., Internal Revenue Service, labor unions or rate regulators) may relax regulatory and tax constraints to the benefit of the shareholders.
3. Contract between managers and shareholders – by reducing the number and diversity of transactions organized within a firm can improve managers' productivity and resource allocation.

The study provides evidence suggesting the gain arises from tax and regulatory advantages and/or improved managerial efficiency. No evidence is found supporting the expropriation hypothesis.

Comparably, the study of Hite and Owers (1983) tests for the expropriation hypothesis and found no evidence supporting the claim that abnormal returns are associated with the wealth transfer from bondholders to shareholders. Parrino (1996) finds evidence of the expropriation hypothesis in the case of the Marriott spinoff completed in 1992. There are individual cases where the wealth transfer from bondholders to shareholders has occurred. However, the expropriation hypothesis is not substantiated as source of the abnormal returns at the announcement of a spinoff, because the wealth transfer is commonly restricted by effective covenants in the bond indenture.

As alternative explanation Hite and Owers (1983) claim an increased-contracting efficiency hypothesis, suggesting that positive shareholder returns arises from the gains from separate, specialized sets of contracts tailored to the specific units. Excess returns are examined by means of subsamples partitioned according to the rationale of the spinoff. The strongest positive gains are reported for firms engaging in spinoffs to facilitate mergers.

While none of the two studies prove the hypothesized wealth transfer from bondholders to shareholders, they do contribute an important explication to the abnormal returns at the announcement of spinoffs. Both studies test for relative size of the spinoff

entity to the parent and found a positive correlation with abnormal returns. Subsequent event studies acknowledge this factor by controlling for relative size in their analysis.⁸

Miles and Rosenfeld (1983) provide several explanations as to the sources of the wealth gain, yet they do not discriminate among the hypotheses. They identify several reasons for spinoffs such as the elimination of negative synergies and improved flexibility for the investors in their choice of dividends versus capital gains. Other reasons advanced by the authors were in respect to the agency theory. Besides the expropriation hypothesis proposed by Galai and Masulis (1976), the authors name the argument by Myers (1977) that firms with risky debt might reject positive net present value investments, since some of the benefits of investment could accrue to existing bondholders leaving shareholders with less wealth. The authors suggest that a spinoff announcement might increase firm value by the attractive investment opportunities previously rejected that are more apt to be undertaken following the restructuring.

The empirical research by Miles and Rosenfeld (1983) reveals a positive impact on shareholder wealth for voluntary spinoffs, opposed to negative impact for involuntary spinoffs. Rosenfeld (1984) extends on the study by Miles and Rosenfeld (1983) by the comparison of spinoffs to sell-offs. The study reports positive wealth effects for both spinoffs and sell-offs, though a comparison of the two indicates a stronger positive effect for spinoffs.

Copeland, Lemgruber and Mayers (1987) propose the anergy hypothesis. This hypothesis suggests that the value of the separated parts of a firm will be greater than the

whole because of improved managerial incentives when division managers are on their own, or because the market evaluation of the separated firms is facilitated. In the event study they test for successful completion and successive announcements. Ex-date effects and successive announcements both accrue positive abnormal returns. The study examines two samples, one with a post-selection bias and a larger sample with no such bias. For the smaller sample higher returns are reported than for the sample with no post-selection bias.

The larger sample having no post-selection bias is partitioned by tax status. A negative relation is found to the tax status of a spinoff transaction. However by using a tax status dummy variable in the multiple linear regression and controlling for relative size, the tax effect vanishes. Accounting for this the authors state that taxable spinoffs tend to be small spinoffs. Regarding U.S. tax regulation the relation between the two variables is logical, and multicollinearity between the relative size and tax status is probable.

Kudla and McInish (1988) test Miller's hypothesis. Miller (1977) argues that the wealth gain of spinoffs is because of the divergence of opinion between owners and non-owners about the values of the parent and spinoff firms. The authors hypothesize that the greater the divergence of opinion, the greater the dollar value of trading. As proxy they use the post- versus pre- spinoff dollar value of trading. The regression controlled for relative size indicates a positive relation with abnormal returns, supporting Miller's hypothesis.

According to Cusatis, Miles and Woolridge (1993) the value-creating potential of spinoffs are inherent in organizational changes resulting in a reduction in agency and overhead costs, a sharpened focus, market as opposed to administrative capital allocation of management, and more effective incentives and compensation of management. Additionally, they argue that the value-creating potential can be induced by corporate control activity. By facilitating the transfer of the assets of either the parent or the subsidiary to higher-value uses, the spinoff transaction may create value. In essence by means of the transaction, pure play and improved corporate transparency are making the resulting companies more favorable for potential bidders.

The latter value-enhancing prophecy of the spinoff transaction is examined in their event study. Take-over activity for a 3-year period following the spinoff transaction of the sample of spinoffs is observed and compared to that of a control group. An unusually high incidence of take-over activity for both the spinoff entity and the parent are reported. The authors conclude that spinoffs provide superior long-term returns to investors, though the long-term abnormal performance is limited to firms involved in takeover activity.

Seward and Walsh (1996) examine post-restructuring internal control practices in their sample of voluntary corporate spinoffs, specifically the selection and compensation of the CEO and the staffing of the new company's board of directors. The authors pose several hypotheses signifying improved internal governance and control practices:

- The CEO of the spun-off company will be an insider from the formerly combined company.

- The compensation plan of the CEO will include stock options
- The majority of the CEO's income will be in the form of performance-contingent compensation.
- Insider directors will comprise a minority of the directors on the spun-off company's board of directors.
- Executive outside directors will comprise a majority of the members on the spun-off company's compensation committee.

By means of regression the study supports evidence for all the above hypotheses, though no support was found for the last four hypotheses posed by Seward and Walsh (1996) as explanation of the abnormal returns. For the first hypothesis, concerning the CEO identity, a positive relation was reported to the abnormal returns at the announcement. This means that the market reaction was more positive in the case of an insider being appointed as CEO of the spun-off entity.

Krishnaswami and Subramaniam (1999) center their research on the information hypothesis, proposing that a spinoff enhance value because it mitigates information asymmetry about the firm. They find that firms engaging in spinoffs have higher levels of information asymmetry compared to their industry and size matched counterparts and that the information problems are significantly reduced after the restructuring.

3.2. *Synthesis*

The methodologies researchers applied in the respective event studies are diverse and interpolations are required in a synthesis to come to an integral portrayal of what

constitutes the wealth gain from spinoffs. Table 6 presents the main hypothesis and key findings from prior empirical research.⁹

*** Insert Table 6 about here ***

The explanatory variables empirically verified in prior event studies can be assorted into two categories. There are control variables, inherent in the transaction itself, and asynergetic variables¹⁰, those associated with the rationale for the spinoff. The explanatory variables with an evidenced causal effect on cumulative abnormal returns are integrated into the framework in Fig. 3. It is these variables that explicate the sources in wealth gain of spinoffs.

*** Insert Figure 3 about here ***

Firstly, there are explanatory variables with causal relations to the wealth gain, which relate to the rationale and motives for demerging. These variables are either of influence to the performance of the firm or to the attractiveness of the respective shares. These are named **asynergetic variables**, i.e., asynergetic benefits accrued by companies working apart. Asynergetic variables include pure play to facilitate merger activity and to improve market evaluation, focus, tax / regulatory advantages, and improved internal governance structure.

Secondly, there are **control variables**, which are variables inherent in the transaction itself. In testing the causal relations of the asynergetic variables on CAR, the

effects on returns of these variables need to be controlled for (hence the naming control variable). The control variables and their effect have been empirically verified in prior research, and are customarily adopted by researchers when testing for the effect of one or more independent variables. The control variables are inherent characteristics of the transaction itself. Control variables include voluntary versus involuntary transaction, tax status of the transaction, successful completion of the transaction, and relative size of the spinoff to the parent.

4. Regression model

Hite and Owers (1983) categorize spinoffs by rationale given. ‘Specialization’ or ‘focus’ is the foremost rationale given for corporate demergers (48 % of the sample). Similarly, in a study by the Ashridge Strategic Management Centre of twenty landmark US breakups and ten landmark UK breakups, focus is the most frequently stated reason for a corporate demerger.¹¹ Daley, Mehrotra, and Sivakumar (1997), an ex-post study, find higher value creation around the announcement of cross-industry spinoffs than own-industry spinoffs. Hence, focus is expected to be of considerable influence on the excess return of spinoff announcements.

The aim of the regression model is to analyze the asynergetic variable *focus*. Taking the framework (figure 3) as a basis, a cross sectional study is performed using cumulative abnormal returns (CAR) as dependent variable and the explanatory variable focus as independent variable. To examine the effect of focus on CAR, it is necessary to take into account the control variables. The sample is based on completed, voluntary spinoffs. Further, control variables that are included in the analysis are the tax status and size of the

spinoff transaction. Considering that the sample consists of spinoffs in various countries, the legal origin of the country where the spinoff is completed is included as control variable.

4.1. Variables

For the regression model, as dependent variables are the various cumulative abnormal returns in table 2 over selected intervals that were significant at the 0.01 level. The cumulative abnormal return is explained by means of regression as a function of several independent variables:

$$CAR_j = a_0 + a_1 Focus + a_2 Tax + a_3 Size + a_4 Origin + e_j \quad (2)$$

Focus:

Schipper and Smith (1983) and Hite and Owers (1983) have examined *focus* as source of the wealth gain of spinoff transactions. The study of Schipper and Smith (1983) was descriptive in nature; reporting profound dissimilarity of parent and subsidiary. Hite and Owers related the excess returns at the announcement of spinoffs to the rationale given for the spinoffs. Companies were categorized by rationale for the spinoff (merger facilitation, specialization, and legal/regulatory). Highest abnormal returns were reported for the category of demerged companies expressing the aim of ‘specialization’ (i.e., focus). The methodology of Hite and Owers (1983) is disputable; it does not consider companies which did not explicitly state focus as reason for the demerger, yet have improved their focus due to the restructuring. Moreover, a firm may have various reasons for demerging, while in Hite and Owers (1983) companies were categorized by one specific rationale only.

In this study, a different approach is taken for the measurement of focus as source of excess returns. The methodology is based on Markides (1997), who examined refocusing (reduction in diversification) of companies. To measure ‘improved focus’, a measurement of the firm’s diversification before and after the transaction is needed. As proxy for the variable ‘improved focus’, changes in SIC codes are used. For the companies in the sample, SIC codes and sales per industry sector were obtained one year prior to the spinoff transaction and one year thereafter. Two methodologies to measure the extent of diversification that are not subjective are the product count methodology and entropy index of diversification.

The product count method is simple and limited in its use. The method involves the adding of the number of 2-digit SIC groups the company operates in. An industry group is defined as a 2-digit SIC industry and consists of related segments. An industry segment is defined as a 4-digit SIC industry. Industry segments with the same first 2-digits are considered as related. A criticism of the product count method is that it does not take into consideration the relative importance of the segments in the total sales of the firm.

The entropy index provides a solution for this. It takes into account both the number of segments and the relative importance of each segment. The firms’ total related diversification (DR) is calculated as:

$$DR = \sum_{j=1}^M P_j DR_j \quad (3)$$

where P_j is the share of the j th group sales of the total sales and ($j = 1 \dots M$) is the number of industry groups the firm operates in. The related diversification of operating in several segments within one industry group is defined as:

$$DR = \sum_{i=1}^N P_{ij} \log\left(\frac{1}{P_{ij}}\right) \quad (4)$$

where P_{ij} is the share of the segment i of group j in the total sales of the group.

The firm's unrelated diversification (DU) is calculated as:

$$DU = \sum_{j=1}^M P_j \log\left(\frac{1}{P_j}\right) \quad (5)$$

The firm's total diversification is derived from adding the related diversification to the firm's unrelated diversification: $DT = DU + DR$

The variable focus is measured by the percentage change in the firm's total diversification entropy index ($FOCUS$) and is expected to have a positive effect on excess returns.

Tax:

The tax status of a spinoff transaction is expected to have a negative relationship on CAR; taxed spinoffs are expected to provide lower results than tax-exempted spinoffs. A

dichotomy of the tax status is used to measure the variable (*TAX*), where a spinoff takes the value 0 if it is tax-exempted and 1 if it is taxable.

Size:

The size of the spinoff entity relative to the parent company is expected to have a positive effect on CAR; larger spinoffs are expected to provide higher returns than smaller spinoffs. The variable (*SIZE*) is calculated as:

$$SIZE = \frac{n_s P_s}{n_s P_s + n_p P_p} \quad (6)$$

where n_s and n_p are the number of outstanding shares in the spinoff and parent company, respectively. P_s and P_p is respectively the share prices of the spinoff and parent one trading week after the spinoff transaction.

Legal origin:

The legal origin of the market where the spinoff occurred is expected to have a positive effect on cumulative abnormal returns. A dummy variable is used to measure the variable (*ORIGIN*), where a spinoff takes the value 1 if it is from English origin and 0 if it is from other origin than Anglo-Saxon.

Table 7 summarizes the explanatory variables and the expected effect on cumulative abnormal returns.

*** Insert Table 7 about here ***

4.2. Regression results

Results of the regression models with the cumulative abnormal returns over the selected time intervals as dependent variable are shown in table 8. Only the cumulative abnormal returns that are significant to the 0.01 level (see table 2) are included in the regression model. The model analyses the explanatory variable *focus*, taking into account the control variables *tax*, *size*, and *origin*.

*** Insert table 8 about here ***

The asynergetic variable *focus* is a strong predictor of the cumulative abnormal returns. The coefficients of the explanatory variables are as expected; *focus*, *size*, and *origin* have positive effects on excess returns, while *tax* has a negative effect. The CAR interval day – 1 through day +1 provides the best regression results, with an adjusted R² of 0.194.

Table 9 summarizes the causal relations of the explanatory variables to the various selected CAR intervals.

*** Insert table 9 about here ***

5. Summary

An examination of the share price movement of a sample of 210 corporate spinoffs in the 1990s reveal a significant positive abnormal return at the announcement date. The event study evidences a positive capital market reaction for a sample of worldwide spinoffs in the period 1990 to 1998. This verifies results obtained in earlier event studies. A smaller sample of 128 spinoffs with post-selection bias reports higher abnormal returns than that of the larger sample. Hence, evidence is provided supporting that successful completion of the transaction has a positive effect on the wealth gain at the announcement of a spinoff. Further, evidence is provided that spinoffs in countries with English legal origin provide higher results than spinoffs in markets of other legal origin.

To promote the accumulation of knowledge, the hypotheses, explanations and findings of prior event studies are presented and synthesized into an integral framework of what constitutes the wealth gain from spinoffs. The explanatory variables empirically verified in prior research are assorted into control variables and asynergetic variables. Control variables, those inherent in the transaction itself, are: voluntary versus mandatory spinoff transaction, tax-status of the transaction, successful completion of the restructuring, and the relative size of the spinoff entity to the parent. Asynergetic variables, those related to the rationale of spinoffs, include: pure play to facilitate merger activity and to improve market evaluation, focus, tax/regulatory advantages, and improved internal governance structure. The combination of the two categorical variables provide an integral framework of the state of the art on corporate spinoffs as to what constitutes the sources of the wealth gain from spinoffs.

We examined the effect of the most frequently stated asynergetic variable, improved focus. In the regression, we controlled for the relative size of the transaction and the tax-status of the transaction, as well as the legal origin of the country in which the spinoff occurred. A positive relation to CAR was found for the control variable size and origin, while a negative relation was revealed for the tax-status of the transaction. The variable focus is a strong predictor of the cumulative abnormal returns at the announcement of a spinoff. The reduction in degree of diversification by means of a spinoff transaction is positively related to the wealth gain from spinoffs.

Appendix: Table of Interpolations of prior hypothesis and findings

*** Insert Appendix Table about here ***

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Endnotes

¹ The overall market returns of Datastream are based on a selection of top companies based on their market valuation, where 70% of the market capitalization of the country is represented.

² The mean-adjusted and market-adjusted approach offer similar results to those of the market-model approach.

³ We have grouped the markets with French, German and Scandinavian legal origins for two reasons. Firstly, to maintain a representative sub-sample. Secondly, the legal origins of these markets date back to Roman law (their laws are part of the scholar and legislator-made civil law tradition), while that of the Anglo-Saxon markets originates from common law (made by judges and subsequently incorporated into legislature).

⁴ Due to the recentness of the sample, the development of a sub-sample of non-completed spinoff announcements is unwarranted. Some of the non-completed spinoff announcements are pending

and thus still to be completed. The only distinctive sub-samples that is warranted is that into a completed or pending status.

⁵ 110 trading days is equivalent to approximately five and a half month in effective time.

⁶ Note that in several countries, there is no legislation granting tax-exemption of spinoff transactions. Countries with English legal origin have been more prone to enact such legislation than countries with other legal origin. For example, in The Netherlands, the Dutch tax law did not contain any provisions regarding tax-exemption of spinoff transactions up till April 1998.

⁷ Copeland, T. E., E. F. Lemgruber and D. Mayers (1987) p. 131

⁸ Copeland *et al* (1987) and Kudla and McInish (1988) controlled for relative size in the regression analysis of respectively the tax status of the transaction and the divergence of opinion between owners and non-owners.

⁹ Refer to the appendix for an overall overview of the hypotheses, explanatory variables and proxies of prior event studies.

¹⁰ Asynergy is derived from ancient Greek to denote *working apart*. It is a combination of:

‘a’ - not (Greek preposition)

‘syn’ - together

‘ergon’ - work

It is the antonym of synergy (derived from ancient Greek to denote working together).

Asynergetic benefits signify benefits originated from companies working apart.

¹¹ Sadtler, D., A. Campbell and R. Koch (1997)

Table 1
Synopses of event studies analyzing spin-offs

This table presents prior event studies analyzing spin-off announcements. The basis of the sample, method of analysis and cumulative abnormal return are reported for every event study. The sample size, listing location and period provide essentials of the samples on which the prior event studies are based. The determinations of abnormal returns and event window describe the method of analysis. The CAR and *t*-statistics indicate the results obtained in prior event studies.

| Author(s): | Sample size | Listing location | Determination of abnormal returns | Period | CAR | <i>t</i> -statistics | Event-window |
|---------------------------------------|-------------|------------------------|-----------------------------------|----------------|------------------|----------------------|--------------|
| Schipper and Smith (1983) | 93 | NYSE AMEX | market-model | 1963 – 1981 | 2.8 | 6.61 | days (-1,0) |
| Hite and Owers (1983) | 123 | NYSE AMEX | market-model | 1963 – 1981 | 3.3 | 13.25 | days (-1,0) |
| Miles and Rosenfeld (1983) | 55 | NYSE AMEX | mean-adjusted | 1963 – 1980 | 3.3 | 6.55 | days (0,1) |
| Rosenfeld (1984) | 35 | NYSE AMEX | mean-adjusted | 1963 – 1981 | 5.5 | 8.42 | days (-1,0) |
| Copeland, Lemgruber and Mayers (1987) | 188 | NYSE AMEX OTC | market-model and mean-adjusted | 1962 – 1981 | 3.0 ¹ | 5.33 | days (-1,0) |
| Kudla and McInish (1988) | 39 | NYSE AMEX | market-model | 1972 – 1981 | 3.3 | 1.81 | weeks (-1,0) |
| Cusatis, Miles and Woolridge (1993) | 146 | NYSE AMEX OTC | matched-firm and market-adjusted | 1965 – 1988 | 2.1 ² | 1.71 | days (-1,0) |
| Seward and Walsh (1996) | 78 | NYSE AMEX | market-model | 1972 – 1987 | 2.6 | 8.50 | days (-1,0) |
| Krishnaswami and Subramaniam | 118 | NYSE AMEX NASDAQ | market-model | 1978 – 1993 | 3.2 | 5.62 | day (-1,0) |

Notes:

1. CAR = Cumulative abnormal returns (in percentage) using the market model approach, unless stated otherwise
2. days (-1,0) signify a two-day return window from day -1 through day 0.

¹ reported result of the market-model approach

² reported result of the market-adjusted approach

Table 2
Market-model returns

Table 2 shows the cumulative abnormal returns of a sample of 210 worldwide spin-off announcements between 1990 and 1998. Day 0 is the event date, i.e., the initial announcement date of corporate spin-offs in the sample. Results are shown for selected intervals surrounding the event date. Cumulative abnormal returns are computed by means of the market-model approach, which adjusts raw returns (unadjusted returns) for the past performance of the shares and sensitivity to market changes. A two-tailed t-test is used to test the statistical significance.

| Interval | CAR | <i>t</i> -statistics | Median % | Percentage positive |
|--------------|-------|----------------------|----------|---------------------|
| - 30 to - 6 | 1.44 | 1.445 | 0.29 | 50 |
| - 5 to - 1 | 0.32 | 0.713 | -0.09 | 50 |
| - 1 to 0 | 2.15 | 7.635*** | 0.88 | 65 |
| 0 | 1.76 | 8.823*** | 0.68 | 66 |
| 0 to +1 | 2.14 | 7.606*** | 0.81 | 67 |
| -1 to + 1 | 2.54 | 7.350*** | 1.39 | 63 |
| + 1 to + 5 | -0.19 | -0.435 | -0.23 | 46 |
| - 5 to + 5 | 1.88 | 2.848*** | 1.62 | 63 |
| + 6 to + 30 | -0.44 | 0.444 | -1.00 | 46 |
| - 30 to + 30 | 2.88 | 1.850* | 1.00 | 54 |

* significant at the 10 % level

** significant at the 5 % level

*** significant at the 1 % level

Table 3
Geographical distribution

This table shows the geographical distribution of the sample of 210 spin-offs used in the empirical research. The total sample is broken down into two categories according to the country's legal origin. The English legal origin is common law, while the other legal origin is Roman law.

| English legal origin | N | Other legal origin | N |
|----------------------|-----|--------------------|----|
| Australia | 5 | Germany | 8 |
| Canada | 8 | Italy | 2 |
| Hong Kong | 4 | Netherlands | 4 |
| Ireland | 4 | Norway | 3 |
| Malaysia | 1 | Portugal | 1 |
| New Zealand | 1 | Spain | 1 |
| Singapore | 1 | Sweden | 9 |
| South Africa | 3 | Switzerland | 6 |
| United Kingdom | 32 | | |
| United States | 117 | | |
| total | 176 | total | 34 |

Notes:

1. N = number of spin-off announcements
2. Other legal origins comprises of French, German and Scandinavian origin.
3. In case of a cross-border demerger, the country appointed is where the original corporation has its principal stock enlisting. For example, in the cross-border demerger of Hanson's spin-off US Industries inc. in 1995, the country indicated is the UK, where Hanson has its principal stock enlisting.

Table 4
3-day CAR of subsamples

Table 4 displays cumulative abnormal returns for the 3-day interval in grid form of the subsamples classified according to the legal origin of the market and completed versus pending subsamples. Pending spin-offs include spin-offs that are never completed or are still to be completed. *CAR* signifies the cumulative abnormal returns using the market-model method of analysis. The number of spin-off announcements in each subsample is indicated by N. Level of statistical significance is computed using t-statistics and indicated in the table by means of asterisks after the reported CAR.

| 3-day | English legal origin | | | Other legal origin | | | Total | | |
|-----------|----------------------|------|-----|--------------------|------|----|---------|------|-----|
| | CAR | t | N | CAR | t | N | CAR | t | N |
| Completed | 3.57*** | 6.47 | 115 | 1.25 | 1.25 | 13 | 3.31*** | 9.31 | 128 |
| Pending | 1.73** | 2.17 | 61 | 0.06 | 0.10 | 21 | 1.33*** | 3.74 | 82 |
| Total | 2.93*** | 6.41 | 176 | 0.46 | 0.88 | 34 | 2.54*** | 7.13 | 210 |

* = 10 % level of significance
 ** = 5 % level of significance
 *** = 1 % level of significance

Table 5
Two-way ANOVA

This table shows the results and descriptive statistics of the analysis of variance of the 3-day interval cumulative abnormal returns (day -1 to +1) by the factors Completion and Origin. The factor COMPLETION either takes the ordinal values of *yes* or *no*, signifying the completed or pending status of the spin-off announcement. The factor ORIGIN comprises two ordinal categories according to the legal origin of the market. (English origin and other origin). The two-way analysis of variance is according to the hierarchical method.

| | | Hierarchical Method* | | | | |
|--------------------|---------------------|----------------------|-----|-------------|-------|------------------|
| | | Sum of Squares | df | Mean Square | F | <i>p</i> – value |
| Main Effects | (Combined) | 292.482 | 2 | 146.241 | 4.525 | 0.012 |
| | Completion | 195.859 | 1 | 195.859 | 6.060 | 0.015 |
| | Origin | 96.623 | 1 | 96.623 | 2.990 | 0.085 |
| 2-Way Interactions | Completion & Origin | 0.857 | 1 | 0.857 | 0.027 | 0.871 |
| Model | | 293.339 | 3 | 97.780 | 3.026 | 0.031 |
| Residual | | 6657.460 | 206 | 32.318 | | |
| Total | | 6950.799 | 209 | 33.257 | | |

* 3-day CAR interval by Completion, Origin

Table 6
Explanatory variables and causal relation to abnormal returns

This table presents the explanatory variables of the sources of the wealth gain at the announcement of corporate spin-offs. It presents the main hypothesis and its expected causal effect on cumulative abnormal returns and key findings from prior empirical research. Explanatory variables are assorted into two categories: those associated with the rationale of spin-offs (asynergetic variables) and those inherent in the spin-off transaction itself (control variables).

| Asynergetic variables: (associated with the rationale of spin-offs) | Expected causal effect on CAR | Evidence of causal effect |
|---|----------------------------------|------------------------------|
| expropriation hypothesis | + | 0 |
| tax / regulatory advantages | + | + |
| improved focus | + | + |
| legal / regulatory constraints | + | 0 |
| improved internal governance and control practices | + | + |
| pure play improving market evaluation | + | + |
| pure play facilitating merger activity | + | + |
| <hr/> | | |
| Control variables: (inherent in the spin-off transaction itself) | | |
| involuntary spin-off | - | - |
| successful completion | + | + |
| taxed transaction | - | - |
| relative size of spin-off to parent | + | + |

Notes: - / 0 / + signifies causal relationship to CAR

Table 7
Summary of explanatory variables in the regression

This table shows the explanatory variables that are examined in the regression model. For each variable the proxy and expected effect is indicated.

| Variable | Proxy | Variable Name | Expected effect |
|------------------------------|-------------------------------------|---------------|-----------------|
| Focus | Entropy index | FOCUS | + |
| Tax-free / taxed transaction | Dichotomy: Tax-exempted / Taxed | TAX | - |
| Size | Relative size of spin-off to parent | SIZE | + |
| Legal origin of market | Dichotomy: English origin / Other | ORIGIN | + |

Table 8
Regression models

Table 8, Panel A, shows the parameter estimates of the regression results of the sample of 128 completed, voluntary spin-offs. The cumulative abnormal returns over selected intervals are taken as the dependent variable. The predictors for the different models are the explanatory variables FOCUS, TAX, SIZE, and ORIGIN. T-statistics are shown in parentheses. Panel B shows the summary statistics of the variables FOCUS and SIZE.

| Panel A: Parameter estimates | | | | | | |
|--|-----------------|----------------------------------|----------------------|----------------------|----------------------|-----------------------|
| Regression variables | Expected effect | Dependent variable: CAR interval | | | | |
| | | -1 to 0 | 0 | 0 to +1 | -1 to +1 | -5 to +5 |
| Constant | | .332 (.172) | -.585 (-351) | -2.485 (-1.286) | -1.561 (-.727) | 3.444 (1.201) |
| Focus | + | 8.135** (2.311) | 2.386 (0.784) | 6.076* (1.720) | 11.602*** (2.955) | 6.203 (1.183) |
| Tax | - | -2.227* (-1.692) | -2.495** (-2.193) | -3.210** (-2.431) | -2.878* (-1.961) | -5.797*** (-2.959) |
| Size | + | 2.092 (0.898) | 2.141 (1.062) | 5.021** (2.147) | 5.015* (1.930) | 3.702 (1.067) |
| Origin | + | 2.717 (1.420) | 3.176* (1.919) | 4.604** (2.398) | 4.117* (1.930) | -0.381 (-0.134) |
| Adjusted R ² | | 0.091 | 0.075 | 0.178 | 0.194 | 0.119 |
| F-value | | 2.700 | 2.369 | 4.677 | 5.081 | 3.295 |
| p-value | | 0.038 | 0.062 | 0.002 | 0.001 | 0.016 |
| Panel B: Summary statistics of variables | | | | | | |
| Variable | Mean | Median | Standard Deviation | | | |
| Focus | .004 | .002 | .164 | | | |
| Size | .274 | .190 | .247 | | | |

* = 10 % level of significance
 ** = 5 % level of significance
 *** = 1 % level of significance

Table 9
Summary of causal relations of explanatory variables to CAR

This table shows the explanatory variables that are examined in the regression model. For each variable the expected effect and evidenced effect on the selected CAR intervals are indicated.

| Variable Name | Expected effect | Dependent variable: CAR interval | | | | |
|------------------|-----------------|----------------------------------|----|---------|----------|----------|
| | | -1 to 0 | 0 | 0 to +1 | -1 to +1 | -5 to +5 |
| FOCUS | + | ++ | 0 | + | ++ | 0 |
| TAX | - | - | -- | -- | - | -- |
| SIZE | + | 0 | 0 | ++ | + | 0 |
| ORIGIN | 0 | 0 | + | ++ | + | 0 |
| regression model | + | ++ | + | ++ | ++ | ++ |

Notes:

- / - / 0 / + / ++ signifies strength and causal relation to CAR
- and + are attributed when the coefficient is significant at the 10 % or better
- and ++ are attributed when the coefficient is significant at the 5 % or better

Appendix table

Interpolations of prior hypothesis and findings

This table shows the interpolations made from prior research that are used in table 6 and figure 3. For each prior event study, the theory and reasoning behind the variables are indicated. For each variable the proxy of the variable used in the respective study is shown. The expected effect and findings are shown in the last two columns.

| Study | Reasoning | variable | measurement or proxy | Interpolation | expected effect | findings |
|--------------------------|---|-------------------------------------|--|---------------------------|-----------------|------------------|
| Schipper & Smith (1983) | Contractual revisions of shareholders with: bondholders / regulators / managers | expropriation hypothesis | bond prices and bond ratings | | + | 0 |
| | | tax/regulatory advantages | # of firms with stated motive | tax/regulatory advantages | + | + |
| | | improved managerial efficiency | growth rate and similarity/dissimilarity of entities | focus | + | + |
| | | relative size of spin-off to parent | transaction value of spin-off | relative size | | + |
| Hite & Owers (1983) | improved existing contracting efficiency | expropriation hypothesis | bonds and preferred stocks returns | | + | 0 |
| | Improved future contracting efficiency Hypothesis | merger facilitation | # of firms with stated motive | merger facilitation | + | + |
| | | separate diverse operating units | # of firms with stated motive | focus | + | + |
| | | legal /regulatory constraints | # of firms with stated motive | | + | +/- ¹ |
| | relative size of spin-off to parent | transaction value of spin-off | relative size | | + | |
| Miles & Rosenfeld (1983) | | voluntary vs. involuntary spin-offs | comparison of abnormal returns | voluntary/ involuntary | | +/- ² |
| Rosenfeld (1984) | | spin-offs vs. sell-offs | comparison of abnormal returns | | | +/ ³ |

¹ announcement effect (day -1 to 0) reveals positive returns, though negative returns are found for the interval day -50 to completion.

² voluntary spin-offs report positive returns while involuntary spin-offs report negative returns

³ both report positive returns, yet spin-offs report higher positive returns

| | | | | | | |
|-------------------------------------|--|---|--|--|---|------------------|
| Copeland, Lemgruber & Mayers (1987) | first announcement underestimate full value of completed spin-off | successive announcements | abnormal returns | successful completion | + | + |
| | | sample without post – selection bias / sample with post selection bias (smaller sample) | comparison of abnormal returns | successful completion | | +/+ ¹ |
| | | Ex-dividend date effect | Abnormal returns | | 0 | + |
| | results from prior studies | relative transaction size | transaction value of spin-off | relative size | + | + |
| | | tax status of transaction | partitioned by tax status | tax status | - | -/0 ² |
| Kudla & McInish (1988) | Miller’s hypothesis | Divergence in opinion between owners and non-owners | post- versus pre-spin-off dollar value of trading | pure play | + | + |
| | results from prior studies | relative transaction size | transaction value of spin-off | Relative Size | + | + |
| Cusatis, Miles & Woolridge (1993) | induced by corporate control activity | take-over activity | comparison take-over activity with control group | merger facilitation | + | + ³ |
| Seward & Walsh (1996) | facilitate the implementation of efficient internal governance and control practices | CEO selection | CEO identity | improved internal governance structure | + | + |
| | | CEO compensation | stock option plans and performance–contingent compensation | | | |
| | | director oversight | composition of board of directors | | | |
| Krishnaswami & Subramaniam (1999) | market valuation is more clearly | information hypothesis | earning forecast errors / dispersion in forecast | pure play | + | + |
| | results from prior research | improved focus | cross-industry SIC dummy and unrelated entropy | focus | + | + |
| | | relative size | transaction value of spin-off | relative size | + | + |
| | | tax-status | partitioned by tax status | tax status | + | + |
| | | merger motive | # of firms with stated motive | merger facilitation | + | 0 |
| | | regulation motive | # of firms with stated motive | tax/regulatory advantages | + | 0 |

Notes: Blanks are left blank intentionally

¹ both report positive returns, yet sample with post-selection bias report higher positive returns

² effect is insignificant if corrected for size

³ both spin-off and parent experience an unusually high incidence of takeovers, and abnormal performance is limited to firms involved in takeover activity

Figure 1
CAR of entire sample and subsample of completed spin-offs

Figure 1 displays the cumulative abnormal return (CAR) for the period day -30 through day 30 relative to the announcement date. Two curves are displayed: the CAR of the subsample of completed spin-offs (128 spin-offs) and the CAR of the entire sample (210 spin-offs), comprising both completed and pending spin-offs.

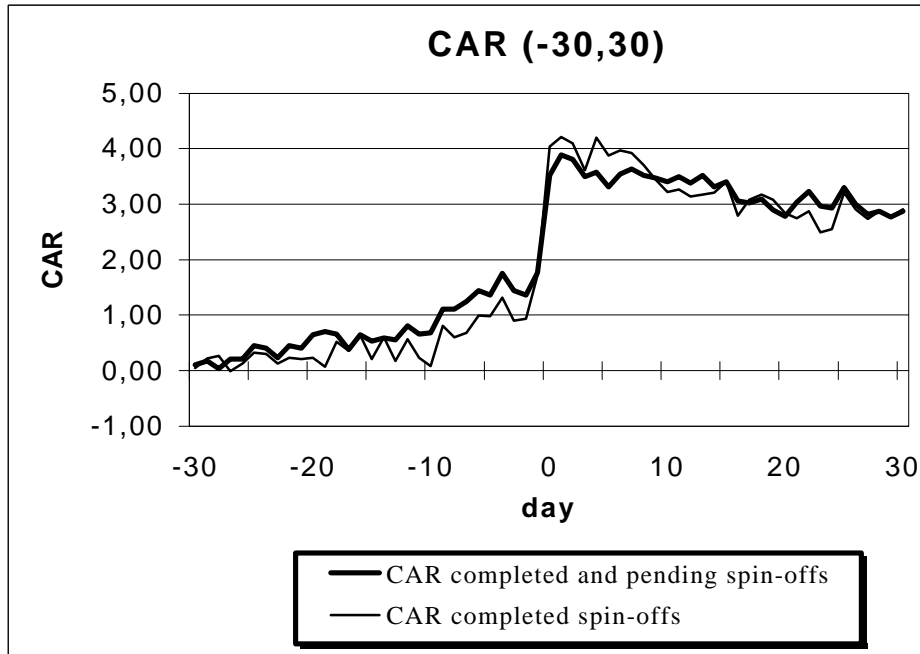


Figure 2
CAR of subsamples according to legal origin of market

Figure 3 displays the cumulative abnormal return (CAR) for the period day -30 through day 30 relative to the announcement date. Two curves are displayed: the CAR of spin-offs in markets with an English legal origin and spin-offs in markets with other legal origins.

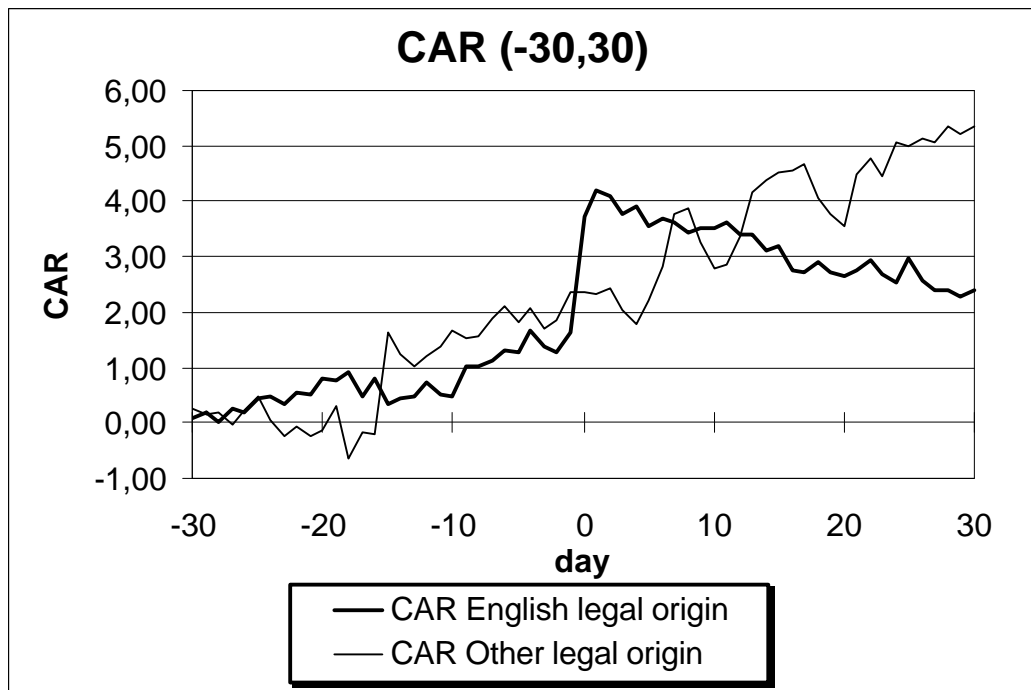
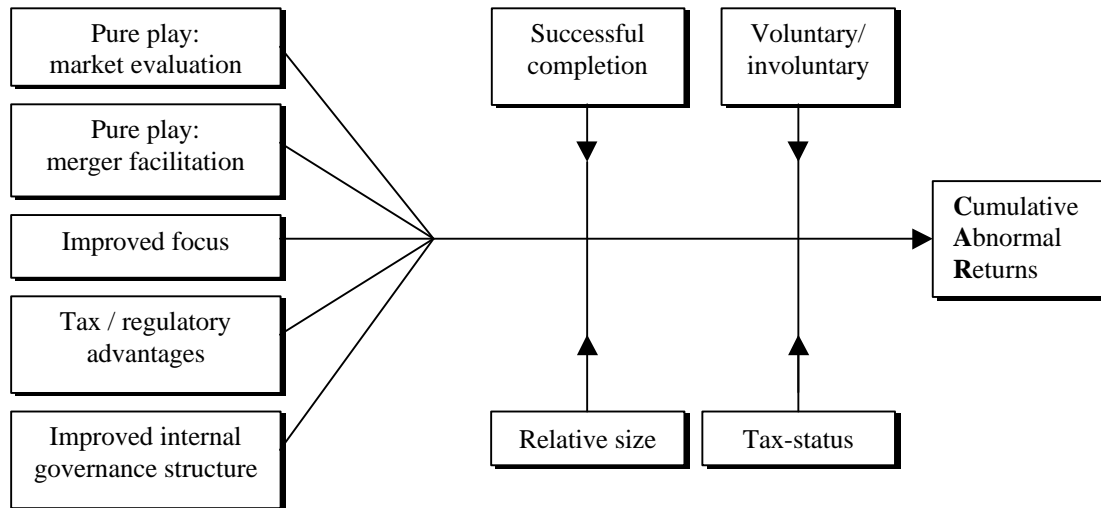


Figure 3
Explanatory variables of abnormal returns at announcement of spin-off

This figure shows explanatory variables of abnormal returns empirically verified in prior event studies. Explanatory variables are assorted into two categories. Control variables are inherent in the transaction itself and are indicated in the figure by arrows. Asynergetic variables¹ (variables on the left side of the figure) are associated to the rationale of the spin-off. Together the control variables and asynergetic variables explain the cumulative abnormal returns, i.e., these variables explicate the sources in wealth gain of corporate spin-off announcements.



Notes:

1. CAR is the wealth gain at the announcement of a spin-off
2. Variables on the left indicate *asynergetic* benefits, i.e., benefits attained when companies work apart
3. Control variables are indicated by the arrows
4. Causal relationship (i.e., negative or positive influence on CAR) of variables are documented in table 6

¹ Asynergy is derived from ancient Greek to denote *working apart*. It is a combination of:

‘a’ - not (Greek preposition)

‘syn’ - together

‘ergon’ - work

It is the antonym of synergy (derived from ancient Greek to denote working together).

Asynergetic benefits signify benefits originated from companies working apart.