

**Spin-offs Revisited:**  
**A Review of a Structural**  
**Pricing Anomaly**

by

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## **Spin-offs Revisited: A Review of a Structural Pricing Anomaly**

### **Introduction**

Few liquid, publicly traded investments provide both superior long-term returns to, and low correlations with the broad stock market. When such paired performance and diversification virtues have been identified, they have attracted substantial investment capital. Tax-free spin-offs have long exhibited such characteristics, and to a degree that appears to be unmatched by traditional equity investments. We believe that this excess return phenomenon, which has been formally documented for over three decades, represents a systematic pricing inefficiency. Ironically, spin-offs have attracted only peripheral attention from institutional and individual investors alike, despite their increasing relevance in recent years (the combined market capitalization of companies in the S&P 500 that effected spin-offs in 1996 exceeded \$200 billion). The reasons include structural impediments to the dissemination of information on spin-off companies, restrictive trading rules imposed on institutional investors and, heretofore, a lack of comprehensive long-term investment return data on spin-offs. This study quantifies for the first time the return characteristics of spin-offs within an index framework designed specifically to be useful to institutional investors. Included in the study are serial annual returns, standard deviation and correlation figures set against standard equity benchmarks. The relative returns of spin-offs were found to be even higher than in previous studies, and the diversification benefits, as measured by the correlation with the S&P 500 Index, were equally dramatic. The latter is perhaps the most salient new information derived from this study.

## **Section I: Background**

A limited body of academic work has been done on the long-term returns of spin-offs. Two notable studies cover a total of 30 years of spin-off activity.<sup>1</sup> The first, by Cusatis, Miles and Woolridge, covered 161 spin-offs over 1965-1990, and was benchmarked against a portfolio of non-spin-off firms of similar industry and size profile. Spin-offs in this study outperformed the control-firm portfolio for rolling 3-year holding periods by 9.97% per year (997 basis points annually). The second study, by Wruck and Wruck, covered 151 spin-offs over 1985-1995, and was benchmarked against the CRSP Equally-Weighted Market Portfolio. Spin-offs in this study outperformed by 8.21% per year (or 821 basis points annually).

The large magnitude and long duration of the excess return measured in these studies strongly supports the thesis that there is a long-term, systematic dynamic at work. However, absent from these studies were the relationships of the quantitative data to standard stock market indices. Further, the holding-period methodology employed did not provide serial annual returns, serially based standard deviation figures, or correlations. It is these latter concepts that form the basis for investment and capital allocation decisions by investment professionals.

The Horizon study, which covers the seven-year period of 1990-1996, is concerned with spin-offs as a *practical* investment alternative for institutional investors. Therefore, aside

from reprising the “holding period” methodology of the earlier studies, the Horizon study also establishes a Spin-off Index so as to measure returns on a portfolio basis. In order to preserve its relevancy, the Spin-off Index has been limited to spin-offs from parent companies with a pre-spin-off market capitalization of \$200 million or more.

## **Section II: Defining the Study Universe**

### **Defining a Spin-Off**

The universe to be examined is that of “pure” spin-offs. These are defined as pro-rata, tax-free distributions to parent corporation shareholders of newly (initially) registered stock of a subsidiary, under Section 355 of the IRS Code.

The term “spin-off” has come to be used rather broadly in the investment community and business press. It is often applied to a variety of transaction types, among which are: initial public offerings of the subsidiaries of publicly traded parents (often the first step of a carve-out); carve-outs, the distribution to shareholders of a parent’s remaining interest in a publicly-traded subsidiary; split-offs, which involve the exchange of parent company stock by the stockholder for shares in a subsidiary; tracking stock, which represents a subsidiary’s claim on its own earnings or operating results, the assets of which, though, continue to be owned by the parent.

The reasons for restricting the definition of spin-offs will become intuitively clear upon reviewing the following basic requirements spin-off companies must satisfy to qualify for (and retain) non-taxable status:

1. Both the parent and subsidiary must have been in active operation for at least 5 years before the distribution.
2. The distribution must be for legitimate business purposes and not a means of distributing profits or of effecting a change in control (i.e., a sale).
3. At least 80% of the subsidiary's shares must be distributed and the parent may not retain effective control of the subsidiary.
4. In connection with point number two, above, the spin-off company may neither repurchase more than 20% of its shares nor, generally, be acquired within two years after the spin-off.

A number of inferences may be drawn from these requirements:

- A spin-off is a free distribution to the shareholder of the parent corporation; it requires no analytical evaluation, election or payment.
- A spin-off represents a relatively complete and immediate separation of a newly independent operating entity. Its independence, from both the parent as well as a potential acquirer, suggests a new-found freedom of strategic and operational policy that may not have existed when it was a wholly-owned subsidiary.

Because this potential for change follows a long-term parent/subsidiary relationship, it may therefore be quite substantive.

- For those less optimistic students of human nature who presume that items of value are not generally parted with freely, it may be hypothesized that the subsidiary may have become a sub-par, marginal or tangential operation. If so, the distribution may actually be a positive event for the parent.
- The newly registered shares are distributed directly by the parent to the shareholder. The distribution therefore requires no consideration, no underwriting or research sponsorship, or subsidized publicity effort.

In contrast, partial public offerings (first-stage carve-outs) are of minority ownership positions, involve an underwriting, often for well-regarded operations which can be monetized publicly at high valuations, and are generally supported by institutional share sponsorship and research coverage. The distribution phase of carve-outs involves stock that has traded in the public market for months or even years. Exchange offers require some degree of evaluation on the part of the shareholder of the parent company, who is required to surrender ownership of one security in order to own another.

The structural and qualitative differences between spin-offs and other types of divestiture are many and involve differences in:

- information flow and dissemination;
- active purchase versus passive receipt;
- subsidized investment research and share allocation;

- corporate control and independence;
- and seasoned trading prices versus a lack of prior trading history.

These issues go to the heart of discussions of efficient market theories as they relate to the practical versus theoretical impediments to information flow, information asymmetries, and investment decision making. Therefore, it seems appropriate to view pure spin-offs separately. Indeed, a variety of studies suggest substantive differences in the return characteristics of spin-offs, IPO's, and carve-outs.

In general, although causality is not the focus of this particular article, it may be said that two significant impediments to the operation of an efficient market in spin-offs relate to the availability of information: the quality of financial information available pending a spin-off and during the first year of independence is often quite poor; and the primary method of dissemination, namely institutional research coverage, is generally sparse or non-existent.

### **Defining the Relevant Market Capitalization**

The universe of this study has been limited to those parent companies with a pre-spin-off equity market capitalization of at least \$200 million. All but a very small proportion of institutional investors are restricted from purchasing the stock of companies below this size. Indeed, even equity managers investing in mid-capitalization stocks have practical difficulty, or are restricted from, purchasing stock in companies with market capitalizations below \$300-400 million. Given that the equity market value of a spin-off

itself must, clearly, be smaller than that of the parent, the \$200 million figure for parent market capitalization seems to be a reasonable floor.

## **II. Description of the Study Universe**

The universe of spin-off securities was derived from the research reports of The Spin-Off Report and the Securities Data Corp.'s Mergers & Acquisitions Database. To determine the character of each transaction, both as to structure (e.g., spin-off, carve-out, etc.) and taxability, the population was cross-referenced with the Commerce Clearinghouse, Inc.'s Capital Changes Reports, and also with SEC filings and news releases.

Those securities that were rejected from the study on the basis of structure are referenced in Table I along with the final spin-off sample. Of 136 tax-free spin-offs during the measurement period, 29 were rejected on the basis of size, leaving 107 for inclusion in the Spin-off Index. The Spin-off Index is highly diversified, with no industry sector having a dominant weight in the Index.



### **III. Performance**

#### **A. Rolling Returns**

One method by which to evaluate spin-offs is to sort returns over discrete holding periods (e.g., rolling 6-month, 1-year periods, etc.), regardless of the date of distribution. This measure has the advantage of highlighting return patterns in relation to time. It was the methodology employed by Woolridge et al and by Wruck and Wruck, and is reprised here in part to extend their earlier work.

Returns were calculated for equally weighted positions on the basis of holding periods of 3, 6, 18 months and annually through 5 years from the date of distribution. The holding period for each security begins on the first day of trading and ends on a month end (e.g., the 3-month holding period for a January 15<sup>th</sup> spin-off begins on January 15<sup>th</sup> and ends on April 30<sup>th</sup>). The returns using this measurement approach are presented in Exhibit I in both summary form and separately for each calendar year, or class, of spin-offs. Some of the most salient observations are as follows:

- Annualized returns, measured as an arithmetic average, were dramatically higher across most time periods than were returns for the S&P 500. This difference exceeded 1,000 basis points, annualized, in all periods.
- The positive differential appears to diminish for periods longer than 3 years.
- The highest absolute and differential returns are for the 3- and 6-month holding periods. However, these periods are also characterized by the highest degree of volatility. Whereas the S&P 500 returns were in all cases some multiple of the

standard deviation, spin-off returns in the first 6 months of trading amounted to but 25% of their standard deviation (or, inversely, spin-off standard deviation exceeded their average return by a factor of 4). This level of almost random volatility supports the notion that spin-offs are inefficiently priced. Many of the factors that serve to engender such inefficiency (such as poor information availability and institutional trading constraints) are most pronounced immediately after the distribution.

- The holding period with the highest reward/risk ratio (measured by the average return/standard deviation) was a 2-year holding period.
- After the first year, the holding period with the highest relative return versus the S&P 500 was three years (return differential of 17.7% per year).
- The above figures are consistent with the previously cited studies of Woolridge et al and Wruck & Wruck. These studies also found that the relative returns of spin-offs declined after approximately three years.

### **B. Index-based Returns**

An approach more in keeping with traditional asset class performance measurement and perhaps more relevant to investment professionals is one which measures spin-off returns on a portfolio or index basis. This method also allows for the measurement of standard deviation on a rolling quarterly basis (annualized) and for direct comparison against standard industry benchmarks.

Calculating a spin-off index from inception introduces unavoidable performance distortions that are absent from pre-existing indices. This is because each year, or class, of spin-offs must be built one security at a time. Also, compared with most stock indices, each class may vary in size with those of other classes and each is relatively small. Therefore, the early returns of the first members of each class can strongly influence the returns of an entire class. For instance, the class of 1990 totaled eight securities. However, as of 3/31/90, the class consisted of only 2 stocks, a not particularly representative portion of that Class, and the return to that date was -15.2%. Furthermore, by the end of the first year of each class, some securities were included for a full year while others were included for mere days or weeks. Therefore, the position sizes of each security at the end of the first year can differ vastly, depending on their intra-year performance and date of inclusion, rendering first-year data that may not be terribly meaningful. Through happenstance of timing, these differences in year-end position size can also result in the largest positions heavily influencing subsequent returns.

A more representative result is attained when the class is equally weighted at the end of the first calendar year (e.g., as of 12/31/90, each spin-off during 1990 was weighted equally, regardless of intra-year performance) and its returns measured from 12/31/90 through the 3-year mark, or 12/31/93. A 3-year life was chosen because it appears to represent, in both prior studies as well as in this work, the approximate transition point between excess performance and declining relative performance. In any event, there must arrive a time after which any 'new' security is fully seasoned and can no longer be considered to be a spin-off, per se, or a new issue, bankruptcy recapitalization, etc. This was the approach employed in creating the Spin-off Index, which covers the period

12/31/90 to 12/31/96. As of year-end 1996, the Spin-off Index was comprised of some 50 securities representing the spin-offs of the prior three years.

The results, presented in Exhibit II, present a more realistic picture from an asset manager's perspective than does Exhibit I by showing returns over sequential, linked time periods. The annualized return of the Horizon Spin-off Index was 36.8%, which exceeded the performance of the S&P 500 by 1,925 basis points annually. We believe that a major factor driving this excess return is that the below average valuation of early stage spin-offs rises toward an average valuation over the ensuing two to three years as information quality and availability increases. There is also evidence that asset growth accelerates from historically sub-par levels, a phenomenon which is related to issues of corporate independence and governance.

On an absolute basis, the risk/reward ratio of the Spin-off Index, as measured by the ratio of annualized standard deviation to annualized return, was somewhat higher than that of the S&P 500 (0.59 versus 0.50), but markedly lower than for the Russell 2000 and Morgan Stanley European Markets Index (0.76 and 0.75, respectively).

On a relative basis, the risk/reward characteristics of spin-offs, as measured by their correlation versus the S&P 500, are particularly intriguing and are summarized in Exhibit III. The correlation coefficient of the Spin-off Index versus the S&P 500 was only 0.46. The Russell 2000, which returned 18.3% annually, had a correlation of 0.68, while the Morgan Stanley Emerging Markets Index, with a 13.6% annual return, had a correlation of 0.47. The extraordinarily high volatility of spin-offs within the first year of distribution might be considered to be a contributing element of this low correlation.

Short-term volatility is related in part to liquidation by recipients of spin-off shares who are not natural owners of such a position (e.g., an index fund manager who receives a spin-off that will not be included in the relevant index; an equity manager who receives a spin-off which is outside his or her market capitalization constraints; or a sector fund manager or individual investor who receives a spin-off company which operates in a different industry -- such as utility stock owner who receives a real-estate company spin-off). Such sellers may be making a time-sensitive decision, have insufficient information by which to determine an appropriate sale price, and may be price-insensitive. Longer-term share distribution patterns can also come into play as information about a given spin-off becomes better distributed: pro-forma financial results are replaced over the course of a full year by independent operating results; analytical coverage expands; and natural institutional owners come to identify a new opportunity. As this dynamic plays out, it can be supposed that institutional demand and share ownership rise from below typical levels.

## **V. Closing Remarks**

The purpose of this study was several-fold. Firstly, given the increased market relevance of spin-off activity in recent years, we were interested to assess whether the findings of the two previous studies still held in the 1990's. Secondly, having confirmed the continued persistence of what we posit to be a systematic pricing anomaly, it was desirable to present for the first time the return characteristics of spin-offs in a framework useful specifically to the investment professional, that would include serial annual returns, standard deviations and correlations with standard equity benchmarks. The results demonstrate that spin-offs out-performed the broad stock market to a greater degree than was found by previous academic work. No less significantly, spin-offs were found to provide diversification benefits far greater than that exhibited by domestic stock indices and similar to those provided by foreign stock indices.

Thirdly, having established a Spin-off Index, it is also desirable to extend the performance data of spin-offs on a regular basis and thereby provide an appropriate mechanism or benchmark for institutional investors to evaluate this class of equity investment on an ongoing basis.

Having established the quantitative framework for measuring spin-off returns, future articles will explore in greater detail the causal factors underlying the mispricing of spin-offs, and why we believe that these factors will continue to operate.

**TABLE I****Study Universe**

	<b>Sample Size</b>
Pure, tax-free spin-offs with:	
<b>Parent market capitalizations &gt; \$200 million</b>	<b>107</b>
Parent market capitalizations < \$200 million	<u>29</u>
Total sample size of pure tax-free spin-offs	136
Taxable and mixed-taxation distributions	33
Carve-outs (taxable and non-taxable)	17
Rights offerings	5
Tracking stock	<u>6</u>
Total universe examined	197

## EXHIBIT 1

### Annualized Returns for Spin-offs for Various Holding Periods

Class of	3 months	6 months	1 year	18 months	2 years	3 years	4 years	5 years
1990	157.11%	59.55%	24.87%	24.80%	28.41%	21.40%	21.51%	13.48%
1991	76.49	48.77	17.97	32.49	55.85	58.59	45.51	33.30
1992	96.64	44.95	54.42	33.25	24.25	21.63	19.53	
1993	-0.72	30.29	23.03	19.95	24.50	27.44		
1994	-10.35	-6.89	-0.57	31.58	21.88			
1995	109.47	127.63	73.58	59.41				
1996	14.71	-16.25						
Sample size:	94	87	76	65	58	45	28	16
Arithmetic average return:	10.07%	20.43%	35.58%	50.54%	66.91%	128.9%	177.9%	204.6%
Standard deviation:	37.96%	84.67%	97.92%	104.3%	88.45%	219.6%	271.2%	286.2%
Std. Dev. / Avg. Return	3.77	4.15	2.75	2.06	1.32	1.70	1.52	1.40
<b>Annualized return:</b>	<b>46.80%</b>	<b>45.04%</b>	<b>35.58%</b>	<b>31.35%</b>	<b>29.19%</b>	<b>31.79%</b>	<b>29.11%</b>	<b>24.95%</b>

### Annualized Returns for the S&P 500 Index for the Spin-Off Holding Periods

Class of	3 months	6 months	1 year	18 months	2 years	3 years	4 years	5 years
1990	48.71%	19.31%	21.48%	19.94%	17.29%	15.31%	12.58%	14.14%
1991	9.67	12.92	5.09	7.00	7.64	6.71	10.08	12.11
1992	12.09	12.99	12.41	10.54	7.64	12.95	15.02	
1993	5.12	3.60	3.80	10.16	12.28	16.44		
1994	14.85	20.44	23.82	25.61	25.76			
1995	40.30	32.96	27.17	29.82				
1996	34.08	22.87						
Average return:	5.28%	8.56%	15.97%	25.22%	31.32%	46.93%	62.87%	85.96%
Standard deviation:	4.82%	7.70%	12.54%	15.86%	25.14%	28.62%	25.37%	36.80%
Std. Dev. / Avg. Return	0.91	0.90	0.79	0.63	0.78	0.61	0.40	0.31
<b>Annualized return differential:</b>	<b>22.85%</b>	<b>17.85%</b>	<b>15.97%</b>	<b>16.18%</b>	<b>14.60%</b>	<b>13.69%</b>	<b>12.97%</b>	<b>13.21%</b>

### Annualized Return Differential: Spin-offs vs. S&P 500 Index

Class of	3 months	6 months	1 year	18 months	2 years	3 years	4 years	5 years
1990	103.4%	40.24%	3.39%	4.86%	11.12%	6.10%	8.93%	-0.65%
1991	66.82	35.85	12.88	25.49	48.21	51.88	35.43	21.19
1992	84.55	31.95	42.01	22.72	16.61	8.69	4.52	
1993	-5.84	26.68	19.23	9.78	12.22	10.99		
1994	-25.20	-27.33	-24.39	5.96	-3.88			
1995	69.17	94.68	46.41	29.59				
1996	-19.37	-39.12						
Sample average:	22.91%	23.00%	19.17%	14.78%	14.24%	17.74%	15.73%	11.40%



## EXHIBIT 2

### Horizon Spin-off Index Comparative Returns

Period	Horizon	S&P 500 Index	Russell 2000 Index*	Morgan Stanley
	Spin-off Index			European Mkts. Index
1991	53.8%	30.4%	43.7%	13.7%
1992	26.0%	7.6%	16.4%	-4.2%
1993	50.6%	9.9%	17.0%	29.8%
1994	19.8%	1.2%	-3.2%	2.7%
1995	27.9%	37.3%	26.2%	22.1%
1996	46.4%	22.9%	14.8%	21.6%
Compound Annual Return	36.8%	17.5%	18.3%	13.6%

\*Principal only.

## EXHIBIT 3

### Horizon Spin-off Index Volatility and Correlation Data

Period	Horizon	S&P 500 Index	Russell 2000 Index*	Morgan Stanley
	Spin-off Index			European Mkts. Index
Compound Annual Return	36.8%	17.5%	18.3%	13.6%
Standard deviation	21.7%	8.7%	14.0%	10.4%
Ratio of Std. Dev./ Annualized Return	0.59	0.50	0.76	0.75
Correlation coefficient vs. S&P 500	0.46	1.00	0.68	0.47

\*Principal only.

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## ENDNOTES

Horizon Asset Management, Inc. is a portfolio management and independent research firm which authors research reports including *The Spin-off Report*, *Contrarian Research Report*, and *The Devil's Advocate*. Questions may be directed to Steven Bregman, Charles Campbell, or Murray Stahl.

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<sup>1</sup> Patrick J. Cusatis, James A. Miles, and J. Randall Woolridge, 1993, Restructuring through spinoffs: The stock market evidence, *Journal of Financial Economics* 33, 293-311.

Eric G. Wruck and Karen H. Wruck, October 1996, *Codependent No More? How Spinoffs Affect Parent and Spinoff Firms' Performance*, Ecoanalytics and Harvard Business School.

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