

## DIVESTITURES AND SHAREHOLDER WEALTH IN THE LONG-RUN – THE SOUTH AFRICAN CASE

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### Abstract

This study examines the impact of divestitures (spin offs and sell offs) on shareholder wealth for the parent firms listed on the Johannesburg Stock Exchange over the period 1995-2011. The study also makes a comparison of the wealth created by spin offs versus sell offs. We found significantly negative cumulative abnormal returns over the 250 and 500 days respectively, post-announcement date. This result persisted for the whole sample and for the two subsamples of spin offs and sell offs even after running the test excluding the data during and after the financial crisis of 2008. The results suggest that, in general, divestitures in South Africa destroy shareholder value in the long run and sell offs are a better choice of divestitures compared to spin offs.

**Keywords:** Buy and Hold Abnormal Returns, Cumulative Average Abnormal Return, Divestitures, Sell Off, Shareholder Wealth, South Africa, Spin Off

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### 1. Introduction

Corporate divestitures, also referred to as unbundlings<sup>1</sup>, have gained popularity as an effective route for conglomerate firms to streamline and refocus their businesses with the overall objective of creating shareholder value. The source of value creation is perceived to emanate from the improved efficiencies and the removal of negative synergies. There are several hypotheses that support this argument namely the financing hypothesis, information asymmetry hypothesis, wealth transfer hypothesis and the focusing hypothesis. In contrast, the bad news and value additivity hypotheses are not consistent with the value creation expectation and they associate divestitures with negative results on shareholder wealth (Denning, Shastri 1990).

A divestiture is accomplished through either a sell off or a spin off. A sell off occurs when a firm receives a cash consideration in exchange for its assets or business units (Alexander, Benson & Kampmeyer 1984). The cash proceeds received from the transaction can be used to alleviate financial distress, pursue other investment opportunities, pay out a dividend to shareholders, or used in the firms operations. On the other hand a spin off occurs when the parent firm sells some of its assets forming a new

independent company in the process. Rather than receiving a cash consideration, shareholders of the parent firm receive shares in the new company (Miles, Rosenfeld 1983). Even though spin offs and sell offs are alternative routes to divesting assets, their effects on the parent firm and the way in which market participants' view them differ substantially. Each of them has distinctive costs and benefits that will have an impact on the parent company. In addition, market participants also tend to react to each of them differently (Alexander, Benson & Kampmeyer 1984).

The majority of prior empirical research tends to focus on each of the divestiture methods separately with the main focus being on three key issues: the antecedent factors to divestitures, impact of divestitures on financial performance and how the stock market reacts to divestiture announcements. The majority of the studies that investigate the effect of divestiture announcement on shareholder wealth look at a very short window period - a few days around the announcement date. Most of the studies have shown that divestitures announcements in general are mostly associated with positive wealth effects for the parent firm or the seller's shareholders. Examples of studies that reported positive results for spin offs around the announcement date include (Mulherin, Boone 2000), (Kirchmaier 2003), (Maxwell, Rao 2003), (Veld, Veld-Merkoulova 2004), (Sin, Ariff 2006) and (Zakaria, Arnold 2012). Studies that reported positive results for sell offs around the announcement date

<sup>1</sup> The paper will use the terms 'unbundling' and 'divestiture' interchangeably to refer to sell offs and spin offs

include (Sun 2012), Blount and Davidson (1996), (Lee, Lin 2008), (Bhana 2006), (Alexander, Benson & Kampmeyer 1984), (Afshar, Taffler & Sudarsanam 1992) and (Jain 1985). However some studies, consistent with the bad news hypothesis, reported negative effects of divestitures on shareholder wealth (Bergh 1995), (Montgomery, Thomas 1988), (Alexander, Benson & Kampmeyer 1984), (Denning, Shastri 1990), Blount and Davidson (1996) and (Jordan 2012).

Despite numerous studies focusing on divestitures and shareholder wealth, very few studies have documented the long term impact on shareholder wealth. Yet the long term period is very important in light of the fact that benefits of divestiture events are in general realised a few years after the event (Smit, Ward 2007). According to (Bates 2005), a longer event window period allows the complete impact of divestitures to be fully incorporated into the share price because investors can observe the distribution of sell off proceeds until they are subsequently disbursed. The high level of information asymmetry during the announcement period makes difficult for investors to accurately predict the effect of a sell off decision on future company performance and hence the need to look at a much longer period (Bates 2005).

The majority of the few papers that looks at the long term event window for divestitures focus on spin offs in developed countries thereby ignoring sell offs and developing countries. Most of the papers report positive and significant abnormal returns for corporate spin offs (Cusatis, Miles & Woolridge 1993) - USA, (Desai, Jain 1999) - USA, (Bhana 2004) - South Africa, (Sun 2012) - Taiwan. However studies by (Sudarsanam, Qian 2007), (McConnell, Ozbilgin & Wahal 2001) and (Veld, Veld-Merkoulova 2004) and (Zakaria, Arnold 2012) - Malaysia, did not find any significant abnormal returns. As far as sell offs are concerned we found only one study by (Lee, Lin 2008). The study reported significant negative abnormal returns using a sample of UK firms over a varying from 12 to 60 months post sell off announcement.

This paper extends the existing literature in two ways. First we investigate whether in the long term divestitures, specifically spin offs and sell offs, create shareholder wealth. The period considered is 250 and 500 days pre-and-post divestiture announcement. To our knowledge, this is the first attempt so far to investigate the long run effect of sell offs in South Africa. In addition, this is the first study to the best of our knowledge on divestitures in SA to employ the two factor Arbitrage Pricing Theory (APT) propounded by (Van Rensburg, Slaney 1997) as a benchmark portfolio to calculate abnormal returns. The two factor APT model was found to possess more explanatory power in estimating returns on the JSE compared to other market models like the three factor Fama and French Model and the Capital Asset Pricing Model (CAPM). The results of the paper reveal

significant negative abnormal returns up to 500 days post-announcement date. Our results are inconsistent with the majority of prior papers that reported significant positive abnormal returns for both sell offs and spin off. These results persisted for the whole sample and both subsamples even after excluding the data during and after the financial crisis. Second, the paper investigates whether the nature of the unbundling (sell off or spin off) significantly influences the impact on shareholder wealth in the long-run. To the best of our knowledge this area has not been investigated and it is not clear which form of divestitures creates more value for the shareholders in the long run. The results from comparing the two subsamples show that spin offs generated significantly higher negative results than sell offs. This implies that sell offs are a better option for creating shareholder wealth in the long run. The rest of the paper is structured as follows. Section 2 reviews the literature around divestitures while section 3 presents the data and methodology employed. Section 4 presents and discusses the results while section 5 concludes the paper.

## 2. Literature Review

Divestiture activities are motivated by different factors but the common rationale is to create value for the shareholder (Alexander, Benson & Kampmeyer 1984). The creation of value through divestiture argument is supported by several theories and hypotheses. According to the financing hypothesis, divestitures play a role in unlocking capital that can be used to alleviate financial constraints or pursue high return and positive net present value (NPV) investment opportunities for a firm (Chen, Guo 2005). The focusing hypothesis postulates that value is derived from divesting unrelated assets/units in order to enhance their focus and consequently improve efficiency. This is more important in situations where the divested unit was a loss making operation that was generating negative synergies. Its disposal will thus eliminate a source of value diminution to the divestor's shareholders (Afshar, Taffler & Sudarsanam 1992). The focusing hypothesis is closely related to management efficiency hypothesis and it posits that the performance of conglomerates is inferior to the performance of smaller specialised firms. This is due to the perceived inability of the management to address the unique needs of each segment in conglomerates. The information hypothesis proposes that shareholder value is created because through divestiture companies eliminate the conglomerate discount (Chen, Guo 2005). Financial markets tend to undervalue or discount conglomerates due to severe information asymmetry. The discount exists because investors and market participants have little information available for all the individual business units (Weston, Chung & Siu 1998). According to (Chen, Guo 2005), the information

problem is mitigated when the firm's divisions are separated into independently traded units. According to the wealth transfer hypothesis, a divestiture results in a transfer of wealth from bondholders to shareholders (Denning, Shastri 1990). This hypothesis is more applicable to spin offs because the asset which could have been backing or securing debt is transferred to the shareholders with no replacement coming.

However there are two contrasting theories that question the creation of value to shareholders through divestitures. According to the bad news hypothesis, divestitures can actually have a negative impact on shareholder wealth. (Denning, Shastri 1990) posits that a divestiture might signal bad news in the sense that it gives an indication of management's perceptions of poor liquidity, losing operation, inefficiencies and negative synergies. The value

additivity theory by (Afshar, Taffler & Sudarsanam 1992) also disputes the creation of value through divestitures. The theory postulates that the value of the divested unit is the same whether it is a stand-alone business or a subsidiary of another firm. Therefore, the divestment should not lead to any increase in shareholder wealth for the divestor. However the theory assumes a strong form efficient capital markets. The foregoing set of hypotheses and theories of corporate divestment imply two things. First, no ex ante prediction of the impact on shareholder wealth can be made (Afshar, Taffler & Sudarsanam 1992). Second, it is possible to find mixed results for divestiture announcement results for both the short term and the long term periods.

Tables 1 and 2 below show results from prior studies that investigated the short run and long event window for both sell offs and spin offs.

**Table 1.** Studies of the wealth effect of divestiture announcements in the short term

<i>Results for spin offs</i>	Country Region	Period	Observations	Event window	Results (%)
Mulherin and Boone (2000)	US	1990–1999	106	(-1, 1)	4.51***
Maxwell and Rao (2003)	US	1976–1997	79	(0, 1)	3.59***
Veld and Veld-Merkoulova (2008)	US	1995–2002	91	(-1, 1)	3.07***
Kirchmaier (2003)	W.Europe	1989–1999	48	(-1, 1)	5.4***
Veld and Veld-Merkoulova (2004)	W.Europe	1987–2000	156	(-1, 1)	2.62***
Sudarsanam and Qian (2007)	W.Europe	1987–2005	157	(-1, 1)	4.82***
Murray (2000)	UK	1992–1998	25	(-1, 1)	-0.19
Schauten et al. (2001)	UK	1989–1996	23	(-1, 1)	2.13
Sin and Ariff (2006)	Malaysia	1986–2002	85	(-1, 0)	1.8*
Zakaria and Arnold (2010)	Malaysia	1980–2011	36	(-1, 1)	4.99**
<i>Results for sell offs</i>					
Sun (2012)	Taiwan	1995–2004	157	(-1, 1)	0.243**
Joosub et al. (2013)	South Africa	2002–2011	27	(0,)	-12.47%
Blount and Davidson (1996)	South Africa	n/a	n/a	(-60,-1)	1.80
Lee and Lin (2008)	UK	1993–1997	376	(0,)	1.38
Bhana (2006)	South Africa	1995–2001	58	(-1,0)	3.37**
Alexander Benson and Kampmeyer (1984)	US	1964–1973	53	(-1,0)	0.13
Afshar, Taffler and Sudarsanam (1992)	UK	1985–1986	178	(-1,0)	0.85***
Jain (1985)	US	1976–1978	1000	(-5,-1)	0.7***

Table 1 is an updated version of the table by Veld and Veld-Merkoulova (2009) and it presents the results from prior studies that focused on the impact of divestiture announcements on shareholder wealth, for the parent company, in the short run window period. The studies of the impact of spin offs are numerous but the table above shows just a sample and a few of them. For sell offs we presented all the studies that we find. This is so because few studies looked at sell offs. The study by Joosub et al. (2013) reported significant results but the paper did not indicate the level of significance. Significance level: \*\*\* 1% \*\* 5% \*10%.

The majority of the results reported by prior studies show positive results for divestitures around the announcement period for both sell offs and spin offs. Only two studies show negative results. (Murray 2000) reported negative abnormal returns of -0.19% for 25 UK spin offs. However, the result was not statistically significant. The second study by Joosub et

al. (2013) reported relatively high and insignificant negative abnormal returns of -12.47%. The results by Joosub et al. (2013) based on South African data are not consistent with the majority of prior studies an indication that the impact of divestitures should not be generalised based on findings from mostly developed countries.

**Table 2.** Studies of the wealth effect of divestitures in the long run

<i>Results for spin offs</i>	Research period	Country/ region	Observations	12months	24months	36months
Cusatis et al. (1993)	1965-1988	USA	131	23.10%***	54%***	67.2%***
Desai and Jain (1999)	1975-1991	USA	155	7.69%	12.70%	19.82%***
McConnell et al. (2001)	1989-1995	USA	80	13.48%	19.21%	5.14%
Bhana (2004)	1988-1999	South Africa	47	23.2%***	47.6%***	61.7%***
Veld and Veld-Merkoulova (2004)	1987-2000	Europe	105	0.65%	6.49%	-0.41%
Sudarsanam and Qian (2007)	1987-2002	Europe	129	-0.06%	-0.08%	-0.09%
Zakaria and Arnold (2010)	1980-2011	Malaysia	36	-7.25%	-18.46%	-18.74%
<i>Results for sell offs</i>						
Lee and Lin (2008)	1993-1997	UK	376	-7.10%	-17.45%	-25.84%

Table 2 is an updated version of the table by (Veld, Veld-Merkoulova 2009) and it presents results from prior studies that focused on the impact of divestitures on shareholder wealth, for the parent company, in the long run event window period of 12 - 36 months. Significance level: \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0$

The number of studies that investigated the long term window period has been limited and we only managed to find eight papers presented in table 2. Of these only one looked at sell offs while the majority focused on spin offs in Europe and USA. The results for the impact of spin offs indicate that in the long term they create shareholder value. However (Sudarsanam, Qian 2007), Lee and Lin (2008) and (Zakaria, Arnold 2012) reported negative results for the entire period of 12, 24 and 36 months period.

In comparing selloffs with spinoffs, it should be noted that, even though these two are undertaken to create and unlock shareholder wealth for the parent firm, the motivation, execution and outcomes for these two may be distinctly different and that may affect the way in which the investors and market participants view them (Alexander, Benson & Kampmeyer 1984). Hence we should expect either one of them to be superior in creating shareholder wealth. The other reason why the outcomes of sell offs and spin offs may be different is because each one the five hypotheses of the sources of value creation for divestitures is more consistent and visible with either one of the divestiture types except for the focusing and management efficiency hypothesis. The information asymmetry and wealth transfer hypothesis are more consistent with spin offs. Spin offs reduce information asymmetry on both the parent and divested entity because it results in two separate entities with a separate structure, management and governance arrangement. The transfer of wealth from debt holders to shareholders is explained by the shift of assets that were probably part of the collateral for debt holders, to the shareholder. On the other hand, the financing hypothesis is more consistent with sell offs given that the cash/securities generated from the sell offs can be a source of liquidity for financially distressed firms (Shleifer, Vishny 1992). From the ongoing discussion it appears that value creating theories are more compatible with spin offs implying that spin offs may offer superior performance to shareholder compared to sell offs. In addition, the fact

that spin offs create two separate sets of shares, gives investors more choices in an imperfect market, thus creating a higher total market value than the value as a single security which combines these two securities (Han, Qiu 2012).

### 3. Data and Methodology

#### 3.1 Sample Selection

The sample period covers the period from 1995-2011. The initial sample of 311 divestitures was obtained from the JSE information desk. This sample was reduced to 44 divestitures after screening using the following criteria:

- Only sell offs and spin offs were selected. If the firm did not specify or provide information that determines whether it was undertaking a sell off or spin off in the unbundling announcement, it was disregarded from the sample. These announcements were obtained from the JSE SENS news announcements,
- Share price data had to be available for two years prior and two years post unbundling. Specifically, share price data had to be in existence for a period of -500 days and +500 days around time zero – the announcement date of the unbundling.

In order to mitigate the potential confounding effects of another corporate restructuring event, firms were eliminated from the sample if there were other contemptuous restructuring announcements in the period [-1, +1] days. This process and test window, in accordance with (Lee, Lin 2008), (Bates 2005) and (Bhana 2006) is considered standard in literature - it is generally implemented so that these events do not contaminate the results of performance measures regarding unbundling

- Furthermore, if the same company unbundled more than once during the [-500, +500] day test period, only the last unbundling date was taken into consideration and remained in the sample. This

increases the likelihood that the performance changes are attributable solely to the unbundling and not another restructuring event (Bhana 2006).

- In accordance with the two-factor APT model, benchmark portfolios are required to create an expected performance value. Hence further reductions were made on the basis of suitable benchmarks being available for each company. This allowed for the creation of the final sample of 44 unique divestitures,

of which 19 were sell offs and 25 were spin offs, as can be seen in Table 3.

All price data required for the Multivariate Least Squares (MLS) regressions, including the benchmarks and the risk free rate proxied by the 91-day Treasury Bill returns was obtained from McGregor BFA database and the JSE.

**Table 3.** Summary Statistics of Final Sample of Divestitures from 1995-2011

SUMMARY STATISTICS				
YEAR	Total Divestitures	Sell-Offs	Spin-Offs	Percentage of Final Sample
1998	11	3	8	25%
1999	2	0	2	5%
2000	7	5	2	16%
2001	1	1	0	2%
2002	0	0	0	0%
2003	2	0	2	5%
2004	2	1	1	5%
2005	1	0	1	2%
2006	2	0	2	5%
2007	6	4	2	14%
2008	2	0	2	5%
2009	1	1	0	2%
2010	4	1	3	9%
2011	3	3	0	7%
<b>TOTAL</b>	<b>44</b>	<b>19</b>	<b>25</b>	<b>100%</b>

### 3.2 Research Methodology

The key focus of the study is to determine the long-run effects of divestiture on the performance of South African companies. A review of literature indicates that divestitures are not trivial events as they are normally accompanied by a change in shareholder wealth (Bhana 2004) and (Lee, Lin 2008). It is for this reason that the paper tests the following null hypothesis:

H<sub>0</sub>: Divestitures have no effect on shareholder wealth in the long-run against the alternative hypothesis:

H<sub>1</sub>: Divestitures have a significant effect on the wealth of shareholders in the long-run.

This paper examines the effect of divestitures in the long-run over two time periods (250 days, 500 days) prior and post announcement date. We make use of the event study methodology as applied by (Bhana 2006) and (Lee, Lin 2008). The share price data used in the analysis are collected from McGregor BFA and the JSE. This includes: (i) the SA 91-day Treasury Bill rate, (ii) the daily share price data for each firm, and (iii) the benchmark returns for the ALSI and FINDI. In order to examine the long-run stock performance subsequent to the divestiture announcement, the paper uses the two-factor Asset Pricing Theory (APT) model suggested by van Rensburg (2001) as the benchmark portfolio:

$$R_{it} - R_{ft} = \alpha_f + \beta_{fFINDI} (R_{FINDIt} - R_{ft}) + \beta_{fRESI} (R_{RESIt} - R_{ft}) + \varepsilon_{ft}$$

where  $R_{it}$  is the return on company  $i$  in period  $t$ ,  $R_{ft}$  is the risk-free rate in period  $t$  proxied by the 91-day South African Treasury Bill,  $R_{FINDIt}$  is the return on the JSE Financial-Industrial Index,  $R_{RESIt}$  is the return on the JSE Resources Index,  $\beta_{fFINDI}$  and  $\beta_{fRESI}$  are the risk parameters to be estimated,  $\varepsilon_{ft}$  is the residual error term which obeys all the classical assumptions of zero mean and constant variance (Van Rensburg, Slaney 1997) have shown that the two factor APT Model has explanatory power for many cross-sectional irregularities on the JSE. They argue that the two factor APT model has pricing implications not compatible with the Capital Asset Pricing Model of (Markowitz 1959) and (Sharpe 1963) which employs the JSE All Share Index as the market proxy. Furthermore, this benchmark is chosen over that the three-factor (Fama, French 1996) model suggested by (Lee, Lin 2008), as the JSE does not have the size capabilities to construct effective ten stock benchmarks for the Small Minus Big size portfolio, and the High Minus Low book-to-market value portfolios for each subsector. While this model

has its limitations, including a misspecification factor, (Van Rensburg 1999) argues that the model demonstrates the best fit for the JSE.

The abnormal returns were calculated for each stock for the time period (250 or 500 days) prior to announcement date and the corresponding time period (250 or 500 days) post announcement date, as follows:

$$AR_{it} = R_{it} - (R_{ft} + \hat{\beta}_{FINDI}(R_{FINDIt} - R_{ft}) + \hat{\beta}_{RESI}(R_{RESIt} - R_{ft}))$$

where  $AR_{it}$  is the Abnormal Return for firm  $i$  at time  $t$ ,  $R_{it}$  is the actual return for company  $i$  at time  $t$  and the term  $R_{ft} + \hat{\beta}_{FINDI}(R_{FINDIt} - R_{ft}) + \hat{\beta}_{RESI}(R_{RESIt} - R_{ft})$  is the expected return ( $E[R_{it}]$ ) for company  $i$  at time  $t$  calculated through the two-factor APT model with coefficients calculated from the normal MLS regression method<sup>2</sup> in line with the methodology of (Bhana 2006) and (Lee, Lin 2008). The coefficients are re-calculated with each time period under review ( $\pm 250$  and  $\pm 500$  days).

The Cumulative Average Abnormal Return (CAAR) was calculated in the following manner for the period post-announcement date and similarly for the period pre-announcement date:

$$CAAR_T = \sum_{t=1}^T \frac{1}{N} \sum_i AR_{it}$$

where  $N$  is the number of observations and  $T$  is the number of days post-announcement date being examined ( $T = \pm 250, \pm 500$ ).

The two periods prior to the event and post the event are then tested to see if a significant difference exists. This is in line with the methodology employed by (Bhana 2006) and (Lee, Lin 2008). In doing so, the variance of the cumulated abnormal returns for matching periods prior to and post the event were compared using an  $F$ -Test (Durbach, 2013) for the following hypotheses:

$H_0$ : The variance of the CAAR prior to announcement date is equal to the variance of the CAAR post announcement date  $H_1$ : The variance of the CAAR prior to the announcement date is not equal to the variance of the CAAR post announcement date.

If there is not enough evidence to reject the null hypothesis at the 5% significance level, a  $t$ -test paired for two sample means is conducted, using the Student  $t$ -statistic (Durbach, 2013), computed as follows:

$$t_t = \frac{\overline{AR_{PRIORt}} - \overline{AR_{POSTt}}}{\sqrt{(\text{var}(AR_{PRIORt})/m) + (\text{var}(AR_{POSTt})/n)}}$$

where  $m$  is the number of observations in the sample prior to the announcement date, and  $n$  is the number of observations in the sample post-announcement date.

This tests the following hypothesis:

$H_0$ : The mean of the CAAR prior to announcement date is equal to the mean of the CAAR post announcement date.

$H_1$ : The mean of the CAAR prior to the announcement date is greater than the mean of the CAAR post announcement date<sup>3</sup>.

The process for the entire sample of 44 observations is re-conducted assessing the 19 sell offs and 25 spin offs separately. Further analysis was conducted on the difference between sell offs and spin offs so as to determine the difference in effects.

In order to corroborate the results of the CAAR, and to avoid the potential problems of the misspecification of the APT model, the paper also examines the Buy-and-Hold Abnormal Returns (BHAR) methodology of (Barber, Lyon 1997). This approach was taken as the BHAR considers the geometric mean of the return data, while the CAAR considers the arithmetic mean. Over the longer term horizon, the geometric mean is considered to be a more conservative estimate, yielding stronger conclusions (Barber, Lyon 1997).

Similar to the methodology of the CAAR, the BHAR was calculated as follows for the periods prior to and post the announcement date of the divestiture:

$$BHAR_{it} = \prod_{t=1}^T [1 + R_{it}] - \prod_{t=1}^T [1 + E(R_{it})] = \prod_{t=1}^T [1 + AR_{it}]$$

Where  $T$  is the number of days being examined ( $T = \pm 250, \pm 500$ ), and  $E[R_{it}]$  is the expected return of company  $i$  at time  $t$ .

Consistent with the CAAR analysis,  $F$ -tests were conducted to analyse the variance of the BHAR prior to divestiture matched to the same period post-divestiture. The  $t$ -test evaluates the alternate hypothesis that the mean BHAR prior to the divestiture announcement date is significantly greater than the mean BHAR post announcement date over the varying time frames (250 and 500 days).

The process for the entire sample was re-conducted using only the sell offs, only the spin offs, and the difference in returns (sell offs less spin offs) to determine the stronger effect, as was done for the CAAR.

The sample period for the study spills into the financial crisis period that started in 2008. Given that

<sup>2</sup> All assumptions required for MLS regression were tested and passed, namely the model is linear in nature, zero conditional mean, no perfect collinearity, normality of errors, absence of serial correlation and constant variance

<sup>3</sup> This should be interpreted as the mean of the CAAR post announcement date being more negative than the mean of the CAAR prior to announcement date. If the results are significant, it implies that the divestiture destroys shareholder value

the financial crisis negatively affected stock markets, there is a possibility that the results of this study can be compromised. To account for this, all the tests will be run over the period preceding the financial crisis excluding share price data from 2008 going forward.

#### 4. Results

Table 4 presents the long-run return performance based on the CAAR benchmarked against the two factor APT model. The long-run performance is reported for both 250 and 500 days prior to and subsequent to the unbundling announcement and is compared to the expected returns for the same periods.

Panel A displays the results of the whole sample. Significantly negative CAAR results are observed for both the 250 and 500 day periods post divestiture, when compared to the matching period prior to announcement date. Both of these results are significant at the 1% level indicating very strong evidence against the null hypothesis in favour of the alternative. The change in shareholder wealth post unbundling differs to that seen prior to the unbundling announcement date. From Table 4, it is clear to that the periods post-unbundling announcement date generate greater negative returns. It is notable that while results remain negative, there is a 20.5% improvement in shareholder value over the longer 500 day period when compared to the 250 day period post announcement date.

**Table 4.** Long Run Performance Based on CAAR for Periods of 250 and 500 Days Prior to and Post-Unbundling

LONG RUN PERFORMANCE BASED ON CUMULATIVE AVERAGE ABNORMAL RETURNS				
HORIZON	-250	250	-500	500
<i>Panel A: Whole Sample (n=44)</i>				
CAAR (%)	-0.885961959	-1.269875824	-0.646106038	-1.008709574
<i>t</i> -statistic	11.38474936		16.27782137	
<i>F</i> -statistic	0.266959482		0.268477288	
<i>Panel B: Sell offs (n=19)</i>				
CAAR (%)	-0.281517651	-0.430749562	-0.23726581	-0.365733433
<i>t</i> -statistic	6.046122944		8.055651617	
<i>F</i> -statistic	0.139571298		0.160527465	
<i>Panel C: Spin offs (n=25)</i>				
CAAR (%)	-0.604444308	-0.839126262	-0.408840229	-0.642976141
<i>t</i> -statistic	12.53912398		17.53498747	
<i>F</i> -statistic	0.475537807		0.273021754	
<i>Panel D: Sell offs – Spin offs (n=44)</i>				
CAAR (%)	0.322926657	0.4083767	0.171574419	0.277242708
<i>t</i> -statistic	-3.167247777		-5.431152088	
<i>F</i> -statistic	0.213112457		0.283624647	

Panels B and C break the whole sample into subsamples consisting of sell offs and spin offs respectively. Panel B demonstrates that unbundling through a sell off adversely effects shareholder wealth in the long-run. The CAAR remains negative for both the 250 and 500 day periods (-0.43% and -0.37% respectively) post announcement date. Furthermore, when compared to the matching period prior to announcement date, we see that performance of the firms has significantly destroyed shareholder wealth (significant at the 1% significance level and CAAR is further negative). Consistent with the findings of the whole sample, the decline in shareholder wealth occurs to a lesser extent over the 500 day period (results increase by 14% from 250 to 500 days post divestiture). For the 250 day period post unbundling, the sell offs comprise 33.9% CAAR for the whole sample, whilst this figure increases slightly to 37.6% over the 500 day period.

Panel C illustrates that unbundling through a spin off will perpetuate the destruction of shareholder wealth in the long-run. Consistent with findings for sell offs and the sample as a whole, the destruction of wealth lessens as time progresses by 23.8%. Moreover, the period after the spin off announcement date generates a significantly worse performance than the matching period prior to the event. The *t*-statistic is significant at the 1% significance level. Since the whole sample was split into two subsamples, the substantial negative CAAR generated by the whole sample is largely driven by the CAAR of the spin offs.

Panel D displays the results of the difference between the CAAR of the two unbundling subsamples: spin offs and sell offs respectively. The results of the 250 day period are positive which, by the definition of the formula, indicates that the spin offs generate significantly more negative returns than

the corresponding sell off. However, one should note that both divestitures still destroy shareholder wealth in the long-run. This result is significant at the 1% significance level. Similarly, over the 500 day period, there is a significant difference indicating that spin offs destroy more shareholder wealth than sell offs – however, over this longer time period, the destruction of shareholder wealth is to a lesser extent, as is expected.

It should be noted that all  $F$ -statistics comparing the variances of the periods prior to and post-unbundling announcement date fall below the critical value ( $F_{crit}[-250, +250] = 0.8115$ ;  $F_{crit}[-500, +500] = 0.8629$ ). This indicates that there is not enough evidence to reject the null hypothesis, and that the variances of the samples being compared are not significantly different. The resulting  $t$ -test used to

consider the difference in means for the same period can thus assume an equal variance. Furthermore, all  $t$ -statistics in table 4 are significant to at least the 1% level.

Table 5 showing the long-run performance of the unbundled stocks based on the Buy-and-Hold Abnormal Returns method, corroborates the results seen using the CAAR methodology. Again, it is notable that the divestitures as a whole (Panel A) generate a significantly negative return over the varying periods of 250 and 500 days; as do the two subsamples containing only sell offs (Panel B) and that containing only spin offs (Panel C). Moreover, as with the CAAR results of table 4, the extent to which the returns are negative lessens from the 250-day period to the 500 day post divestiture period.

**Table 5.** Long Run Performance Based on BHAR for Periods of 250 and 500 Days Prior to and Post-Divestiture

LONG RUN PERFORMANCE BASED ON BUY AND HOLD ABNORMAL RETURNS				
HORIZON	-250	250	-500	500
<i>Panel A: Whole Sample</i>				
BHAR (%)	-0.00883111	-0.012596539	-0.006445897	-0.010041447
$t$ -statistic	5.539620062		16.33866902	
$F$ -statistic	0.273016464		0.271614409	
<i>Panel B: Sell offs</i>				
BHAR (%)	-0.002821037	-0.004278958	-0.002368817	-0.003653589
$t$ -statistic	4.215567927		8.09862225	
$F$ -statistic	0.141439331		0.161161911	
<i>Panel C: Spin offs</i>				
BHAR (%)	-0.006027644	-0.008354572	-0.004086993	-0.006412323
$t$ -statistic	4.436738189		17.56087318	
$F$ -statistic	0.480772402		0.469830652	
<i>Panel D: Sell offs - Spin offs</i>				
BHAR (%)	0.003206608	0.004075613	0.001725606	0.002758775
$t$ -statistic	0.833279155		-5.469142662	
$F$ -statistic	0.214139447		0.281634857	

It should be noted that the null hypothesis for the  $F$ -tests is rejected in all cases and thus the  $t$ -test for significant differences in means can be undertaken. In this instance, all  $t$ -statistics are significant at the 1% significance level except for the difference between sell offs and spin offs (Panel D) over the [-250, +250] day test window which is insignificant. Here the null hypothesis cannot be rejected, signifying that the difference in mean return prior to divestiture and after divestiture is not significant. This indicates that over the test period, spin offs and sell offs do not generate significantly different returns.

#### 4. Discussion of Results

The empirical findings show that over the long-run, divestitures in general (both sell offs and spin offs) lead to a decline in shareholder wealth in South Africa. The results are consistent even after running the tests using share price data before the financial crisis period that began in 2008. The results of sell

offs are consistent with the international findings of (Lee, Lin 2008) in the UK. They attribute the negative returns over the long-run to agency costs subsuming the increased efficiency and flexibility amongst investment sellers. Further, sellers who unbundle for debt-reduction purposes fail to remove persistent financial distress. To some extent, the results confirm to those of Joosub et al. (2013) who reported significant negative results over the short term window period.

The findings presented in this paper with regards to spin offs within South Africa differ to those presented by (Bhana 2004). Our research finds significantly negative CAAR over the longer term horizons of  $\pm 250$  and  $\pm 500$  days, whereas (Bhana 2004) finds that spin offs generate significant improvements in returns. The surprising contradiction in results could possibly be attributed to the different time-periods under review and the selection criteria. While this study focused on a democratic South Africa, (Bhana 2004) conducted his research over the



volatile period from 1988 – 1999, where neither the parent nor subsidiary was a financial institution and unbundling was voluntary. In addition this paper used the two-factor APT model suggested by (Van Rensburg 1999), as opposed to the three-factor Fama and French model used by (Bhana 2004). The results are also inconsistent with several prior studies from developed countries: (Cusatis, Miles & Woolridge 1993), (McConnell, Ozbilgin & Wahal 2001) and (Zakaria, Arnold 2012).

The results here indicate that there is improved performance over the longer period. For the whole sample - the spin off sample and the sell off sample, the CAAR is less negative when comparing the 500 day period to that of the 250 day period. This may be as a result of the uncertainty faced by investors around the announcement date. Investors may feel that as time progresses, information asymmetry decreases and therefore the capability of making accurate decisions increases. For sell offs, the 500 day period allows investors to develop a far more accurate account of performance and whether the restructuring was consistent with the intention of the sellers. This is consistent with the concerns of (Lee, Lin 2008) and illustrates the potential problems of using returns around announcement date as a measure of long-term performance.

Finally, the results indicate that the difference between sell offs and spin offs is largely significant. Specifically, spin offs lead to a greater destruction of shareholder wealth than sell offs. The fact that sell offs show superior results than spin offs implies that in South Africa the financing hypothesis, which is more consistent with sell offs, supersedes the wealth transfer and information asymmetry hypothesis which are more consistent with spin offs.

The findings of this paper, both from the evaluation of the BHAR and the CAAR, indicate that divestitures in general destroy shareholder wealth over the long term. Should a firm undertake a divestiture, the findings show that sell offs tend to reduce shareholder wealth to a lesser extent than a spin off over a 250 day and 500 day period post divestiture.

## 5. Conclusion

This paper examines the long-run effect of divestitures on shareholder wealth for 44 companies listed on the JSE over the period 1995 to 2011. The paper utilises both the cumulative average abnormal returns and buy-and-hold abnormal returns 250 days prior to the divestiture announcement date. The same procedure was conducted for a 500 day period prior to and post announcement date. The paper considers divestitures in terms of sell offs and spin offs, and compares the impact each may have on shareholder wealth in the long-run. In addition the paper makes a comparison of the two forms of divestitures - sell offs and spin offs.

This paper finds that in the South African context, unbundling result in a destruction of shareholder wealth in the long-run. Negative CAAR of -1.26% and -1% were discovered over the 250 and 500 days post divestiture announcements, respectively, for the whole sample. Consistent with prior research, sell offs were seen to create a decline in CAAR and BHAR over the long-term horizons. The findings for spin offs also showed a decline in shareholder wealth which contradicts existing research both internationally and in the South African setting. When comparing the results of spin offs and sell offs in the sample, we find that the spin offs produced significantly greater negative returns than sell offs. This indicates that in South Africa, a sell off is a better choice of unbundling compared to a spin off. More importantly, this paper finds that contrary to the widely held view, under certain circumstances, divestitures can actually result in the destruction of shareholder value in the long term and sell offs provide significantly superior returns compared to spin offs.

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