



Long-run performance of corporate spin-offs and sell-offs: Evidence from the JSE limited



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Background: Prior to 1994, there were artificial restrictions on South African corporations as a result of isolation and sanctions. Thus, corporate unbundling activities in South Africa are still new relative to their overseas counterparts. Of recent, no study has vividly examined the long-run performance of spin-offs and sell-offs on the JSE Limited. In the most recent study on spin-offs and sell-offs, performance was investigated for less than 2 years. Long-run performance of spin-offs and sell-offs should be examined for at least 3 years in line with overseas literature. In order to fill the gap in previous literature, this study updates existing literature, and extends the investigation horizon to 4 years.

Aim: This study seeks to investigate the long-run performance of spin-offs and sell-offs on the JSE Limited.

Settings: This study matches the performance of an event firm to that of a non-event firm. The matching was done at sector and industrial level, using the value of equity as a matching measure. Performance was examined between 2000 and 2016, for up to 4 years.

Methods: The method of analysis is the matching firm technique under buy and hold abnormal returns. The creation of shareholder's wealth was investigated for 26 spin-offs, 17 parent spin-offs, 16 sell-offs and 23 parent sell-offs.

Results: Abnormal returns are significantly positive for spin-offs, parent spin-offs and sell-offs for 1–4 years after unbundling. Only parent sell-offs failed to follow this path.

Conclusion: According to this study, spin-offs and sell-offs unlock shareholders' wealth for up to 4 years on the JSE Limited.

Keywords: corporate unbundling; spin-offs; parent spin-offs; sell-offs; parent sell-offs; matching firm; market value of equity; mergers and acquisition.

Introduction

According to Hagel III and Singer (2000), corporate unbundling is a process of breaking up a large business into its smaller components. Similarly, Moschieri and Mair (2005) defines corporate unbundling as an operation where the parent corporation initiates an action of disposing of and selling assets, facilities, product lines, subsidiaries, divisions or business units. Generally, unbundling has not been very common in South Africa. However, the few corporations that have undertaken the strategy have focused more on spin-offs and sell-offs. A spin-off is a pro-rata distribution of the shares of a firm's subsidiary to the shareholders of the firm and after the distribution the operations and management of the subsidiary are separated from those of the parent (Bhana 2004). In contrast, a sell-off involves the disposal of divisions, business units, product lines or subsidiaries to other firms in exchange for cash (Menon et al. 2004).

In recent years, unbundling transactions are becoming part of the widely accepted restructuring of the corporate landscape in South Africa (Bhana 2006). Barlow Rand set the unbundling era in motion in 1993 by disposing of CG Smith, Rand Mines and Reunert. Subsequently, in 1999 CG Smith unbundled its only two assets: stakes of 57% in Illovo Sugar and 56% in Tiger Brands. Tiger Brands later on disposed of Spar in 2004 and Adcock Ingram in 2008 (Thomas 2013). As observed by Hattingh (2007), political change in South Africa since 1994 led to the selling-off of divisions that were not part of a corporation's core activities. Bhana (2006) also observed that sell-off transactions are rapidly increasing, and that Black Economic Empowerment (BEE) has contributed to the acceleration of unbundling activities.

In South Africa, unbundling has been investigated more around announcements than post-announcements. The major long-term studies conducted include Bhana's (2004) research on spin-offs and Majoni et al.'s (2014) research on spin-offs and sell-offs. According to Bhana (2004), there are positive returns for up to 3 years, following spin-offs. But Majoni et al. (2014) reported negative cumulative abnormal returns for up to 250 days and 500 days following the spin-off announcements. With these results, it is difficult to infer that unbundling transactions in South Africa are accompanied by positive returns for years after the events as is the case with Europe and USA. However, international studies on unbundling provide that long-term studies on unbundling are investigated for at least 2 years and above, before a proper conclusion can be drawn (Bates 2005; Cusatis Mile & Woolridge 1993; Dasai & Jain 1999; McConnell & Ovtchinnikov 2004; Woo, Willard & Daellenbach 1992). Before 2 years, it is considered a re-adaptation phase for the restructured firms and it is hypothesised that with time they would experience greater positive returns.

Therefore, to conclude if South Africa is consistent with the overseas trend of unbundling, it is important to adopt a long study period and investigate performance for up to 4 years, following unbundling announcements. Thus, this approach would seek to investigate long-run effects in contrast to the findings of Majoni et al. (2014) and at the same time extending the study horizon beyond that of Bhana (2004) in line with international literature. The study also compares and contrasts spin-off and sell-off transactions.

The rest of the paper is organised as follows. Section 2 reviews literature. Section 3 discusses the research methodology. Section 4 presents and discusses findings. Section 5 concludes.

Literature review

In recent years, corporate unbundling has gained popularity as an effective strategy for companies to streamline and refocus their businesses with the overall goal of creating shareholder wealth (Majoni et al. 2014). There exist a wide range of reasons why corporations downsize through unbundling. Initially, companies saw Merger and Acquisition (M&A) as a means to increase their market capitalisation. However, due to the excess capacity created by M&A, companies found that they could no more manage all their acquired businesses in an efficient manner. Hence, more unutilised assets locked shareholder wealth. Veld and Merkoulova (2003) proposed that after unbundling, the simpler nature of the firm may lower monitoring and coordinating costs. Devogelaer (2003) argued that over time, rapid expansion of a firm's product line reduces its competitive ability and as such, one of the drivers of refocusing is the need to focus on core competences. Gordon (1992) suggested that when companies divest their businesses, the stand-alone entities tend to gain more recognition from analysts and investors than when they were still part of the parent company. Managers of large corporations should

evaluate the advantages of unbundling to access its benefits and to focus on what is best for their business (Moschieri & Mair 2005). Releasing shareholder value and concentrating on core activities is the sole reason why corporations view unbundling in a good light. According to Hellerman and Jones (2000), a typical motivation for divestitures is to enable the parent company to focus its core business or unlock unrealised value for its shareholders.

Liquidity problems are common phenomena in many economies. Many stock exchanges have low liquidity because only a few shares are traded. A more focused business may improve access to the capital market and thereby attracting new sets of investors (Kirchmaier 2003). According to Woo, Willard and Beckstead (1989), one primary motivation for divestitures is to enhance the firm's economic value in capital markets. Consistently, Gordon (1992) observed that spin-off firms have the advantage of gaining access to additional capital in the equity and debt markets. More so, the difficulties faced by holding companies in raising capital can be reduced through unbundling transactions. The issue of whether information asymmetry within a conglomerate can be reduced through unbundling, is an area of debate in the finance literature. Krishnaswami and Subramaniam (1999) observe the reduction of information asymmetry as the motive behind spin-offs.

The reasons behind corporate unbundling can further be viewed from three perspectives. From a legal perspective, unbundling can be voluntary or involuntary (Montgomery, Thomas & Kamath 1984). Voluntary unbundling can take place for strategic, financial or organisational reasons. Firstly, the strategic reason implies that a company can unbundle to take a position of specialisation in the market. Secondly, the financial reason suggests that companies unbundle to generate cash flow required to meet debt obligations. Thirdly, the organisational reason states that companies unbundle to solve the problem of bad governance. On the other hand, the government, by forcing enterprises to respond to some regulations, often influences involuntary unbundling.

According to the strategic perspective, firms decide to unbundle for corrective or proactive reasons (Moschieri & Mair 2005). In this situation, the company tries to correct over-diversification problems created by M&A by focusing on its core business area. Proactive unbundling is a means of restructuring a company's asset portfolio.

From the perspective of the market, unbundling can be aggressive or defensive (Moschieri & Mair 2005). Hopkins (1991) argued that acquisition can be a defensive reaction to weak or deteriorating industry conditions and competitive positions, and that the attractiveness and concentration of the firm's home industry are positively related to unbundling decisions. The general view here is that when a business is highly focused, the possibility of a takeover is limited. Dann and DeAngelo (1988) suggested that sell-offs are motivated to prevent a possible takeover.

One of the major setbacks of unbundling is lack of synergy benefits and economies of scale. Hunt (2004) considered synergy as leveraging the combined strengths of two parties so that by adding the individual capabilities of the two companies, their sum is greater than their individual parts. From the author's argument, it is clear that conglomerate organisations benefit from inter-division use of facilities and knowledge. Economies of scale exist when the marginal cost is less than the average cost, thus reducing the unit cost as quantity increases (Besanko et al. 2010). According to Clarke (1998), there exist economies of scale for enterprises undertaking M&A transactions. The non-collective nature of individual corporations prohibits them from achieving synergy benefits and economies of scale.

Empirical studies have proven that shareholders' wealth is created around announcement of unbundling events (pre and post announcement). Jongbloed (2004) observed that a corporate spin-off is an important restructuring strategy to create wealth at the announcement. Thus, Dasilas et al. (2011) investigated the wealth effects of 239 spin-off announcements that occurred between January 2000 and December 2009 in the USA and Europe. A strong positive market reaction of 3.47% on the spin-off announcement date was reported. Similar research carried out by Murray (2000) in the UK by investigating the wealth effects of spin-offs around announcements for the parent firms from 1992 to 1998 reported positive Cumulative Average Abnormal Return (CAAR) around announcements though it was not statistically significant. This insignificant result may be due to the announcement of minor unbundling events. Even though the presence of significant abnormal returns around unbundling announcements have been documented, the sources of these gains are not clear. Hite and Owers (1983) examined security price reactions around the announcement of 123 spin-offs by 116 firms from 1963 to 1981. The authors reported that voluntary corporate spin-offs have positive effects on a firm's share price but the sources of the gain are not understood.

In a study on the announcement effect of voluntary sell-offs on shareholder wealth undertaken from 1964 to 1973, Alexander, Benson and Kampmeyer (1984) found that sell-offs generate positive cumulative abnormal returns for both acquiring and selling firms' shareholders. Similarly, Kiyamaz (2006) who studied the impact of sell-off announcements on both the buying and the selling firms from 1989 to 2002 reported that both the buying and the selling firms experienced statistically significant wealth gains during sell-off announcements. Tehranian, Travlos and Waagelein (1987) examined the association between long-term performance and wealth effects accruing to stockholders of divesting firms at announcement of sell-offs between 1974 and 1982. Their findings reported that firms with long-term performance plans experienced a more favourable stock market reaction at the announcement of sell-offs relative to firm with short-term performance plans.

Prior studies of unbundling performance in South Africa are limited. One of the earliest studies is by Blount and Davidson (1996) on the wealth effects of voluntary corporate unbundling announcements. The authors reported a negative share price impact resulting from unbundling announcements. Investigating the effects of corporate unbundling announcements by South African listed corporations on shareholders wealth from 1st January 2002 to 31st June 2011, Jordan (2012) found significant negative abnormal returns from 27 corporate unbundling announcements. These results are not consistent with Bhana's (2006) study of 58 sell-offs undertaken by companies listed on the JSE from 1st January 1995 to 31st December 2001. The results showed that sell-off announcements have a positive effect on the shareholder wealth for both the sellers and buyers. Coldwell et al. (2015) studied the impact of BEE on divestitures announcement. The authors used two samples. The first sample consisted of firms that were unbundled immediately after the advent of democracy in South Africa and the period 1996 to 2002 was studied. The second sample consisted of firms that were unbundled due to the BEE Act of 2003 and the study period ran from 2003 to 2011. Stock price reaction around announcements was positive for the firms restructuring immediately after the advent of democracy in South Africa. The case of BEE indicated a negative share price impact and thus showing that BEE had a negative effect on shareholders' wealth for corporations refocusing with the aim to achieve BEE points.

The wealth effects of corporate unbundling might be better understood if post-unbundling performance is also examined. Companies whose share prices appreciate significantly around announcement may not show a similar trend many years after. Sometimes companies with such performance even close down. Hence, post-unbundling performance should be studied for a long time scale. When a company voluntarily spins off its subsidiary, the action is viewed as a positive one for both the parent company and its subsidiary (Woo et al. 1989:29). In an analysis of the spinning-off of Regional Operating Companies (ROCs) by American Telephone and Telegraph (AT&T), Hall (1984) reported that AT&T and ROCs realised 18.8% return between the end of 1983 and November 1984. In another study, Cusatis et al. (1993) investigated the value created through spin-offs by examining the stock returns of spin-offs, their parent firms, and parent-spin-off combinations for periods of up to 3 years following the spin-offs. The sample period ran between 1965 and 1988. The results indicated the presence of significant positive abnormal returns for spin-offs, their parents, and the parent-spin-off combinations. Furthermore, a study of value improvement following spin-offs by Chemmanur and Yan (2003) recommended that spin-offs are associated with long-term performance. In another study, Bhana (2004) investigated voluntary spin-offs occurring between 1988 and 1999 on the JSE. The study indicated that both the spin-offs and their parents had significant positive abnormal returns for up to 3 years after the spin-offs' announcement date.

Nonetheless, Woo et al.'s (1992) findings completely disputed the above findings. The authors investigated the 3-year post-restructuring performance of 51 firms that were spun-off between 1975 and 1986. On average, they found no performance improvement of the spun-off units following separation from the parent firms. Similarly, a study by Majoni et al. (2014) on the impact of spin-offs on shareholder wealth for parent firms listed on the JSE over the period 1995 to 2011 reported significant negative cumulative abnormal returns for up to 250 days and 500 days following the spin-off announcement. However, the literature demands that long-run studies should be considered for at least 3 years following the event. If the study had monitored performance for at least 3 years, everything else being equal, different results might have come out. Comprehensively, Kleiman and Sahu (1990) investigated share price performance of 40 newly spun-off firms between 1984 and 1987. After 1 month of trading, the average market-adjusted return for the 40 spun-off firms was -1.7%. After 3, 6, 9, and 12 months of trading the average market-adjusted return for the 40 spun-off firms was 4.8%, 14.6%, 22% and 22.7% respectively. This is a typical study that disputes Majoni et al. (2014) on the basis that over time, spin-off performance may improve and if performance is investigated for at least 3 years and above then any result arrived at irrespective of the nature should be considered robust.

Most studies undertaken for post sell-off performance have shown some similarities with studies carried out on spin-offs. Hillier, McColgan and Werema (2005) examined the operating performance of UK firms following a decision to sell-off non-financial assets. The study was carried out between 1993 and 2000. A significant improvement in firm operating performance was reported after the sell-off exercise. Again, Gadad, Stark and Thomas (2007) conducted a study on whether sell-offs are associated with changes in operating performance for both the buyer and the seller between the period 1st January 1985 to 31st December 1991. The results indicated that the operating performance of the buyers and the sellers increased by 3% and 3.1% per annum respectively on an average for 3 years after the sell-off. Conversely, in a study on sell-offs on the JSE over the period 1995 to 2011, Majoni et al. (2014) reported that sell-offs are impacted negatively post-announcements.

Research on corporate unbundling has received little attention in the literature compared to corporate mergers and acquisitions (Gadad & Thomas 2005). Despite this fact, a review of prior literature reveals that an unbundling announcement is not a trivial event and that it is usually accompanied by changes in the wealth of shareholders (Bhana 2006). The amount of wealth created by a particular strategy may vary from one country to another. Research conducted on spin-off announcements in USA and Europe by Dasilas et al. (2011) revealed that the US spin-offs provided

a stronger response from investors than the European spin-offs. No clear explanation for this wealth discrepancy between countries has been given. However, similar research in South Africa may show lesser wealth effects than in USA and Europe given that the economy structure consists of many holding companies that could not unbundle due to the apartheid era but only started unbundling a few years ago after the advent of democracy. Therefore, if after an unbundling exercise in a particular economy there are no significant returns, it may not necessarily imply that in the future significant returns will not be found. It might be that the market is still trying to adjust and accommodate the strategy.

Data and methodology

The event study methodology, namely, a matching firm approach developed by Dasai and Jain (1999), which uses the buy and hold technique to calculate abnormal returns was used. This was consistent with the approach adopted by Bhana (2004) on the South African companies to determine long-run performance of unbundling transactions. Major methodologies adopted by various authors over time to investigate the performance of corporate unbundling events are; the market model approach that aggregates results through CAARs and the matching firm technique that aggregates results through Buy and Hold Abnormal Returns (BHARs). Literature on corporate restructurings concentrate on the use of either compounded long-run abnormal returns (BHARs) or measures of average periodic performance (CAARs) (Gershgoren, Hughson & Zender 2005). In order to adopt the most appropriate method for the study, the following considerations were met:

- The BHARs under the matching firm technique concentrate exclusively on long-term trends. The BHARs directly measure investor experience (Gershgoren et al. 2005) and yield solid returns. It is argued that a long-run event study should not use CAAR as a performance measure because it is a biased predictor of investor experience (Barber & Lyon 1997). Therefore, rejecting the null hypothesis of no abnormal returns measured as average period abnormal return does not imply a lack of abnormal return as measured by the BHAR (Gershgoren et al. 2005).
- Furthermore, the use of BHAR automatically solves the problem of portfolio rebalancing associated with CAARs. This rebalancing bias arises because while the compound returns of a reference portfolio (an equally weighted index) are determined assuming monthly rebalancing, the compound returns of sample firms are determined without rebalancing (Barber & Lyon 1997).
- The BHARs can be calculated using a reference portfolio and matching firms. At this level, a reference portfolio can be created by using market value of equity, price earnings ratio and other measures. But the research adopted the BHAR by a matching firm technique. According to Fama (1998), the BHAR under the reference

portfolio approach are highly skewed and as such cause standard tests to have the wrong size.

- Nevertheless, the matching firm technique is a one-to-one comparison. The method directly compares two different firms belonging to one sector or industry under one economic environment. Unlike the market model, normal returns determined from a market index are compared with returns of event firms. This means that firms which do not belong to the same industry with the event firms are used to determine abnormal returns. As such, CAAR under the market model is not an appropriate performance measure, especially in the long-run.

Matching is done on the first day of trade after the event. The process is done on the basis of relevant risk characteristics and the matched stocks not being exposed to the event of interest (Sitthipongpanich 2011:63). The measure considered by the study for matching, is the market value of equity. In the selection process, the matching firm considered is the one whose market value of equity is closest to that of the event firm and belongs to the same sector or industry with the event firm. In the case where the first matching firm's share price data is not available throughout the investigation horizon, the study resorts to the next matching firm. A matching firm operating in a different sector to that of the event firm is only considered if no matching firm operating in the same sector with the event firm is found. The same holds if no matching firm operating in the same industry with the event is found. Irrespective of how the matching firm is selected, it must be the closest to the event firm in terms of market value of equity.

Sources of data and variables

The sample consists of companies listed on the JSE during the period 2000 to 2016 that had passed through genuine voluntary unbundling announcements (Table 1). The study utilized 82 companies which undertook genuine corporate unbundling. The 82 companies resulted in

TABLE 1: Final sample statistics from 2000–2016.

Year	Spin-offs	Parent spin-offs	Sell-offs	Parent sell-offs	Total divestitures	Percentage of final sample (%)
2000	0	0	0	1	1	1.22
2001	1	0	0	1	2	2.44
2002	4	0	0	6	10	12.20
2003	2	1	1	1	5	6.10
2004	1	1	0	1	3	3.70
2005	0	1	2	3	6	7.32
2006	2	2	2	0	6	7.32
2007	3	2	1	1	7	8.52
2008	2	2	1	2	7	8.52
2009	1	0	3	3	7	8.52
2010	2	2	2	0	6	7.32
2011	3	1	0	0	4	4.88
2012	0	2	2	1	5	6.10
2013	1	0	0	0	1	1.22
2014	3	2	0	1	6	7.32
2015	1	1	0	2	4	4.88
2016	0	0	2	0	2	2.44
Total	26	17	16	23	82	100

SENS, Securities Exchange News Service.

17 parent spin-offs, 26 spin-offs, 23 parent sell-offs and 16 sell-offs.

Data were collected from unbundling announcements published by JSE Securities Exchange News Service (SENS) and Share Data Online. The JSE SENS database and Share Data Online are very consistent in announcing unbundling events and monitoring them from initial announcements to finalisation. Some of the announcements related to sell-offs were obtained from the Competition Commission of South Africa. To arrive at a final sample, the following considerations were made:

- Only finalised events were considered since these events have to be studied for a long-term period.
- In the case where an event firm was found to have passed through more than one unbundling announcement within the investigation horizon, the firm was not considered. Thus, the potential effect of confounding events was mitigated. A firm could also be considered if it had restructured more than once within the study period (2000–2016) and each of the events fell in a different investigation horizon.
- Only voluntary divestitures were considered as forced divestitures are not motivated by wealth creation.

In order to allocate matching firms to each event firm, the African Markets database was used as it provides all companies listed on the JSE and their sectors. The monthly share price data and market value of equity required with respect to the event firms and the matching firms were obtained from I-NET BFA database.

Estimation model

The study considered 2 years prior to and 4 years after announcements as a horizon to investigate parent performance. The horizon considered for subsidiaries (spin-offs and sell-offs) is 4 years after unbundling. Therefore, abnormal returns are determined from 2 years prior to announcements and 4 years after. The holding periods used for analysis are 2 years prior to unbundling and 6 months, 1 year, 2 years, 3 years and 4 years after unbundling. Data analysis assumes the matching firm technique under BHARs. The technique follows a sequence of operation shown below.

The raw returns for the event firms are calculated by computing returns $R_{i,T}$ for all holding periods considered:

$$R_{i,T} = \left[\prod_{t=1}^T (1 + r_{i,t}) \right] - 1 \quad [\text{Eqn 1}]$$

Where, $r_{i,t}$ is the return for firm i in time t . The matching firms buy and hold returns $R_{i,t}^m$ are also computed as in (1). If the event firm stops trading at a particular point, a buy and hold return is computed using the last available share price and this return is used as a performance measurement for all subsequent intervals (McConnell, Ozbilgin & Wahal 2001).

The BHARs for each event firm is simply the difference between the long-run holding period return for that firm and

the long-run holding period return for the matching firm (Gershgoren et al. 2005). This is calculated from the following equation:

$$BHAR_i = R_{i,T} - R_{i,T}^m \quad [\text{Eqn 2}]$$

In order to aggregate the data for an overall inference, the mean difference of the buy and hold returns is calculated as:

$$\overline{BHAR}_T = \frac{\sum_{i=10}^N [R_{i,T} - R_{i,T}^m]}{N} \quad [\text{Eqn 3}]$$

Where N stands for the number of firms in a sample.

However, a two-tailed T-test was used for testing statistical significance of \overline{BHAR}_T :

$$t = \frac{\overline{BHAR}_T}{\frac{s}{\sqrt{N}}} \quad [\text{Eqn 4}]$$

Where:

- S is the sample standard deviation of BHARs and
- N is the number of firms in a sample.

Ethical consideration

This is to certify that the dissertation entitled, The Performance of Corporate Restructurings: Evidence from the JSE Limited, submitted by, Mitteran Enow Nkongh for the degree of, Master of Commerce at the University of South Africa, University of South Africa, 2018/CEMS/FRMB/OO9, 01/06/2018.

Empirical results and discussion

Empirical results

The results are placed under three major categories, namely, the performance of spin-offs, the performance of sell-offs, and the difference between the performance of sell-offs and spin-offs. The analysis concentrates around BHAR (adjusted). The Mean Raw Return (MRR) (unadjusted) is also considered but to a limited extent since the purpose of the study is to compare an event firm's performance to that of an average firm which did not undertake any restructuring activity.

TABLE 2: Share price performance of 17 parent spin-offs for the period 2000–2016 ($n = 17$).

Statistics	24-X	X-6	X-12	X-24	X-36	X-48
Panel A: Raw returns (MRRs)						
Mean	0.7893	0.17	0.3121	0.6946	0.8549	0.9621
Standard deviation	1.3114	0.2222	0.1931	0.1991	0.1846	0.1688
t-statistic	1.9926*	3.4267***	2.5391**	0.2259	0.5914	1.36
Panel B: Matched firm adjusted returns (MFARs)						
Mean	0.4857	0.1056	0.2125	0.425	0.3157	0.4906
Standard deviation	5.5371	0.3801	0.5124	0.9969	1.3721	1.2422
t-statistic	1.0977	11.7312***	9.8539***	6.7332***	4.3799***	4.2062***

MRR, Mean Raw Return.

*, denotes 10% significance level; **, denotes 5% significance level; ***, denotes 1% significance level.

Share price performance of spin-offs: Parents and spin-offs returns

To measure the value created through spin-offs, the study performed an analysis of 17 parents and 26 spin-offs. Both the MRRs and BHARs (Table 2) and (Table 3), were calculated from 24 months before the spin-off to 48 months after the spin-off. In calculating BHARs, we took the parent and the spin-offs firms' raw returns and subtracted the returns of their various matched firms on the basis of sector, industry and size factors over the same period. The analysis was run from 24 months before and 48 months after the X-date (date of first trade after the event) for the parents. For the spin-offs, the analysis was run for 48 months after the X-date.

Share price performance of sell-offs: Parent sell-offs and sell-offs

The performance of sell-offs transactions were analyzed using the same metric as the case of spin-offs. To examine value created through sell-offs, we analyzed the performance of 23 parent sell-offs and 16 sell-offs. Like spin-offs, MRRs and the BHARs (Table 4 and Table 5), were examined for 24 months to the X-date and 48 months after.

Share price performance difference between sell-offs and spin-offs

The difference in the performance between sell-offs and spin-offs (Table 6) would indicate the best alternative on the JSE for a long-term period following their announcements. We subtracted the raw returns and the adjusted returns of spin-offs from that of sell-offs.

TABLE 3: Share price performance of 26 spin-offs for the period 2000–2016 ($n = 26$).

Statistics	X-6	X-12	X-24	X-36	X-48
Panel A: Raw returns (MRRs)					
Mean ri	0.0437	0.1288	0.2636	0.3416	0.494
Standard deviation	1.3721	0.9773	0.6961	0.572	0.4964
t-statistic	2.1887**	2.457**	2.7454**	3.3469***	3.8575***
Panel B: Matched firm adjusted returns (MFARs)					
Mean	0.0095	0.1158	0.1903	0.26	0.3534
Standard deviation	4.6954	4.3243	5.2508	8.8317	5.8299
t-statistic	6.409***	7.1843***	9.1934***	8.8223***	9.3718***

MRR, Mean Raw Return.

*, denotes 10% significance level; **, denotes 5% significance level; ***, denotes 1% significance level.

TABLE 4: Share price performance of 23 parent sell-offs for the period 2000–2016 ($n = 23$).

Statistics	24-X	X-6	X-12	X-24	X-36	X-48
Panel A: Raw returns (MRRs)						
Mean ri	0.6912	0.1488	0.2724	0.6084	0.7488	0.9684
Standard deviation	0.5088	0.2436	0.2436	0.1944	0.18	0.1836
<i>t</i> -statistic	1.3656	1.0296	2.8692**	3.8712***	4.6668***	5.8512***
Panel B: Matched firm adjusted returns (MFARs)						
Mean	0.3996	0.0876	0.174	0.3492	0.2592	0.4032
Standard deviation	5.1588	0.5796	0.8412	1.2252	1.6608	2.6748
<i>t</i> -statistic	2.4744**	0.6828	1.6068	1.6116	0.4824	10.9644*

Source: Based on Authors' analysis of parent sell-off performance (2000–2016), using share price data from I-NET BFA database

MRR, Mean Raw Return.

*, denotes 10% significance level; **, denotes 5% significance level; ***, denotes 1% significance level.

TABLE 5: Share price performance of 16 sell-offs for the period 2000–2016 ($n = 16$).

Statistics	X-6	X-12	X-24	X-36	X-48
Panel A: Raw returns (MRRs)					
Mean ri	0.0274	0.0789	0.1623	0.2103	0.304
Standard deviation	0.4549	1.1577	0.816	0.6697	0.5531
<i>t</i> -statistic	0.312	1.1909	1.5349	1.7497*	1.5554
Panel B: Matched firm adjusted returns (MFARs)					
Mean	0.0314	0.0526	0.0857	0.1177	0.16
Standard deviation	0.5198	6.8857	10.4309	9.8023	4.0331
<i>t</i> -statistic	0.3566	2.9211***	4.5349***	4.6514***	4.7177***

Source: Based on Authors' analysis of sell-offs performance (2000–2016), using share price data from I-NET BFA database

MRR, Mean Raw Return.

*, denotes 10% significance level; **, denotes 5% significance level; ***, denotes 1% significance level.

TABLE 6: Performance difference between sell-offs and spin-offs for the period 2000 to 2016.

Statistics	X-6	X-12	X-24	X-36	X-48
Panel A: Raw returns (MRRs)					
Mean	-0.0163	-0.05	-0.1013	-0.1313	-0.19
Standard deviation	0.9172	0.1804	0.1199	0.0977	0.0569
<i>t</i> -statistic	-1.8767*	-1.2661	-1.2105	-1.5972	-2.302**
Panel B: Matched firm adjusted returns (MFARs)					
Mean	0.0219	-0.0632	-0.1046	-0.1423	-0.1934
Standard deviation	4.1755	2.5614	5.1800	0.9706	1.7968
<i>t</i> -statistic	6.0524***	-4.2631***	-4.6585***	-4.1708***	-4.6541***

Source: Based on Authors' analysis and comparison of spin-offs and sell-offs performance (2000–2016), using share price data from I-NET BFA database

MRR, Mean Raw Return.

*, denotes 10% significance level; **, denotes 5% significance level; ***, denotes 1% significance level.

For holding periods X-6, X-12, X-24, X-36 and X-48, the differences in their MRRs are -1.63% , -5% , -10.13% , -13.13% and -19% respectively. The differences in their BHARs for the same sub-periods are 2.19% , -6.32% , -10.46% , -14.23% and -19.34% respectively.

Discussion of research results

The following hypotheses are considered to verify the significant of BHARs for parent firms and their subsidiary for 24 months to the X-date and throughout 6, 12, 24, 36 and 48 months after.

Hypothesis 1

Ha: $BHAR_{\text{parent}} \neq 0$

H0: $BHAR_{\text{parent}} = 0$

Hypothesis 2

Ha: $BHAR_{\text{sunbundled } D} \neq 0$

H0: $BHAR_{\text{sunbundled } D} = 0$

Hypothesis 3

Ha: $BHAR_{\text{sselloff}} - BHAR_{\text{sspinoff}} \neq 0$

Ha: $BHAR_{\text{sselloff}} - BHAR_{\text{sspinoff}} = 0$

Considering these three hypotheses, the alternative hypothesis states that any outcome of the result is significantly different from zero. According to the null hypothesis, any outcome of the result is not significantly different from zero. Therefore, the null hypothesis can only be rejected if the results are significantly positive or negative, thus, verifying if corporate unbundling is a trivial or non-trivial issue on the JSE.

The parent spin-offs show a continuous significant outperformance over their matched firms with BHARs of 10.56%, 21.25%, 42.5%, 31.57% and 49.06% for 6, 12, 24, 36 and 48 months after the X-date (Table 2). Like parent spin-offs, spin-offs show a continuous significant outperformance over their matched firms by 0.95%, 11.58%, 19.03%, 26% and 35.34% for 6, 12, 24, 36 and 48 months holding periods accordingly (Table 3). Furthermore, with the exception of X-6 holding period, a similar trend is depicted for sell-offs with significant positive BHARs of 5.26%, 8.57%, 11.77%, and 16% for 12, 24, 36 and 48 months respectively after unbundling (Table 5). Therefore, the null hypothesis is rejected for parent spin-offs, spin-offs and sell-offs throughout all holding periods after unbundling, except for X-6 holding period for sell-offs. These significant results mean that corporate unbundling on the JSE is not a trivial issue, and that it unlocks shareholders' wealth. This performance is consistent with the study on long-run performance of spin-offs and their parents by Bhana (2004) and Dasai and Jain (1999) in South Africa and USA respectively.

Unlike parent spin-offs, spin-offs and sell-offs, parent sell-offs show a dissimilar performance trend with insignificant positive excess returns of 8.76%, 17.4%, 34.92% and 25.92% for 6, 12, 24 and 36 months respectively after unbundling (Table 4). The only significant result occurred at 48 months after unbundling and it is significant at only 10% level.

Therefore, the null hypothesis is accepted for X-6, X-12, X-24 and X-36 holding periods and rejected for X-48 holding period. Nevertheless, from Table 6, spin-offs significantly outperform sell-offs for X-12, X-24, X-36 and X-48 holding periods with BHARs of 6.32%, 10.46%, 14.23% and 19.34% respectively. Sell-offs only significantly outperform spin-offs for 6 months after unbundling. Hence, the research rejects the null hypothesis throughout all holding periods, except for X-6 holding period whereby spin-offs underperform sell-offs. The continuous outperformance of spin-offs over sell-offs may be due to a possible hidden agenda by parent sell-offs to completely transfer risky assets to the buyer.

Two years prior to unbundling, both the parents of spin-offs and sell-offs show positive BHARs, but the parent sell-offs experience positive significant BHARs of 40% (Tables 2 and 4). The significant outperformance of the parent sell-offs over their matching firms prior to unbundling can be attributed to inside trading ahead of public announcement of sell-offs (Bhana 2004). Therefore, the announcement process of spin-offs can be more information efficient than sell-offs on the JSE.

Tables 4 and 5 display that sell-offs performance is superior to that of their parents. The poor performance of parent sell-offs relative to their subsidiaries may be due to lack of investors' confidence in the possibility of these companies to create wealth after the sell-off. For spin-offs after the transaction, both the parents and their subsidiaries share common facilities and this can explain why both the parent spin-offs and their subsidiaries continuously outperform their matching firms with strong positive results throughout all holding periods. However, compared to the parents, the stock market performance of their subsidiaries is always stronger potentially because the subsidiaries are smaller in size and are more focused than their corresponding parents (Dasai & Jain 1999:90). Notwithstanding, the BHARs for parent sell-offs become more and more positive with positive significant excess return of 40.34% observed for X-48 holding period. This research demonstrates that investors tend to value parent-sell-off companies over time. Therefore, after a sell-off, investors' confidence in the parents progressively increases with time. Unlike parent sell-offs, sell-offs show significant outperformance due to the ability of the buyer to integrate the assets in the business.

Furthermore, the study provides a direct comparison in share price performance between spin-offs and sell-offs (Table 6). According to the adjusted returns results, spin-offs significantly outperform sell-offs from 1 year and up to 4 years after unbundling. Sell-offs only significantly outperform spin-offs for 6 months after unbundling. Under unadjusted returns basis, spin-offs outperform sell-offs for all holding periods and significantly outperform sell-offs for X-6 and X-48 holding periods. Overall, restructuring through

a spin-off on the JSE unlocks shareholder' value better than a sell-off.

Unlike BHARs, MRRs simply demonstrate the performance of unbundling on an unadjusted basis. Therefore, the performance of an event firm relative to an average company is not considered by this measure. Both the MRRs and the BHARs are derived from buy and hold returns. Unlike the BHARs, MRRs give the exact position of the company at a particular time without considering the position of an average company operating in the same sector or industry.

In a nutshell, the MRRs of an event firm can be very poor, but when the BHAR measure is used the firm may still hold a better position than an average company belonging to its sector of operation or industry. Mean Raw Returns are considered to a limited extent since the essence of the research is to compare the performance of companies that restructured with those which did not restructure. Overall, the MRRs are positive throughout all holding periods for both samples. The MRRs are weaker relative to BHARs, with only spin-offs and parent sell-offs showing strong positive MRRs from 1 to 4 years after unbundling. Spin-offs show strong positive MRRs throughout all holding periods.

According to these results, on average spin-offs and parent sell-offs do well after unbundling on an unadjusted basis. Spin-offs' performance is outstanding following adjusted and unadjusted performance for 4 years after unbundling. Parent spin-offs and sell-offs appear weaker relative to spin-offs and parent sell-offs under MRRs measure. However, parent spin-offs appear better in performance with significant MRRs observed for X-6 and X-12 holding periods. On non-adjusted basis, spin-offs only significantly outperform sell-offs for X-6 and X-48 holding periods. While the findings of the study are not consistent with those by Majoni et al. (2014) on the JSE who found negative abnormal returns for 250 and 500 days after spin-offs and sell-offs, they are consistent with the general trend of corporate unbundling performance.

Conclusion

This study has extended the traditional investigation horizon of 3 years to 4 years after unbundling in SA. Even on the international scale, most studies are limited to 3 years after unbundling. The paper complements the study by Bhana (2004) by providing a longer term horizon in investigating the performance of spin-offs and sell-offs on the JSE. The results of the study show that spin-offs, parent spin-offs and sell-offs significantly outperformed their matching firms from 1 year and up to 4 years after unbundling. Parent sell-offs only experienced a significant BHAR in the 48 months holding period after unbundling. Again, only the parent sell-offs showed a significant BHAR for 2 years prior to unbundling. According to the study, the parent sell-off companies traded ahead of public announcement and this

has a transfer effect on sell-offs performance, making sell-offs less market efficient than spinoffs. Overall, the study provides that corporate unbundling unlocks shareholders' value.

The strong positive abnormal returns imply that shareholders should take a major step and unbundle unwanted business divisions or subsidiaries that are rent-seeking and less productive. In essence locked wealth by this unproductive division or subsidiary is released and, the entire business becomes focused on its core competence.

This study recommends conglomerates to embark on corporate refocusing through spin-offs and sell-offs. The complex nature of big companies may put in a diversification discount due to assets' under-utilisation. Corporate unbundling is undertaken by corporations for several reasons. Most often, sell-offs are considered as a means to create cash for other investments or to pay back a company's debts. Therefore, though spin-off has been placed as the first priority on the JSE by the research, some companies in need of cash will still refocus through asset sale and especially when they find such assets unprofitable to them. The parent sell-off sample of the research could only show significant outperformance over their matched counterparts for just 48 months post unbundling. For 6, 12, 24 and 36 months after unbundling they show positive BHARs which were not significant. Therefore, companies willing to downsize their business through sell-off should take necessary steps before the event.

Nonetheless, the limitation of this study is that the matching firm procedure may not provide results that reflect the whole JSE Limited, since the event firms are matched to specific firms. This is the main advantage of using a market index (All Share Index) which constitutes the average performance of companies on the JSE Limited.

Considering the growing trend of corporate spin-offs and sell-offs, research on market efficiency of these restructuring strategies should be prioritised. Future research should focus on how efficient spin-off and sell-off transactions are around announcements and post-restructuring.

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Authors' contributions

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Disclaimer

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