



Spin-Offs in Australia

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Abstract

Wealth effects of the spin-off method of corporate divestiture are investigated using a sample of Australian firms undergoing such restructuring in the 1990s. The results show unequivocally that firms undertaking a spin-off to restructure assets create value for shareholders. Excess returns in the three-day window around the announcement date averaged 6.9%, comparable to recent US and European results. Measures representing information asymmetry, focus enhancement, flexibility of operations, economies of scale, and growth opportunities were found to be associated with the excess returns, although not all in the expected direction.

1. Introduction

Spin-offs as a form of corporate restructuring have always been reasonably frequent in US capital markets. However, they have only become popular in Australian and European markets in the second half of the 1990s. What has motivated Australian corporations to make these pro-rata distributions of shares in a subsidiary to the shareholders of a firm? Some commentators in the financial press are sceptical of the reasons underlying the restructuring. In the words of Bartholomeusz (2000) concerning the spin-offs of BHP, Boral and Amcor:

"The demerger (spin-off) may be the final draw card management and boards have to play to break a cycle of market negativity. Investors appear to see

re-structuring as an admission of failure to produce organic performance, no matter how sensible the restructuring."

While there is no empirical evidence on the wealth impacts of such actions on Australian shareholders, overseas evidence does not support such scepticism regarding the benefits of spin-offs. Nearly all the US research which has analysed the wealth effects of spin-offs has reported significant positive abnormal returns around the announcement date for periods dating from 1963 to 1999 (e.g., Schipper and Smith, 1983; Miles and Rosenfeld, 1983; Seward and Walsh, 1996; Desai and Jain, 1999; Mulherin and Boone, 2000). While the early European evidence suffered from small sample sizes a recent comprehensive study by Veld and Veld-Merkoulova (2003) reports positive abnormal returns, comparable to the US work.

This study considers what motivates Australian firms to conduct spin-offs and whether they actually create value for investors in a manner consistent with evidence from other capital markets. The study confines itself to an examination of the short term wealth impacts, providing a direct comparison with similar recent US and European research. While the investigation of security returns around the announcement date may not capture the complete effects of the restructuring (Cusatis et al., 1993; Desai and Jain, 1999), it does investigate whether there is a short run wealth impact from spin-offs (Hite and Owers, 1983; Schipper and Smith, 1983; Miles and Rosenfeld, 1983).

Keywords: spin-offs, divestitures

The results show unequivocally that firms undertaking a spin-off to restructure assets create value for shareholders. Market excess returns, in the three-day window around the announcement date, were found to average 6.9%. The paper then turns to an examination of the economic factors suggested in the literature which underlie such wealth effects, including growth opportunities and operational flexibility (e.g., Miles and Rosenfeld, 1983), information asymmetry (e.g., Krishnaswami and Subramaniam, 1999), and focus enhancement (e.g., Desai and Jain, 1999).

The paper is organised in the following way. Section 2 provides a review of the American and European theoretical and empirical literature concerning the short run wealth impacts of spin-offs. Research method and data are described in Section 3. Section 4 presents the results of the market's reaction to spin-off announcements, and discusses the cross-sectional model used to examine the factors associated with the reported wealth effects. Finally, in Section 5, conclusions and future research directions are discussed.

2. The short run wealth impacts of spin-offs

Empirical research into the shareholder wealth effects of spin-offs began some twenty years ago in the US (Hite and Owers, 1983; Miles and Rosenfeld, 1983; Schipper and Smith, 1983). Since that time, the literature has consistently documented significantly positive price reactions to US spin-off announcements, with excess returns ranging from 1.32% to 5.56%.¹ However, there is little evidence from non-US capital markets where spin-offs as a form of corporate restructuring have not been as extensively used.

Veld and Veld-Merkoulova (2003) suggest the earlier European research (Murray, 2000; Janssens et al., 2000) that reported mixed results suffered by necessity from small sample sizes. They report a cumulative abnormal return of 2.35% over a three-day window centred on the announcement date for 161 European spin-offs in the period 1987 to 2000. There appears to be

no similar Australian research and, since the popularity of spin-offs increased markedly in Australia in the late 1990s, an examination of the associated wealth effects is timely.

Improvement of focus and the elimination of negative synergies between divisions and value enhancement via decreases in information asymmetry have received broad empirical support as factors explaining the abnormal returns. Other potential sources of gain, such as wealth transfer effects, tax and regulatory advantages and restructuring of incentive contracts, might apply to a few firms, although their impact has not been proven to be sufficiently widespread to support an overall significant impact.

Parrino (1977) reported that the Marriott spin-off reduced bondholders' claims on the business' cash flows. However, Hite and Owers (1983) and Schipper and Smith (1983) found that for a large sample of spin-offs average bond returns were not significantly different to zero. Schipper and Smith (1983) and Krishnaswami and Subramaniam (1999) examine, *inter alia*, tax and regulatory motivations for spin-offs. While both studies find no evidence to support the hypothesis that spin-offs are undertaken to escape regulatory constraint, Krishnaswami and Subramaniam, in contrast to Schipper and Smith, find some support for taxation motives. Their two-day average abnormal return for the non-taxable group of 3.43% was significantly higher than the 1.21% earned by spin-offs ruled to be taxable distributions.²

Aron (1991) suggests that spin-offs increase transparency through the separation of reporting schemes and that agency costs are further reduced by the increase in the level of performance based incentive contracts following spin-off. However, while Seward and Walsh (1996) do find the use of performance contingent contracting to increase, they do not find a statistical relationship between the gains around spin-off and any improvements in contracting efficiency.

¹ For a useful summary of previous empirical research on the announcement effects of spin-offs see Table 1 of Veld and Veld-Merkoulova (2003).

² Although tax implications in Australia depend on individual tax rulings, most spin-offs have had minimal taxation implications as they have been treated in much the same fashion as bonus shares and share splits (i.e., a non-taxable distribution resulting in a reduction of the cost base for subsequent capital gains taxation purposes).

Hite and Owers (1983) and Schipper and Smith (1983) postulated that wealth gains around spin-off could be attributable to a reduction in negative synergies, caused by managerial oversight and misallocation of resources through cross subsidization in diversified firms. Hite and Owers classified firms based on the reasons given for the spin-off, while Schipper and Smith's classification was based on industry classification. Both found support for the contention that focus enhancement created value.

Daley et al. (1997) took the reduction in negative synergies argument further, proposing that a non-focus enhancing spin-off was a method of divesting non-performing assets and such events could have negative returns. They found a statistically significant difference between spin-offs where the parent had a different two digit SIC code (4.3%) versus those where the code was the same (1.4%). Krishnaswami and Subramanian (1999) reach a similar conclusion also using SIC codes (3.75% versus 1.86%). Desai and Jain (1999) used three different methods of classifying spin-offs as focus enhancing – a Herfindahl Index, the number of segments reported and, in line with other studies, a two digit SIC classification. Ninety percent of their classifications were insensitive to the definition of focus used and they concluded that their results of significantly higher performance for focus enhancing firms was robust to the classification scheme. Veld and Veld-Merkoulova (2003), using a two digit SIC classification, report a significantly higher average abnormal announcement return of 2.89% for industrial focus enhancing firms, compared to 1.20% where industrial focus was not enhanced. They also found some evidence that increased geographical focus, via the spin-off of foreign divisions, was associated with higher returns than spin-offs of purely domestic divisions.

Interestingly, and contrary to the US evidence, Veld and Veld-Merkoulova (2003) did not find any relation between the level of information asymmetry and the size of the abnormal return. The rationale behind the information asymmetry hypothesis is that, since the firms are now separate entities, market participants are better able to separate the cash flows of the two bodies. This separation leads to an enhanced ability to value the separate entities,

thus mitigating the adverse selection problem caused by information asymmetry (Krishnaswami and Subramanian, 1999). Consistent with this argument, Nanda and Narayanan (1999) formally develop a model about firm value under asymmetric information. In equilibrium an overvalued firm in need of capital will issue new equity without separating its divisions, however, an undervalued firm in need of capital will raise equity, either via a divestiture or divestiture/spin-off followed by a subsequent capital raising. Evidence supporting this information related argument for spin-offs is supplied by Gilson et al. (2001) who report a greater accuracy in analysts' forecasts following spin-offs.

Krishnaswami and Subramanian (1999) argue that the information hypothesis not only predicts a positive share price reaction to spin-offs, but also predicts a reduction in information asymmetry. If the division spun-off is in the same industry as the parent, implying a lack of possible negative synergies, they expect the information asymmetry argument to be a more important explanation of shareholder gains. Krishnaswami and Subramanian's results were consistent with their expectations. Using five different measures they found that firms with higher levels of information asymmetry exhibited higher announcement abnormal returns. Their results were robust to the measure chosen and, further, they report that none of the measures were significantly correlated with their negative synergies measures.

Both the focus enhancement and information asymmetry arguments are consistent with the results of Cusatis et al. (1993), who conclude that by isolating divisions or 'pure-plays', spin-offs facilitate takeovers, thus increasing the division's value. This increase in value could be due to a reduction in negative synergies between parent and spin-off or an enhanced ability to better value the entities, due to the reduction in information asymmetry. In a similar vein, evidence that spin-offs are followed by higher capital raisings than similar firms is consistent with such firms having growth opportunities in place (Miles and Rosenfeld 1983), or a need to reduce financing costs by lowering information asymmetry.

Variables representing the preceding factors, along with control variables for size and relative size, are further discussed in section 5.

3. Research method and data

Share market reaction to the announcement of a spin-off is examined using standard event study methodology. Continuously compounded market excess returns, adjusted for dividends and capitalisation changes, were calculated for the various holding periods. The All Ordinaries Accumulation Index was used as the benchmark in calculating excess returns. In the few cases where no trades occurred, the average of the best midnight bid/ask spread was used.³ Potential determinants of the level of abnormal returns were examined through a cross-sectional regression (Campbell et al. (1997) provide a discussion of the method).

Signal G was used to search for Australian listed companies involved in spin-offs from September 1992 to June 2000.⁴ A pure spin-off, involving a voluntary, pro-rata distribution of all of the shares of a wholly owned subsidiary to the existing shareholders of the firm (Krishnaswami and Subramanian, 1999), is quite uncommon. In the US the removal of the (approximately) two-thirds of 'impure' spin-offs has still left sufficient numbers to analyse (Daley et al., 1997). However, the Australian search described above produced only three cases of pure spin-offs.⁵ The definition used was therefore broadened to include restructuring, resulting in the separation of the spun-off entity from the parent in cases where less than all existing shares were distributed to existing shareholders. In addition, to be included in the study, there had to be the intention, at the time of spin-off, of a separate listing on a stock exchange. This process resulted in a final sample of 22 companies. A review by practitioners in the field added no further names to the list.⁶

Nine of the twenty-two restructurings involved a free disbursement to existing shareholders, eight involved capital raisings with existing shareholders receiving preferential treatment, and the remaining five involved a combination of free disbursement and capital raising. The free disbursements ranged from 45% of the subsidiary's shares to the three cases of 100%. The capital raisings ranged from preferential rights in an IPO to a 100% issue of renounceable rights. The five mixed spin-offs involved three cases of free distribution with attached rights, one case of a rights entitlement with a proposed (later) free distribution and one concurrent issue of free shares and entitlements. Variables representing these departures from pure spin-offs are included in the multivariate model presented in the results section.

To comply with ASX listing requirements and the Corporations Law, several steps need to be followed, including the initial announcement of the intended restructuring to the ASX and shareholders, the submission of a Scheme of Arrangement for both shareholder and court approval, and application for listing of the spun-off entity. The spin-off process is often, therefore, a drawn out affair with information emerging over several weeks.

Initial dates for the spin-offs were obtained from ASX announcements. Company announcements in the twelve months either side of this date were then reviewed to isolate the announcement that confirmed the nature of the planned restructuring. The announcement that confirmed that a subsidiary was to be separated from the parent with the intention of a separate listing was selected as 'day 0' (the announcement date). The majority of the sample comes from the late 1990s and seventeen of the twenty-two proposed spin-off entities have subsequently been listed on the ASX.

The announcement date chosen (day 0) was the date that confirmed the planned separation of a subsidiary. There were earlier news releases that pointed to this event as a possible/probable occurrence, and later releases that disclosed fuller details of the nature of the spin-off. Following Limmack (1991), the problem is addressed by reviewing abnormal performance over differing event periods. The impact of the restructuring was investigated by examining returns 50 days either side of day 0 [-50, +50]. Different event windows, within this overall period, were examined to garner insight into the nature of the market's reaction.

3 Data came from the Core Research Database (CRD) supplied by the Securities Industry Research Centre of Asia-Pacific (SIRCA). Any missing data were collected from the *Australian Financial Review*. Trades occurred on average 98% of the time with all companies trading most days.

4 The key words eventually used to locate the sample were: spin-off, spinoff, spin off, spin-out, de-merger, and in-specie distribution.

5 BHP's spin-off of OneSteel, Coca Cola Amatil's spin-off of Coca Cola Beverages and Boral's creation of Origin Energy

6 A list of the companies examined is provided in Appendix 1.

4. Results

Figure 1 shows the cumulative average market excess returns (CAERs) for the 101-day window from day -50 to +50.

Figure 1
Cumulative Excess Returns, Days -50 to +50

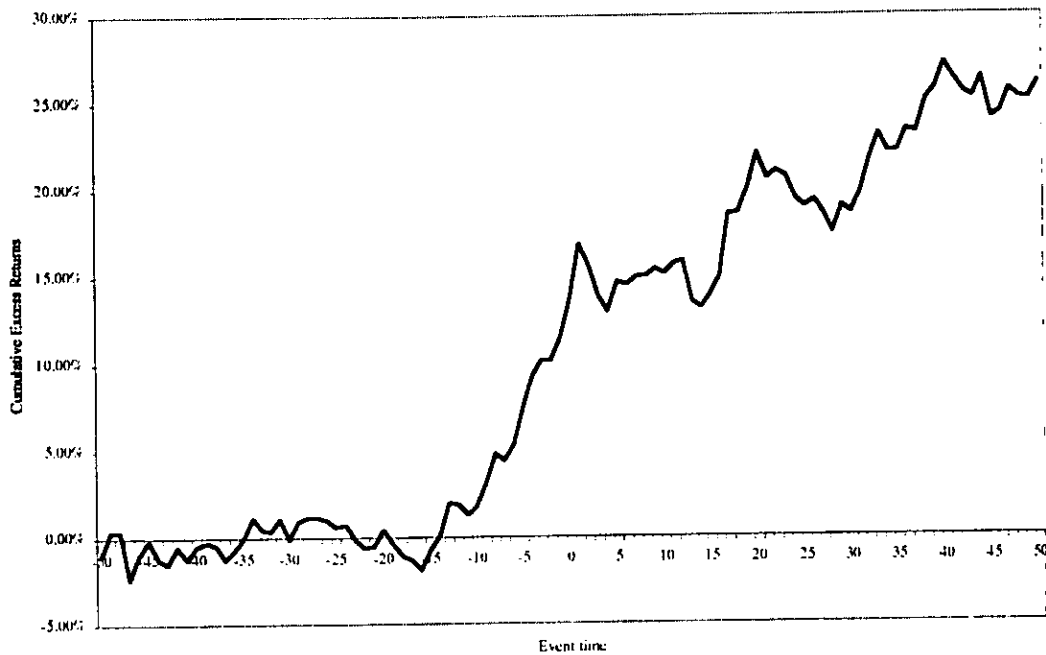


Table 1 shows the CAERs and associated significance tests for various event windows in the investigation period. Since the sample is small and the distribution of excess returns not normal, Table 1 reports the results of the Wilcoxon Matched-Pairs Signed-Rank test, as well as the more traditional t-test. Similar inferences are drawn from either the parametric test or non-parametric test.

Over the 101-day period firms engaging in spin offs earned an average excess return of 26.0%. However, the large standard deviation of 66.6% and median of 0.3% point to the fact that not all spin-offs were received positively by the market, and only half of the firms earned positive excess returns in this period. Reasons for this variation are investigated in the cross sectional analysis reported later.

Prior to day -15 excess returns appear random and, as shown in Table 1, are not significantly different to zero in the period [-50, -15]. However, Figure 1 shows the CAER rising steeply from day -15. Excess returns in the lead up period [-15, -2] average 12.0% (median 9.5%) with a one-tailed statistical significance of $p < 0.05$. Positive, significant excess returns are observed around the announcement date with an average of 6.9% in the three-day [-1, +1] window. These positive returns are comparable with results from research in other markets in the same time period. Mulherin and Boone (2000) report a statistically significant abnormal return of 4.51% for the [-1, +1] window for U.S. spin-offs in the period 1990-1999. Veld and Veld-Merkoulova (2003) report 2.35% over the same window for European spin-offs during 1987-2000.

Table 1
Cumulative Excess Returns

Event window	Mean	Standard deviation	Median	Wilcoxon Signed Ranks Test Z-score	<i>p</i> -value (2-tailed)	Raw return vs. Market T-test	<i>p</i> -value (2-tailed)
[-50,+50]	0.260	0.666	0.003	0.503	0.615	1.329	0.198
[-50,-15]	-0.008	0.236	-0.040	0.666	0.506	-0.380	0.708
[-15,-2]	0.120	0.252	0.095	1.997	0.046	2.031	0.055
[-1,+1]	0.069	0.134	0.021	1.686	0.092	2.312	0.031
[-15,+1]	0.186	0.293	0.132	2.549	0.011	2.824	0.010
[+3,+50]	0.105	0.609	0.023	0.406	0.685	0.497	0.624

The price run up from day -15 is perhaps indicative of the difficulty in designating one particular day as day '0'. Although every effort was made to identify the effective date, the nature of the restructuring and the way information is gradually released would seem to indicate an effective announcement period of around 15 days. Significant positive excess returns averaging 18.6% (median 13.2%) are observed in this [-15, +1] period. An alternative explanation might suggest that information anticipation and/or leakage prior to the official announcement resulted in successful speculation.

Excess returns in the post announcement period are positive, but not significantly different to zero, with an average CAER of 10.5% (median 2.3%) in the [+3, +50] period. Positive or negative returns to sub-sets of companies in this period are not surprising, as often more information is released about the nature of the disbursement to shareholders. For example, contrast the possible later announcements of a 100% free disbursement with only a partial preference in a new capital raising. The sample size, however, was not sufficient to permit an investigation of this post announcement period.

The results are clear. Shareholders in Australian firms announcing a planned spin-off earned, on average, significant positive excess returns consistent with the evidence from US and European capital markets. The next section examines various factors that provide some theoretical support in explaining such economic wealth effects.

3.1 Cross-sectional analysis

Suggested reasons for spin-offs creating value can be broadly classified as deriving from either market imperfections or firm structural imperfections. Market imperfections include information asymmetry, taxation, regulation, illicit transfers between firm stakeholders, and investor value differentiation. Structural differences between companies mean that, as firms become larger and more diversified, efficiency declines due to agency costs, specialisation impairment, and the complexity of operations from these imperfections. Of these hypothesised drivers of spin-off wealth creation only information asymmetry and the negative synergies resulting from structural imperfections have received broad empirical support (e.g., Daley et al., 1997; Krishnaswami and Subramaniam, 1999).

Table 2 reports the results of univariate and multivariate cross-sectional regressions testing the purported sources of value.⁷ The dependent variable is the cumulative excess return in the effective announcement [-15, +1] window. Only

⁷ The sample size precluded using all potential explanatory variables in a single multivariate equation and, from this initial analysis, deriving parsimonious models using various combinations of those variables. Univariate regressions using each candidate explanatory variable were derived and then the variables found to be significant used to derive the "first pass" multivariate model (equation 7). This procedure enabled the thorough examination of each variable. Heteroscedasticity-adjusted *t*-statistics (White, 1980) that allow valid inferences to be made about the significance of the variables in the presence of heteroscedasticity are reported. However, this adjustment changes inferences only at the margin.

the regressions showing significant explanatory variables are reported.

If not all information regarding firms is impounded in price then undervaluation of securities might occur as a consequence of investors' price protection behaviour (Myers and Majluf, 1984). Spin-off restructuring can be used in such cases to reduce information asymmetry, with any resulting abnormal returns seen as a correction to the previous undervaluation. If the separation of an

undervalued firm into individually operated units with separately traded shares improves the accuracy of information processing, then the sum of the parts may be greater than the market value of the previously combined firms (Nanda, 1991). Levels of pre announcement information asymmetry are proxied by the standard deviation of excess returns in the 100 days prior to the announcement date, while possible changes as a result of the spin-off are captured by a dummy variable, indicating

Table 2
Analysis of the Cross-Section of Cumulative Excess
Returns: [-15,+1] Window

SD Pre is the residual volatility of daily stock returns in excess of the market measured as the standard deviation of excess returns in the 100 days prior to and including announcement date. **Asymmetry dummy** is a dichotomous variable taking the value of one if the SD Pre (defined in the previous sentence) is greater than the standard deviation of excess returns in the 100 days following announcement date. **Focus Enhancing** is a dichotomous variable taking the value of one if the company's announcement to the ASX claims the company's focus is enhanced. **Log Mkt Cap** is the log of market capitalisation in millions of dollars as at the month-end preceding the announcement date. **Capital Raising** is a dichotomous variable taking the value of one if the firm is involved in simultaneous equity issue involving the raising of capital through share issue. **Flexibility of Operations** is a dummy variable taking the value of one if the company's announcement to the ASX claims the spin-off improves company's flexibility.

Equation number	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	-0.150	0.334	0.511	0.439	0.044	0.280	0.379	0.324
<i>t</i> -statistic	(-1.624)	(3.411)**	(4.341)**	(2.868)*	(0.537)	(3.486)**	(1.017)	2.304**
SD Pre	8.651						3.521	2.532
<i>t</i> -statistic	(2.955)**						(0.765)	(1.175)
Asymmetry dummy		-0.295					-0.226	-0.226
<i>t</i> -statistic		(-2.684)*					(-1.369)	(-3.394)**
Focus Enhancing			-0.446				-0.345	-0.334
<i>t</i> -statistic			(-3.535)**				(-2.508)*	(-3.78)**
Log Mkt Cap				-0.048			0.003	
<i>t</i> -statistic				(-2.305)*			(0.08896)	
Capital Raising					0.24		0.204	0.203
<i>t</i> -statistic					(2.082)*		(2.888)**	(3.463)**
Flexibility of Operations						-0.258	0.019	
<i>t</i> -statistic						(-2.375)*	(0.172)	
R-squared (adjusted)	0.294	0.228	0.455	0.119	0.129	0.148	0.610	0.756
<i>F</i> -stat	9.763**	7.203*	18.541**	3.829	4.102	4.639*	6.485**	17.307**

** significant at the 1% level (two-tailed)

* significant at the 5% level (two-tailed)

t-statistics are adjusted following White (1980)

whether this measure is larger than the standard deviation in the 100 days after the announcement date.⁸

Equation (1) in Table 2 reports the results of regressing the excess returns on the pre-announcement measure of information asymmetry. The measure is significantly positively associated with the observed excess returns, supporting the above arguments. Surprisingly, in equation (2), the coefficient for the asymmetry dummy variable shows that the excess returns were negatively associated with a reduction in information asymmetry. However, as reported in Table 1, the standard deviation of excess returns in the [+3, +50] period is a high 60.9% and the earlier discussion highlighted that more detailed information about the restructuring often emerged in the post announcement period.

There are a number of structural imperfections that arise as a firm increases in size and level of diversification. Negative synergies can arise where a firm's operations become large, complex and opaque. By separating the different businesses, a spin-off reduces the complexity and increases the transparency of operations. It also enables managers to work within the confines of their own area of specialization. Generally the literature supports the suggestion that firms that spin-off the divisions least related to their core business will remove the greatest amount of negative synergy and enjoy the greatest value enhancement (Hite and Owers, 1983; Schipper and Smith, 1983; Daley et al., 1997; and Desai and Jain, 1999).

Where the spun-off entity and parent had different industry codes the spin-off was

classified as focus enhancing.⁹ Equation (3) of Table 2 reports a significant positive intercept and, perhaps surprisingly, that the focus enhancing variable had a significant negative coefficient. This suggests that firms divesting highly related divisions reaped bigger returns.¹⁰ However, the variable used refers only to industry focus and does not capture, for example, geographic focus enhancement, such as Coca Cola Amatil's spin-off of its European operations via Coca Cola Beverages. A broader definition of focus enhancement is used in the company rationales described later.

Expansion can create value through economies of scale. However, marginal returns may diminish and even become negative (diseconomies of scale) beyond a certain point. Hence, when a firm undertakes a spin-off, there may be either costs from reduced scale or gains via reductions in diseconomies of scale. Equation (4) of Table 2 reports a significant negative coefficient for the natural log of market capitalisation (measured the month before announcement date), supporting the former argument.¹¹ Perhaps the Australian companies studied were not big enough to suffer from diseconomies. To the extent that more is known about large firms, this finding also supports the information asymmetry argument. However neither size nor the information asymmetry variables appear in the best-fit multivariate model.¹²

The seminal paper by Miles and Rosenfeld (1983) pointed to the inflexibility of combined operations as the source of value created by spin-offs. As separate entities, both parent and

8 A number of different measures have been proposed to capture information asymmetry. Potentially superior measures require analysts' forecast data (Krishnaswami and Subramaniam, 1999). However, less than a third of the sample had analyst followings. Further, to the extent the reduction in information asymmetry occurs following full legal and reporting separation of the parent and spin-off, then the change in information asymmetry should be measured in the period after the spin-off was listed. Insufficient data was available to allow this form of measurement. However, since Krishnaswami and Subramaniam found the measures used here to have a correlation of 0.9 with their other measures the effect should be minimal.

9 Following Desai and Jain (1999), changes in Herfindahl indices, utilising both net profit and total revenue were also measured. These indices were found to be statistically unrelated to the abnormal returns.

10 The sixteen focus enhancing firms earned a significantly lower average excess return of 6% for the period, compared with 51% for the six non-focus enhancing firms [$Z=2.80$, $p<0.01$].

11 The results reported were robust to measuring size two months before the announcement date (in case the announcement period straddled two months).

12 Interestingly, the relative size of the spin-off, measured as the ratio of the market capitalisation of the spun-off entity following listing to the pre announcement parent capitalisation, was found to be unrelated to the magnitude of the excess returns (not reported).

spin-off would be free to pursue their own growth opportunities and dividend policies, facilitating a clientele effect (Lizenberger and Sosin, 1977). Since a capital raising could be seen as a proxy for future growth opportunities and operational flexibility, equation (5) of Table 2 reports the regression for a dummy variable used to represent the thirteen firms where the spin-off involved a concurrent capital raising.¹³ The coefficient is both significant and positive, supporting the above propositions. An undervalued firm that requires external capital to finance growth opportunities will resort to raising capital either through a divestiture or a spin-off, followed by an equity issue, whereas an overvalued firm will resort to an equity issue without separating its divisions (Nanda, 1991). The result, therefore, reinforces the information asymmetry arguments.

The proxy variables discussed so far may not accurately capture the economic factors underlying the spin-off wealth effects. Hence, an investigation of the parent's stated reasons for the spin-off in the initial stock exchange announcement was conducted. Ten of the entities claimed that focus would be enhanced, five believed the spin-off would result in improved valuation (information asymmetry reduction), seven stated that investor choice would be improved, sixteen claimed they had growth opportunities, and eight cited improved company flexibility. Only the improved flexibility variable proved significant, with the companies claiming it earning an average excess return of only 2% compared to the remainder's 28% ($Z=2.05$, $p<0.05$). This negative relationship can be seen in equation (6) of Table 2. These results suggest, at the very least, that market participants should be careful about accepting uncritically management 'talking up' strategic change.

13 Possible impacts due to the nature of the spin-off were examined by also testing variables relating to the relinquishment of control, ultimate stock exchange listing and the nature of the raising. None of these had any significant explanatory power. However, only four firms did not relinquish control and only five did not ultimately list on the ASX, so these variables lacked discriminatory power.

Equation (7) reports the "first pass" multivariate model using variables found to be significant in the univariate models. Only the dummy variables indicating concurrent capital raising and focus enhancement are found to be statistically significant. That not all variables are found to be significant should not be surprising given the ratio of observations to candidate explanatory variables. Following the estimation of equation (7), multivariate models were recalculated by omitting the least significant variables until, using the value of the adjusted- R^2 as the criterion for model selection, an optimal parsimonious model was arrived at (equation 8). Equation (8) shows that the dummy variable capturing the change in information asymmetry, as well as the focus enhancing and capital raising dummy variables, are significant. Furthermore, the sign of the coefficients is the same as, and the magnitude of these coefficients close to, those reported in the univariate analyses (equations (2), (3) and (5) respectively). Thus, despite the relatively small sample size, the conclusions concerning these variables, discussed previously in this paper, are clear and persuasive.

5 Conclusions and suggestions for future research

Wealth effects of the spin-off method of corporate divestiture were investigated using a sample of Australian firms undergoing such restructuring in the 1990s. Despite the small sample size, requiring the inclusion of 'impure' spin-offs, the results suggest unequivocally that Australian firms undertaking a spin-off to restructure assets created value for shareholders. Excess returns in the three-day window around the announcement date averaged 6.9%, comparable to recent US and European results, while excess returns in the longer effective announcement period averaged a healthy 18.6%. In the long run, whether this increased value is maintained is a topic for future research. Measures representing information asymmetry, focus enhancement, flexibility of operations, economies of scale, and growth opportunities were found to be associated with the excess returns.

The relationship between returns and an equity capital raising dummy supports the growth opportunities explanation of why spin-

offs can create value. This result also lends credence to the information asymmetry argument, since an undervalued firm that requires external capital to finance growth opportunities will resort to raising capital, either through a divestiture or a spin-off followed by an equity issue (Nanda, 1991).

Spin-off restructuring can be used to reduce information asymmetry, with any abnormal returns resulting seen as a correction to the previous undervaluation. The results partially support this view. The pre-announcement measure of information asymmetry was positively associated with the observed excess returns. However, the excess returns were negatively associated with the variable indicating a reduction in information asymmetry.

Parent company claims about the benefits of the spin-off were investigated. Although the improved flexibility variable was significant at a univariate level, it was not significant in the multivariate model. Company rationales were therefore found to be unrelated to the value created by the spin-offs.

Where the spun-off entity and parent had different industry codes they were classified as focus enhancing. Surprisingly, firms diversifying focus earned larger excess returns in the announcement period. Such a finding is interesting given that the evidence from US markets indicates that diversified firms are currently valued at a discount and that this discount has increased over time (Berger and Ofek, 1995). An examination of the diversification premium/discount for the much smaller Australian firms could be rewarding.

Appendix 1 Sample Companies and Spin-offs

Parent	Spin-off	Capital raising	Free disbursement	100%	Proposed or First ASX Reference	Listing Date
Abednego Nickel Ltd/Anaconda Nickel and Glencore International	Just in Case Gold/Jenlore Limited	No	Yes	No	30-Sep-98	Never
Amcors Ltd	Paperlinx	No	Yes	No	17-Feb-00	17-Apr-00
Barton Capital Holdings Ltd	eStar Ltd	Yes	No	No	28-Jan-00	23-Aug-00
BHP	OneSteel Ltd	No	Yes	Yes	25-Feb-00	01-Oct-00
Boral Ltd	Envestra Ltd	Yes	No	No	16-Jun-97	29-Aug-97
Boral Ltd	Origin Energy	No	Yes	Yes	20-Oct-99	21-Feb-00
Brazin Ltd	Sanity.Com Ltd	Yes	No	No	01-Oct-99	30-Nov-99
Coca Cola Amatil Ltd	Coca Cola Beverages Ltd	No	Yes	Yes	05-Feb-98	24-Jun-98
Coms21 Ltd	ebet ltd	Yes	Yes	No	24-Feb-99	18-Aug-99
Delta Gold NL	Zimbabwe Platinum Mines NL (Zimplats)	No	Yes	No	23-Apr-98	15-Oct-98
Eastern Corporation Ltd	Tibalina Ltd (Sabena Mining Corporation 12/7/00)	Yes	Yes	No	23-Mar-00	09-Nov-00
Fletcher Challenge Ltd	Wrightson Ltd	Yes	No	No	11-Feb-93	01-Jan-94
Forbio Ltd	Sylvatech Ltd and Pro Bio America	Yes	Yes	No	02-Oct-96	Never
Gearhart Australia Ltd	Kimberley Oil NL	Yes	Yes	No	16-May-97	08-Apr-98
Guinness Peat Group	British Salt Ltd	No	Yes	No	22-Jun-98	20-Jul-98
Hardman Resources NL	Carnegie Minerals NL	Yes	No	No	29-Jun-93	26-Oct-93
Highlands Gold / Placer Dome	Highlands Pacific Ltd	No	Yes	No	28-Nov-96	13-Jun-97
Kilkenny Gold/Access I	Phoenix Mining Ltd	Yes	No	No	25-Nov-99	26-May-00
New Tel Ltd	Advanced Engine Components Ltd	No	Yes	No	16-Nov-99	22-Feb-00
Roebuck Resources NL	Amity Oil NL	Yes	No	No	29-Oct-93	24-Nov-94
Scitec Ltd	Vecommerce	Yes	Yes	No	25-Nov-99	Never
Senetas Corporation Ltd	Kusp Ltd	Yes	No	No	01-Dec-99	15-Mar-00

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