What are insider trades around profit warnings really telling us?

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Abstract

In this paper, we investigate insider trading activity around profit warnings. We conjecture that since firms are required to release price sensitive information, such as in the form of profit warnings, to ensure that investors are continually informed of changes in performance and future prospects, insiders time their trades to maximise personal gains. Our results show that in the six months leading up to the warning, there is a decrease in share price that continues after the warning. Insiders take advantage of the situation by increasing their holdings in the pre-warning period and continue buying, though to a less extent after the warning's release. The findings indicate that profit warnings signal poorer though temporary financial performance and insiders profit from this knowledge.

Introduction

In this study we examine insider trading activity around profit warning announcements. Profit warnings represent management disclosure as part of the continuous disclosure rules of the Australian Stock Exchange (ASX) where listed companies are required to inform the Exchange when they become aware of information expected to have a material impact on price or value. These warnings are not part of the mandatory reporting such as the issue of periodic earnings reports or annual reports. Companies tend to issue profit warnings when previous earnings forecasts are believed to be too optimistic or unforeseen changes in economic or operational conditions have occurred, resulting in a negative impact on future earnings. Therefore in accordance with the continuous disclosure requirement, these companies are obliged to issue profit warnings though there is some discretion in the timing of the disclosure. This study investigates whether investors heed the insider trading signal when firms make profit warnings.

Numerous studies have investigated insider trading activity around corporate announcements including equity offerings (Gombola, Lee and Liu, 1997; Ching, Firth and Rui, 2006), bankruptcy (Seyhun and Bradley, 1997) and takeovers (Seyhun, 1990). They show that insiders are aware of these events well in advance of their announcements, in some cases up to years beforehand. Seyhun and Bradley (1997) report the occurrence of insider selling commencing five years before the bankruptcy filing that continues up to the announcement month. Insiders also sell before a fall in price and buy after prices had fallen. According to Ke, Huddart and Petroni (2003), they trade on specific information about future accounting disclosures up to two years prior. In particular, insider selling increased three to nine quarters before a break in a string of consecutive quarterly earning increases. In their examination of the association between insider trading and voluntary disclosures, Cheng and Lo (2006) reported that insiders withheld good news and increased the number of bad news disclosures when they purchases shares but they did not attempt to increase prices when they sold their shares. This is possibly due to litigation concerns associated with sales

The joint signal of insider trading and the voluntary release of a profit warning may convey insiders' private information to the market, at the least cost in an efficient signalling equilibrium (John and Mishra, 1990). Net trading by insiders contributes to the overall information content of the corporate announcement. With insiders having under diversified holdings in their own firms, their net trading activity may provide a signal of private information which includes, in addition to information about the future prospects of the firm, the amount of effort individual insiders intend to invest. This is particularly interesting in the event of a profit warning because Donaldson and Weigand (2006) found that in firms that filed for voluntary bankruptcy, insiders had fewer incentives to maximise shareholder wealth compared to firms experiencing involuntary bankruptcy. As a result, the former were net sellers while latter were net buyers in their own firms.

Comment [MC1]: John and Mishra's (JF, 1990) theoretical model suggest that the mix of signals firms choose (efficiently) depend on the class of firm ie whether the firm is in the growth, mature or decline stage. See page 838.

Comment [MC2]: Donaldson and Weigand (WP, 2002) compare firm performance and insider trading activity of firms filing for voluntary bankruptcy and those with involuntary bankruptcy: Found net sellers in former and net buyers in latter.

We study insider trading activity around profit warnings because of the uncertainty surrounding the information within the disclosure for Australian firms. They could represent voluntary disclosures by management that report poorer or worse than expected firm performance in order to mitigate litigation risk (Skinner, 1994) or a cautious response to the ASX's continuous disclosure requirements where firms are required to disclose price-sensitive information and maybe in circumstances that eventually result in liquidation, an early indicator of financial distress. The insider trading activity surrounding these announcements is used as an indicator of the information content of the announcement as to whether it signals a short term or long term impact on earnings.

Our results indicate that profit warnings are linked with short term decreases in earnings. While the market is aware of the decline in financial performance from the annual reports and price decreases, insiders benefit from the knowledge that the earnings performance is temporary and increase their purchases in the period leading up to the announcement. As prices adjust to the new information and continue to fall in the post announcement period, insiders continue to purchase shares, though at a lower rate. Insider trading behaviour around these warnings specifies that the poor earnings performance is temporary and not an early indicator of financial distress.

Literature review

In their investigation of management's discretionary disclosure before a large earnings disappointment, Kasznik and Lev (1995) reported that the likelihood of warning increased with firm size, the presence of an earlier forecast and membership in the high technology industry. Warnings were also found to be associated with permanent earnings decreases. Helbok and Walker's (2003) findings in the less litigious UK environment where firms reported less frequently indicated that profit warnings are value-relevant events with firms experiencing an average 20% decline in share price in response to them. They also found profit warnings to signal a permanent earnings decline. Firms did not appear to be reprimanded for their honesty when issuing profit warnings where Tucker (2005) found that while in the short-term, their returns were more negative relative to firms with no warnings, their long run returns were more positive. In terms of long-term consequences, Bulkley, Harris and Herreiras (2002) also found strong reversal one to two years after the warning, mainly in small firms.

Jackson and Madura (2003) reported a strong negative reaction, starting five days before the announcement with the reaction complete within five days after the warning. While there was no overreaction to the announcement, small firms reacted more negatively in the announcement and post-announcement periods while in the pre-announcement period, more negative reactions wee observed in large firms. Collett (2004) studied the accounting detail provided in profit warnings, in particular information on sales growth and operating margin changes and found only 35% and 42% of firms issuing warnings and upgrades respective provided quantitative information.

Insider trading activity around profit warnings has not yet been studied though similarities exist with studies around financial distress (Seyhun and Bradley, 1997), breaks in earnings trends (Ke, Huddart and Petroni, 2003) and around management earnings forecasts (Noe, 1999; Cheng and Lo, 2006). Seyhun and Bradley (1997) reported insider selling beginning five years before a bankruptcy filing, escalating to the announcement month. Top executives were responsible for more intense selling with insiders buying after prices have fallen and selling before they fall. According to Noe (1999), managers are opportunistic in timing their trades to increase personal gains given they are aware of the intention to trade and the obligation to release information. He reported that managers sell more after the release of good news and buy more after bad news releases. Cheng and Lo (2006) provide additional evidence that when managers intend to buy, they increase the number of bad news forecasts while delaying good news to decrease share price. However, they were unable to show that managers increase good news forecasts or avoid bad news forecasts when selling, possibly due to the risk of litigation.

Data and Research Method

The profit warnings announcements were sourced from the Ernst and Young's Profit Warnings Watch covering the time period from July 2000 to June 2003. From the Profit Warnings Watch, company details, the date of the warning, industry in which the company belonged and the primary reason given for the warning were collected. The initial number in the sample was 490 warnings issued by 291 firms.

Data on director share trading was taken from the Signal G announcements in Aspect DatAnalysis where as per s 205G of the Corporations Act, directors are required to notify the ASX of any change in their shareholding within 14 days. Details on the name of director, date of transaction, date of reporting to ASX, and size and value of transaction were gathered. Directors' on market trades in the 12 months prior to and after each profit warning constituted the trading activity around the event.

Financial statement data on firm performance, profitability and size was obtained from Aspect Fin Analysis and share price information from ASX Daily Data. After the removal of firm-year observations where data was unavailable, the retained sample contained 298 profit warnings made by 137 firms. In the 12 months leading up to each profit warning, there were 1,004 purchases and 389 sales by directors in these firms while post warning, the number of purchases and sales declined to 981 and 296 respectively.

Insider trading activity is measured as the number of trades, being purchases and sales and net purchases (purchases less sales) in the 12 months leading up to and after the profit warning announcement. The size of the trade is also measured as the number of shares traded in each transaction. While previous studies such as Seyhun and Bradley (1997) and Iqbal and Shetty (2002) calculated monthly insider trading activity leading up to the bankruptcy event or rumour, we have estimated trading activity on an annual basis due to the small number of reported trades in our sample, a characteristic of Australian reported director trades.[1]

Abnormal trades (purchases, sales and net purchases) were estimated relative to two controls where abnormal trading is the difference between actual and expected insider trading in the firms issuing the profit warning. With the first, the firm acts as its own control and trading in the year prior to the pre warning is assumed to represent a period of normal activity. The second control is the trading activity of firms matched by industry and size that did not issue profit warnings.

Results

We present summary statistics on the sample firms issuing profit warnings in Table 1. In the financial year in which the profit warning was issued, the average earning per share (EPS) was 1.99 cent with a median of 6.4 cents. There was a drop in average

[1] The small number of trades is consistent with the relatively smaller sized companies that report profit warnings.

EPS of 17.76 cents from the previous year. In the year following the warning, average EPS increased to 4.86 cents. A similar scenario was evident from the return on assets (ROA) measure where average ROA in the warning year was 0.11% and 2.61% and -1.92% in the prior and subsequent years. Leverage was also lower in the warning year, an average of 134% compared to 220% in the year before the warning and 213% after it.

The drop in firm performance around the profit warning announcement is mirrored in returns (see Table 2) where firms experience negative abnormal returns of 2.24% in the 12 months leading up to the announcement. After the announcement, these have average abnormal returns of 0.72% over the 12 month period.

The largest pre-warning losses were experienced by small firms (-5.19%), followed by large firms (-1.47%) while the medium-sized firms recorded positive returns of 0.89%. In the post warning period, the losses continued in the small firms (-4.08%) while the returns in medium and large firms were 5.32% and 0.46% respectively.

In Figures 1 and 2, the movement in share price leading up to and after the profit warning announcement is presented respectively. Figure 1 shows prices beginning to decline 145 days before the warning and declining steadily as the announcement approached. In the post-announcement period, Figure 2 indicates prices continuing to drop up to 40 days after and recovering thereafter. The difference in trend between market-adjusted and size-adjusted price relatives reflects the price changes between firms of different sizes.

Overall, the profit warning announcements were associated with poorer firm performance and decreasing share prices in corresponding periods. After the warning, there was improved financial performance and this improvement was reflected in share price. Profit warnings have information content in that they signal or warn of a decline in profitability. An analysis of the profit warnings by industry show that the firms in the manufacturing and food industry accounted for 25.8% of warnings while those in the retail and wholesale and finance industries contributed 15.2% and 11.5% respectively. This demonstrates that profit warnings are more prevalent in certain industries, reflecting the challenges faced by these firms or an expectation by shareholders for firms to voluntarily release such information.

The trading activity around each profit warning was measured as the average number of purchases and sales and the average trade size in the 12 month leading up to and subsequent to the announcement. Table 3 present the trading activity results for all firms and separately for small, medium and large firms.

The average number of trades was 4.58 purchases (median of 3 purchases) and 3.78 sales (median of 2 sales) in the pre-warning period. After the warning, the number of purchases fell to 3.88 and sales increased to 4. The difference between the pre and post warning number of trades was only statistically significant for purchases ($p < 0.10$).

Comparing trade size, the average purchase after a warning was 582,723 shares compared to 687,164 shares before the warning. However, the difference was not statistically significant. Insiders also sold in larger parcels after the warning, selling an average parcel of 1,446,592 shares while before the warning, they sold an average sized parcel of 230,374 shares. The difference was significant at $p < 0.10$.

An examination of trade size for firms of different sizes showed that insiders in small firms increased both their purchases and sales after the warning. In the medium sized firms, they decreased their purchases and increased sales in response to the warning though in the larger firms, insiders decreased both purchases and sales after the warning. This change in number of trades as a result of the profit warning was only significant for insiders in large firms making purchases.

Insiders in small, medium and large firms all sell larger parcels after the profit warning. However, while those in small firms make smaller sized purchases in response to the warning, insiders in medium and large firms go against the trend and purchase in larger parcels, contrary to expectations.

Table 4 shows the net purchases around the profit warnings where the firm's own insider trading activity prior to the profit warning is assumed to represent normal trading activity. Insiders appear to be net purchasers prior to the announcement of a profit warning (average of 2.12) and they continue to do so after, though by a smaller amount. However, the median of 0 in the pre-warning period indicates that in over half the cases, insiders are not increasing their shareholdings. In the post-warning period, the median of 0.50 again shows net buying, perhaps because of the price fall after the warning. For robustness, the second control was the trading activity in firms that did not issue profit warnings, matched by size industry. Similar though weaker results were obtained.

In small firms, there was net selling in the pre-warning period and net buying after the announcement. However, insiders in medium and large firms were buying before and after the warning although in smaller amounts in the latter period. The joint signal of the information disclosed by the profit warning together with the trading suggests that the reduction in earnings may only be temporary. Insiders continuing to increase their own holdings should be taken as a positive indicator that firm performance will improve and they were taking advantage of the lower prices.[2] This result is consistent with Bulkley et al. (2002) who reported improvement in performance after the warning. The net buying activity also points to insiders' commitment to reversing firm performance, as shown in Donaldson and Weigand (2002) with firms experiencing involuntary bankruptcy.

Next we consider both the pre-warning and post-warning returns (reported in Table 2) with trading activity (reported in Table 4) for small and large firms were information asymmetry is expected to the greater in the former. The negative returns of 6.21% in the pre-warning period coupled with the net insider selling suggests higher information asymmetry in small firms compared to large firms with negative returns of 3.61% and net buying. In the post warning period, there were larger negative returns in the small firms although insiders were buying shares. This indicates that uncertainty in the market remains unresolved as a consequence of the profit warning announcement and insiders are taking advantage of the lower prices. For large firms however, the profit warning announcement reduces uncertainty, as expected in a lower information asymmetry environment and insiders continue to increase their

[2] Of the five firms in the sample that have been delisted, none of the delistings has been due to liquidation.

shareholdings. Overall, insiders in small and large firms opportunistically use their informational advantage after the profit warning while avoiding litigation risk even though the market remains uncertain about future firm performance.

Conclusions

In this paper we investigate insider trading activity around profit warning announcements. We document insider buying in the 12 months leading up to the announcement which continues after the announcement, though to a less extent. Insiders in large firms engage in more intensive buying in the pre-announcement period while those in small firms tend to sell their shares in the corresponding period. Such trading behavior is inconsistent with the larger decrease in share price for small firms leading up to the announcement. Differences in existing information asymmetry between firms of different sizes together with differences in private information about firm performance possibly contribute to the observed results. Regardless, on the whole we find that insiders take advantage of the knowledge that the drop in earnings is temporary and increase their shareholdings during periods of declining prices. They continue to increase their holdings after the profit warning to benefit again from the further declining prices. The level of buying nonetheless is less intense. In contrast with Helbok and Walker (2003) and Kasznik and Lev (1995), we find profit warnings in Australia to be associated with temporary earnings declines that reverse in the next period. We suggest that with their private knowledge of the temporary earnings decline, insiders take the opportunity to increase their holdings at a lower cost.

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Table 1

Descriptive statistics: Firms issuing profit warnings

	Year of Profit Warnings	Prior to Profit Warnings	Subsequent to Profit Warning
Earnings per share (cents)			
Mean	1.99	19.75	4.86
Median	6.40	9.15	7.70
Return on Assets (%)			
Mean	0.11	2.61	-1.92
Median	4.60	5.90	4.55
Leverage (%)			
Mean	134.17	220.33	213.30
Median	199.00	193.00	200.00
Market Capitalisation ($M)			
Mean	2020	2350	1950
Median	119	158	132

Table 2

Returns around profit warnings: Comparison between small, medium and large firms

	Pre-warning market adjusted returns (%)	Pre-warning size adjusted returns (%)	Post-warning market adjusted returns (%)	Post-warning size adjusted returns (%)
All firms				
Mean	-2.24	-3.29	0.72	-4.21
Median	-3.94	-4.90	1.91	-5.07
Small firms				
Mean	-5.19	-6.21	-4.08	-9.86
Median	-16.43	-14.27	-9.99	-10.93
Medium firms				
Mean	0.89	0.87	5.32	-0.23
Median	1.10	2.05	2.69	0.84
Large firms				
Mean	-1.47	-3.61	0.46	-2.80
Median	-3.95	-5.29	2.73	-1.17

Table 3

Trading activity around profit warnings: Comparison between small, medium and large firms

	Purchases		Sales	
	Prior to warning	After warning	Prior to warning	After warning
All firms				
Average number of trades	4.58 (6.10)	3.88 (4.27)	3.78 (3.76)	4.00 (4.21)
Median trades	3.00	2.00	2.00	2.00
Average trade size	687164	582723	230374	1446592
Median trade size	35000	50000	50000	65607
Small firms				
Average number of trades	2.73 (2.45)	2.97 (2.87)	2.84 (2.63)	3.33 (3.52)
Median trades	2.00	2.00	2.00	2.00
Average trade size	1723726	374456	128674	411979
Median trade size	82850	72650	51666	91325
Medium firms				
Average number of trades	4.47 (3.92)	4.79 (5.76)	3.92 (3.59)	5.45 (5.84)
Median trades	4.00	3.00	2.50	2.50
Average trade size	518673	734022	314542	3804459
Median trade size	41777	64117	51495	74211
Large firms				
Average number of trades	6.16 (8.81)	4.43 (4.58)	5.27 (4.98)	3.73 (3.10)
Median trades	3.00	3.00	3.00	2.50
Average trade size	135203	681617	282119	310420
Median trade size	17791	15962	26266	14297

Table 4

Net purchases around profit warnings: Comparison between small, medium and large firms (own firm control)

	Prior to warning	After warning
All firms		
Mean	2.12* (10.96)	1.27* (7.39)
Median	0.00	0.50
Small firms		
Mean	-1.10 (3.22)	0.52 (5.66)
Median	-1.00	1.00
Medium firms		
Mean	1.39 (8.22)	0.96 (9.31)
Median	0.00	0.00
Large firms		
Mean	5.17 (16.40)	1.48 (7.74)
Median	-0.50	1.00

* indicates significance at 0.1 level, ** at 0.05 level and *** at 0.01 level

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Similar results were obtained when insider trading activity was matched with a control sample of firms with no profit warnings.

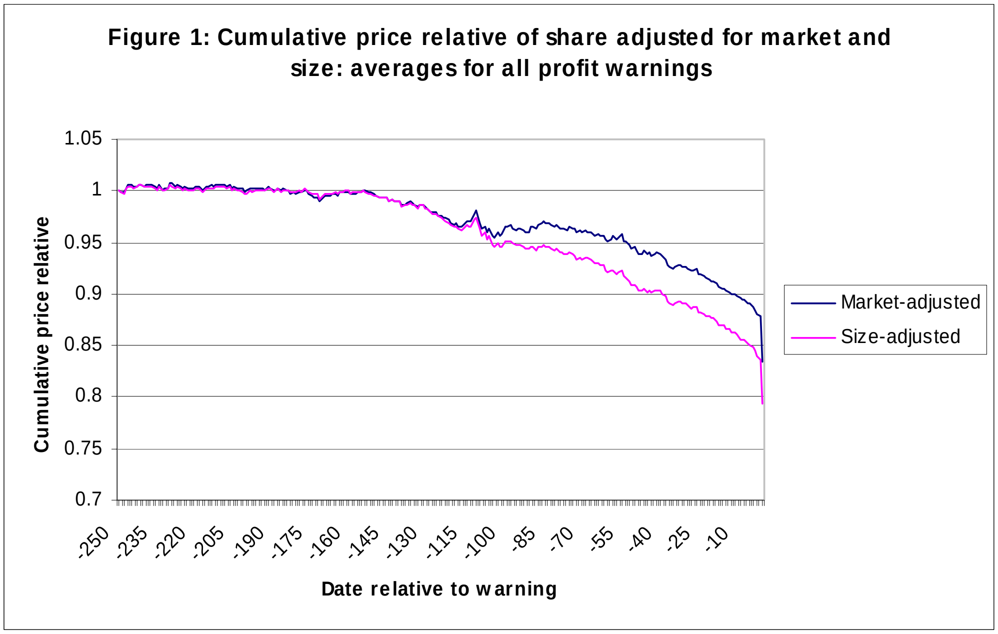
Figure 1: Cumulative price relative of share adjusted for market and size: averages for all profit warnings
1.05
1
0.95
0.9
0.85
0.8
0.75
0.7
Cumulative price relative
-250 -235 -220 -205 -190 -175 -160 -145 -130 -115 -100 -85 -70 -55 -40 -25 -10
Date relative to warning
Market-adjusted
Size-adjusted

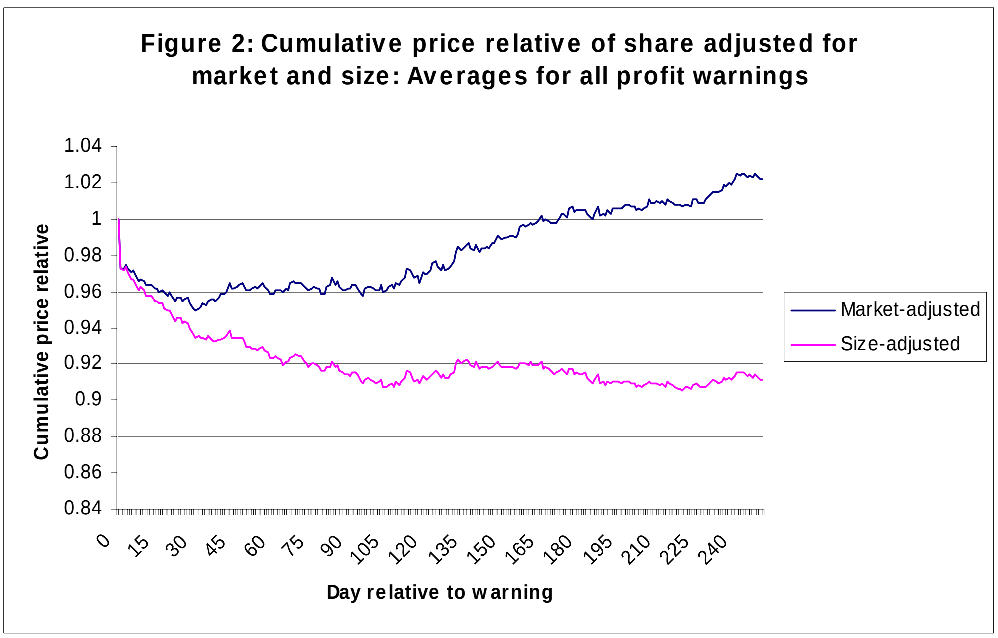
Figure 2: Cumulative price relative of share adjusted for market and size: Averages for all profit warnings
1.04
1.02
1
0.98
0.96
0.94
0.92
0.9
0.88
0.86
0.84
Cumulative price relative
0 15 30 45 60 75 90 105 120 135 150 165 180 195 210 225 240
Day relative to warning
Market-adjusted
Size-adjusted