

**Melbourne Centre for Financial Studies
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Dividend Reductions and Signaling in an Imputation Environment

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1. Background and aims of project

Brealey et al (2006) urge researchers to seek a better understanding of how companies determine their dividend policy and how that policy affects firm value. We examine the long-term stock market reaction to the announcement of dividend reductions, focusing on the speed with which reactions occur in Australia. We also examine the relationship between dividend changes and future earnings (information content). This will have important implications for our understanding of market efficiency – all stakeholders will be keenly interested in the findings.

Prior research has documented that dividend change is positively associated with stock returns in the days surrounding the dividend change announcements supporting Miller and Modigliani's (1961) information content (signalling) hypothesis. However, more recent studies that examine the relationship between dividend changes, and current and future earnings changes do not support this hypothesis (see, Bernartzi et al (1997), DeAngelo et al (2004) and Grullon et al (2005)). Few studies in the US document long term price reaction subsequent to dividend change. Michaely et al (1995) document a downward (upward) price movement prior to dividend omissions (initiations) in the US, persisting for a 3-year period post the announcement. Liu et al (2008) document a downward price movement for 1 year after dividend reductions and omissions. Bernartzi et al (1997) document an upward (downward) price movement for periods prior and post dividend increases (decreases). Michaely et al draw on the 'post-earnings-announcement' drift literature (eg Bernard and Thomas, 1989, 1990) to motivate an underreaction hypothesis, and the 'price reversal literature' (eg De Bondt and Thaler, 1985, 1987) to motivate an overreaction hypothesis. This raises the questions: (i) Why do markets react positively (negatively) to dividend increases (reductions) over longer periods, while empirical studies document an insignificant dividend change/future earnings change linkage?; (ii) Why do firms reduce dividends knowing the market will react negatively over a longer period?

Surprisingly, there is a lack of published research on long term price reaction to dividend changes, and the relation between dividend changes and future earnings changes in non-US markets particularly in UK and Australia with different tax regimes and frequency of dividend payments than US.

Bernartzi et al (1997) report that firms that increase (decrease) dividends experience increases (decreases) in earnings during the same year, but no increases (increases) thereafter. Allen et al (2000) argue that Bernartzi et al (1997) could not detect forward looking performance increases subsequent to dividend increases, because firms smooth their dividends/dividend growth in a way that makes their empirical tests relatively powerless. Nassim and Ziv (2001) argue that earlier results on earnings changes around dividend changes are based on mis-specified earnings models. They document that dividend increases are (decreases are not) associated with future profitability for at least 4 years after the dividend change, after controlling for current profitability. Grullon et al (2005) challenge the findings in Nassim et al (2001), and argue that the assumption of linear mean reversion in earnings is inappropriate.

Balachandran et al (2008) examine the price reactions to dividend reductions and the relation between dividend reductions and changes in future abnormal earnings in Australia where managers pay dividends to pass imputation credit to shareholders. They find that the market reacts more negatively to interim dividend reductions than final dividend reductions. They also find that dividend reductions convey information about

current and future abnormal earnings. However, they fail to examine (a) the impact of franking credit available on dividend payments, and (b) long term reactions to dividend reductions in Australia.

2. Significance and innovation

The major significance and innovation of this project relates to advances we make to (i) examine the long term reaction to dividend reduction, (ii) the modelling of the price adjustment process in the context of overconfident investors, particularly by incorporating and focusing upon the speed of reaction prior/subsequent to dividend reduction to examine whether investors overreact or underreact. We believe that incorporating this additional work to our current working paper Balachandran et al (2008) “*Dividend Reductions and Signalling in an Imputation Environment: Some New Evidence*” will enable us to publish in top tier 1 finance journal. In particular, the tax credit recovery position will impact upon the dividend decision and upon the relationship between dividends and earnings via the imputation system. We request funding for this extension of our work.

3. Description of Approach

Stage 1: We have completed the announcement period reaction and the relation between dividend reduction and future earnings.

Stage 2: We have to hand collect the franking account balance from the annual reports during the year and year before dividend reductions to examine the following hypotheses:

Price reactions will be stronger for dividend reductions where prior taxable profit streams are sufficient for tax credit recovery.

Firms are more likely to reduce their dividends where prior taxable profit streams are not sufficient for the credit recovery.

Stage 3: Long term reaction - We will use the Datastream and IRESS databases as our primary sources of share price and index data to estimate raw returns and abnormal returns for the 3-year period prior to and 3-year period post dividend reduction announcements. Buy and hold abnormal returns will be estimated using market index returns, equally weighted returns of all stocks in the sample and matched firms returns (Lyon, Barber, and Tsai, 1999). We will estimate the speed of adjustment using daily, weekly and monthly return for a three year period prior to and post dividend reduction announcements. The adjustment process may differ in the shorter to longer term - we will also investigate this dimension in our project by incorporating intra daily data. We will also use trade-to-trade data as an alternative way of mitigating the thin trading effects. We will use the (ARMA (1,X)) model developed and tested in Theobald and Yallup (2004). Further, the Granger causality based approach adopted by Brennan et al (1993) to estimate speed of adjustment will be used. We will partition the dividend reduction samples into 25 (5 size x 5 BM) portfolios and calculate the average long term price reaction and speed of adjustment for each portfolio. We will also use calendar time portfolio methodology (Clarke et al (2004)) and estimate the alpha. We will also partition the sample into quintiles based on management ownership and market to book ratio and/or Tobin Q to examine the impact of growth opportunities and agency cost explanations. We will examine the relationship between abnormal returns and the adjustment process prior/subsequent to the dividend change announcements by partitioning the sample based on number of news announcements; analyst following; firm size; institutional versus private shareholding; measures of ‘close’ shareholding, probability of informed trade, size, momentum and measures of executive share and option holding.

4. References

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