# SHOULD DIVIDENDS BE VALUED TWICE: SOME PRELIMINARY FINDINGS FROM AUSTRALIA 

Helen Lange, Macquarie Graduate School of Management, Macquarie University, North Ryde, NSW, 2109, Australia, +61 29850 9907, Helen.lange@mgsm.edu.au<br>Peter Rice, Macquarie Graduate School of Management, Macquarie University, North Ryde, NSW, 2109, Australia, +61 2 4647-8881, peterrice@ozemail.com.au


#### Abstract

Since Modigliani and Miller [3] equity market practitioners have generally assumed that total equity returns have been a function of earnings, cash flows, asset values, or some proxy of these variables. As a result, dividend payout has generally been regarded as irrelevant to market pricing. This study of pricing of the ASX200 market index in Australia over 12 years provides evidence which challenges this assumption. Further, an investigation of the relative price performance of constituent stocks of the Index in the post-dividend trading period appears to identify a phenomenon, which may at least partially explain a positive link between dividend payout and market pricing.


## PURPOSE AND SCOPE

Miller and Modigliani [3] argue that investors should be indifferent to earnings paid as dividends or retained as the latter would be reflected in capital gains. The adjustments of traded equity prices on exdividend dates generally reflect this assumption, despite tax effects. One continuing debate is the measurement of earnings. While real economic earnings are assumed, proxies are problematic. Dividend streams are reasonably easily identified, however there is no consensus over the appropriate driver(s) for capital appreciation, and whether cash flow or accounting earnings is the better proxy for future earnings [1], [2], [4], [5], [6], although accounting earnings is currently winning this discussion. Despite this, the distinction between capital appreciation and total returns has not been strongly made, and notably, in most cases dividend streams are excluded from the analysis. But is this evident in the market?

There has been considerable analysis of the fact that stocks adjust by less-than the full cash dividend on ex-dividend day. But what happens beyond this date, and the apparent success of dividend capture type strategies suggests that stocks trade in a way other than that inherent in the above studies. Further, the existence of tax measures designed to limit the use of dividend capture strategies suggests the success of such strategies.

## METHODOLOGY

This study paper examines stock price movements following a dividend payment using two approaches. First, it investigates the trading performance of the Top 50 constituent stocks by market capitalization of the ASX200 Index over the period from December 2000 to February 2004 (a total sample of 274 observations). Relative returns are calculated over eight periods, each representing 15 trading days, as described in Table 1. For each period, average relative returns are calculated and tests of statistically significant differences in relative returns over each of the periods are conducted. Weighted averages are not used, as the primary issue is the prevalence, or otherwise, of the price adjustment, and market value had little or no bearing on this. (Observations where dividend payments were made within 45 days of the last available price data were excluded from the results. In the second test, stock prices are observed post for 15 trading days after ex-dividend date.

Finally a partial test of the significance of these results for equity valuation is undertaken using multiple regression analysis.

## Table 1: Trading Periods Examined

| Period | Stock Price Trading Dates | Period | Stock Price Trading Dates |
| :---: | :--- | :---: | :--- |
| 1 | 15 days prior to the last cum dividend date | 5 | last cum date plus 46 days to plus 60 days |
| 2 | last cum-dividend date and 15 days forward | 6 | last cum date plus 61 days to plus 75 days |
| 3 | last cum-dividend date plus 16 days to plus 30 days | 7 | last cum date plus 76 days to plus 90 days |
| 4 | last cum date plus 31 days to plus 45 days | 8 | last cum date plus 91 days to plus 105 days |

## KEY RESULTS

The descriptive statistics from the first test are shown in Table 2.
Table 2: Market Relative Price Performance Around Dividend Payment Dates

|  | Trading Days Since Last Cum-Dividend Trading Day |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\mathbf{- 1 5}$ | $\mathbf{+ 1 5}$ | $\mathbf{+ 3 0}$ | $\mathbf{+ 4 5}$ | $\mathbf{+ 6 0}$ | $+\mathbf{7 5}$ | $\mathbf{+ 9 0}$ | $\mathbf{+ 1 0 5}$ |  |
|  | $20.29 \%$ | $21.80 \%$ | $15.51 \%$ | $17.74 \%$ | $20.35 \%$ | $22.52 \%$ | $19.33 \%$ | $14.86 \%$ |  |
| Maximum | $-25.97 \%$ | $-35.70 \%$ | $-37.27 \%$ | $-24.74 \%$ | $-25.67 \%$ | $-41.73 \%$ | $-20.96 \%$ | $-36.25 \%$ |  |
| Average. | $\mathbf{0 . 0 6 \%}$ | $\mathbf{0 . 6 8 \%}$ | $\mathbf{- 0 . 3 6 \%}$ | $\mathbf{0 . 6 0 \%}$ | $\mathbf{- 0 . 2 6 \%}$ | $\mathbf{- 0 . 0 5 \%}$ | $\mathbf{0 . 4 0 \%}$ | $\mathbf{0 . 3 1 \%}$ |  |
| Standard Deviation | $5.8 \%$ | $5.5 \%$ | $5.5 \%$ | $5.3 \%$ | $6.1 \%$ | $6.4 \%$ | $5.0 \%$ | $5.5 \%$ |  |

It would be expected that a negative adjustment to prices would occur following ex-dividend date, and until new information improved changed the stock price. However, observation of Table 2 reveals that this does not happen, and reveals that average relative price performance in the 15 days post ex-dividend date is positive, although not statistically significant. Also, performance in the 15 days prior to the exdividend day, shows little evidence of any significant short-term, dividend capture buying of stocks. This suggests that the market is giving investors cash dividends "for free". At the very least, this indicates a significant trading anomaly that is difficult to explain given conventional theory, and despite tax disincentives to dividend capture strategies.

The second test investigates the number of observations where there had been a clear return of relative stock prices to cum-dividend levels in the immediate post ex-dividend trading period. A period of 15 trading days was arbitrarily chosen. The maximum relative price achieved in the 15 trading days post exdividend date was compared to the cum-dividend relative price. If the maximum price achieved was greater than the comparison figure, this was recorded as "full retracement". If the maximum achieved relative price was less than the comparative, then the proportion of the maximum relative price from the theoretical ex-dividend price was compared to the calculated relative dividend payment (cash dividend paid $\div$ ASX200 Index closing on the last traded cum-dividend day). The study found that 194 observations (out of 274) traded at a maximum relative price equal to or greater than the comparative cum-dividend pricing. A further 10 observations retraced between $75 \%$ and $100 \%$ of the dividend adjustment. Further, it was observed that companies whose results were significantly below market expectations suffered relative capital depreciation for a considerable period after the results announcement, well beyond the corresponding ex-dividend date ( 28 instances).

In the final test, a multiple regression of ASX200 month-end historical price/earnings ratios (PER), as calculated by Citibank SSB, from January 1992 to March 2004 against EPS growth, the 10 year bond yield and the ASX200 payout ratio. To avoid multicolinearity issues, the dependent variable used is (1/PER). The results of the regression are shown in Table 3.

## Table 3: Multiple Regression Results (t stats in brackets)

| Variable | Variable Name | Coefficients |
| :--- | :--- | :---: |
| Constant | Constant | $0.0759(18.0650)$ |
| Growth in earnings per share | EPSGROWTH | $-0.1240(-8.5751)$ |
| 10 year bond yield | 10YRBOND | $0.2395(9.7242)$ |
| ASX200 dividend payout ratio | ASX200PAYOUT | $-0.0475(-7.3414)$ |

The results of the regression analysis show that all independent variables are statistically significant with the earnings yield of the market.

Of particular interest is the negative sign of the coefficient of ASXPAYOUT, suggesting that as the payout ratio increases, earnings yield falls (and market PER valuation increases). This is opposite to conventional theory where increases in the payout ratio are expected to lead to reduced future gain expectations, and valuation falls. Over the period, the average payout ratio varied between $49.8 \%$ and $77.4 \%$; bond yields varied between $4.9 \%$ and $10.53 \%$, while 2 year average growth rates varied between $0 \%$ and $17 \%$. Dividend yield reached a high of $7.95 \%$ and a low of $4.68 \%$

However, the multiple regression analysis results are consistent with the findings from the first two tests.

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