DIVIDEND CAPTURE AND THE EX-DIVIDEND PRICE BEHAVIOR OF ELECTRIC UTILITIES

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ABSTRACT

This paper examines if dividend capture strategies are causing significant price and volume movements in electric utilities around the ex-dividend date. Results show that while there is considerable price volatility around the ex-dividend date, this is not being caused by the use of dividend capture strategies. Stock purchases and sales made to implement this strategy are spread out over time and do not have any localized market-moving impact.

INTRODUCTION

The ex-dividend day price behavior of common stocks has received considerable attention in the literature [3, 4, 5, 6, 8]. One commonly accepted notion is that this price behavior reflects the existence of tax induced clienteles for common stocks which differ in their dividend yield. One such clientele is induced by a clause in the current tax code which permits a corporation to exempt from taxation 85% of dividend income received, if the stock is held for a minimum of 46 days. Dividend capture, as this short-term cash management strategy is called, entails buying the stock sometime prior to the ex-dividend date, collecting the dividend, and then selling the stock after the minimum 46-day holding requirement is met. While the after-tax yields from the strategy can be very high, the risk of incurring capital losses is also significant.

This paper provides an empirical examination of the 50 highest yielding electric utility stocks listed on the NYSE to see if there is any evidence of abnormal price and/or volume movements caused by the use of dividend capture strategies. The research is significant for two reasons. First is the issue of abnormal price movements being caused by institutional investors, where the trading is being triggered by non-fundamental factors like "program trading", or trading in the stock of a firm which has been added to/deleted from the S&P 500. To the extent that the financial press reports these activities as being harmful to the individual investor, it is of some interest to see if similar abnormal price movements are being driven by corporate dividend capture strategies.

Secondly, Finnerty [5], using data for 1978, found price increases for the three weeks preceding, and price decreases for the three weeks following, the ex-dividend date for a sample of electric utility stocks. He interpreted this as a dividend capture effect. In June 1984, however, the required holding period for a corporation to qualify for the 85% dividend exemption was increased from 16 to 46 days. This change should have made dividend capture less attractive, since the longer holding period increases the risk of a capital loss, and also reduces the number of dividend capture cycles possible in one year. At the same time, however, the overall decline in short-term interest rates should have increased the attractiveness of dividend capture because it offers the potential for high returns. Further, the risk of incurring capital losses may be hedged using options (see 1, 2, 9). That dividend capture is still a widely used cash management technique is, however, evident from reports in the financial press. The Wall Street Journal of May 19, 1986, for example, reports that up to $5 billion are invested in this strategy.
This empirical work reports on daily price and volume changes for a 100 calendar day period surrounding the second-quarter 1985 ex-dividend day to see if there is any evidence of a dividend capture effect under the new tax law. At the very least, if dividend capture causes significant price movements, then under the new tax law the timing of these movements should be different from those reported by Finnerty. While abnormal price movements were found to occur around the ex-dividend date, there is no evidence that dividend capture was a significant contributor to these movements.

There are two reasons for restricting this study to electric utility stocks. First, since electric utility stocks offer high dividend yields they should be attractive for use in a dividend capture strategy. The second reason was to retain comparability with Finnerty’s work, as his study was restricted to electric utility stocks.

The paper is organized as follows. Section II describes the impact that dividend capture should have on stock prices and volume. Section III outlines the empirical methodology and Section IV the results. The last section gives some concluding comments.

DIVIDEND CAPTURE: THE EXPECTED IMPACT ON PRICES AND TRADING VOLUME

The only requirement for implementing a dividend capture strategy is that the stock should be held for a minimum of 46 calendar days, including the ex-dividend day. This requirement can be met, in principle, by many different holding periods, so long as one constraint is met - all buying must occur before the ex-dividend date and all selling on or after the same. Thus, while dividend capture puts upward pressure on prices before the ex-date and downward pressure after, it is not possible to pre-specify the exact time when these pressures reach a peak. This is because an optimal time to buy and sell for this purpose cannot be specified on a purely theoretical basis.

Consider, however, the price/volume consequences of two possible investment timing patterns. If firms buy stock just before the ex-dividend date, then the 46 day holding period implies that selling pressure would not occur until 6-7 weeks after the ex-date. Abnormally high volume would also be expected at these two periods. On the other hand, if firms buy stock at random times during the 6-7 weeks preceding the ex-dividend date, then a gradual upward movement in prices for the 6-7 weeks preceding (and a gradual downward movement in prices for the 6-7 weeks following) the ex-date should be observed. In this case there should be no abnormal volume movements detected at any particular time.

It is important to note that a dividend capture effect can be isolated only with a combined price and volume analysis. To see this, note that if, for example, significant abnormal price increases are detected 46 days prior to the ex-date and significant abnormal price decreases on the ex-date, this is not necessarily an indication of dividend capture at work. The latter would be true only if the price changes were combined with abnormally high trading volume. The comparative statics of demand and supply suggest that if the price decline on the ex-date occurs on very low volume, then this cannot be interpreted as selling pressure on stock prices; it suggests a lack or decline in demand rather than an increase in supply. If, however, the price changes are coupled with abnormally high volume then it can be concluded that dividend capture is the driving force.

The main thrust of the empirical work is to see if there is any evidence of the combined price and volume changes that would suggest dividend capture as the underlying cause.

METHODOLOGY

Daily price and volume data for the 50 highest yielding electric utilities listed on the NYSE were obtained from Standard and Poor's Daily Stock Price Record. Daily prices were first standardized using the S&P 500 index. An abnormal daily price change was obtained as the standardized daily price change less a 'normal' daily price change. An average daily abnormal price change was then obtained by taking cross-sectional averages of the daily price changes. In the absence of any external price pressures, the average daily abnormal price change should be insignificantly different from zero on any day i. Statistical tests were conducted to assess the significance of the price changes.

Daily volume for the NYSE was used to adjust the volume data series because volume figures for the S&P 500 were not available. The 'normal'
daily volume was defined as the average daily volume for the 70 trading day period (100 calendar day) surrounding the second quarter ex-dividend day. Daily abnormal volume changes and cross-sectional average daily abnormal volume changes were obtained in a manner similar to that for abnormal price changes. In the absence of any external pressures, the average abnormal daily volume change should be insignificantly different from zero on any day i.

RESULTS

Fifty Firm Composite

Figure I shows the daily stock price behavior for the 50 firm composite for the 70 trading day period surrounding the ex-dividend date. For the 20 trading days preceding the ex-date, stock price followed a consistent upward trend, culminating in a sharp decline on the ex-date (day 0). There is no evidence, however, of any further downward price pressure for the ensuing period. In fact, the price never drops below the ex-dividend day level until the end of the study period.

While the price increases before the ex-dividend date could have a dividend capture component, the expected price declines resulting from selling pressure are not in evidence. Only two periods show a declining price trend - days 13-20 and days 25-27. The price changes on days 13-20 are, however, too small to be of any importance. The only price decreases that could have a dividend capture component of any significance would appear to be on days 25-27. The remarkably 'flat' pattern of stock price movements for the 35 trading days following the ex-date suggests, overall, that there is no significant stock price impact resulting from the use of dividend capture.

To further investigate the stock price impact of dividend capture, the daily behavior of abnormal price change and abnormal volume were examined. The results are given in Figure II. The top half of Figure II plots the abnormal daily trading volume for the 50 firm composite. Abnormal daily price changes are plotted in the lower half of Figure II. Values which lie above the horizontal axis indicate a larger than expected price increase. In this figure the broken horizontal lines delineate absolute price increases and decreases; values above (below) this line indicate price increases (decreases).

As discussed in Section II, evidence of dividend-capture-related buying should consist of abnormal price increases and abnormally high volume occurring simultaneously. Evidence of dividend-capture selling should consist of abnormal price declines combined with high volume. In Figure II, the only evidence of significant abnormal volume is for the 4 days preceding the ex-dividend date. None of the daily volume figures for any other day during the study period are significantly different from normal.

The strong upward pressure on prices for the 12 days preceding the ex-dividend day could have a dividend capture component. This is, however, unlikely, since there is no evidence of significant price declines coupled with volume increases during the period starting 19 trading days after the ex-date. The only significant price decline occurred on day 26, but volume on that day was somewhat below normal, suggesting that the likely cause for the price decline was a lack of demand rather than an increase in supply.

Given the 46 calendar day holding period requirements, the price/volume behavior that would suggest a clear dividend capture effect is not apparent. While the evidence does not suggest that there is no dividend capture contribution to the price movements, it shows that dividend capture itself is not causing significant price changes.

Additional Tests

Since the 50 firm composite gave no evidence of a market moving dividend capture effect, the data was screened in an effort to find subsets of firms which would be more attractive for dividend capture. Two different screens were used - high yield and low beta. The reasoning behind this process was that dividend captors should have a preference for high yield and low risk. These subsets of stocks might, it was conjectured, display a dividend capture effect on stock prices which was not found for the 50 firm composite.

Figure III shows the daily stock price behavior for the 25 firms in the sample with the highest dividend yield. While the period preceding the ex-dividend date displays steady price increases, no significant downward price movements appear in the period after the ex-date.

The daily abnormal price and volume move-
ments for this group are given in Figure IV. Starting 23 trading days before the ex-date, price followed a general upward trend. For each of the 4 days preceding the ex-date, volume was also significantly above normal. In order for any of this to be clearly dividend capture related, however, there should be evidence of selling pressure 46 or more calendar days downstream. While prices showed small declines on days 18-21, 26, and some others, all but one of these were statistically insignificant and occurred on volume which did not differ from normal. It can therefore be concluded that the price/volume changes around the ex-dividend date were caused by factors other than dividend capture.

Figure V gives the price behavior over the study period for the 25 firms in the sample which had the lowest betas. While the pre-ex-dividend date price behavior is essentially unchanged, there is evidence of a downward trend in price for the 9 trading days following the ex-date. Potentially, these price declines could be a result of selling by dividend captors, if the purchases were made 23-32 trading days before the ex-date. An examination of Figure VI, however, shows that daily volume during both these time periods was low and insignificantly different from normal.(4) The conclusions regarding dividend capture remain unchanged.

The above results suggest two possible implications regarding dividend capture in 1985. The first is that this is not a widely used cash management strategy any longer; given the results of Brown and Lummer [1, 2] and Zivney and Alderson [9] about the attractiveness of dividend capture and reports in the financial press about its prevalence, however, this notion can be rejected outright. A second, more plausible explanation is that the lengthening of the holding period requirement has had the effect of smoothing out price fluctuations. Under the 16 day holding period requirement, the 3 weeks preceding and following the ex-dividend date constituted an abnormal trading period relative to the rest of the quarter. After the tax law was changed, however, there is no longer any such thing as an abnormal trading period within the dividend cycle. To see this, note that with firms paying quarterly dividends, there will rarely (if ever) be any day which does not fall into some ex-date interval of the required length. Hence, the influence of corporate traders should have become more pervasive throughout the dividend cycle, rather than being restricted to the 6 week period surrounding the ex-dividend date.

Finally, under the new tax law, the impact of corporate traders on stock price and trading volume can only be interpreted in a positive note. First, such trading no longer causes significant abnormal price and/or volume movements at any specific time period. Second, the increased corporate participation adds liquidity to the market place, which is a decidedly advantageous thing for all traders.

CONCLUSIONS

There are three broad timing patterns for buying and selling that firms may be using to implement dividend capture strategies. These are (i) buy early, sell immediately after the ex-dividend date; (ii) buy in the few days preceding the ex-dividend date, sell 46 or more calendar days downstream; (iii) buy steadily before and sell steadily after the ex-dividend date. The first and second timing patterns would be expected to create abnormal price and volume movements. There is no evidence of either one of these effects. In fact, the price decline on the ex-dividend date occurs on volume that is no different than normal; it is hard to imagine this being caused by selling pressure.

The evidence is consistent, however, with the third timing pattern described above. The market impact of this pattern would not be severe on any given day or time period. Rather, it would be evenly spread out and not significant. The increased participation of corporate money managers in short-term trading to implement dividend capture strategies, it may be concluded, is not causing any significant price and/or volume movements in electric utility stocks.

REFERENCES


FOOTNOTES

1. While an optimal time for buying and selling may be hard to pre-specify, it is possible to identify what would appear to be undesirable times to do this. One consistent result in the literature is that prices tend to rise just before the ex-dividend date, and fall on the ex-date. Hence to play a dividend capture game, buying just before the ex-dividend date would appear to be an inferior strategy. At the same time, buying 40 or more calendar days before the ex-dividend date would require selling soon after the same, when prices are depressed for other reasons. This is also an inferior strategy. Given that there are 'other' influences acting on stock prices around the ex-dividend date, a good strategy would be to time the buying and selling so that none of it occurs close to the ex-date.

2. To further clarify the need to examine both price and volume, note that dividend capture should result in 'buying pressure' on stock prices before the ex-dividend date and 'selling pressure' after the same. In the context of short-term trading due to dividend capture, buying pressure should be interpreted to mean an increase in demand, ceteris paribus; similarly, selling pressure means an increase in supply, ceteris paribus. Since an increase in price may be caused by an increase in demand or a decline in supply, buying pressure can only be identified by looking at both price and volume. A price increase results from buying pressure only if it occurs on increased volume. Similarly, a price decline is due to increased supply (as opposed to a decline in demand) only if it occurs on increased volume.

3. A 'normal' daily price change was obtained by use of the following assumption. In an idealized world, stock price would fall by the dollar amount of the dividend on the ex-dividend date and then rise to its new level on the day preceding the next ex-dividend date. The 'normal' or expected price path was assumed to follow a linear trend between these two dates.

4. In Figures IV and VI, day -29 shows a significantly large trading volume coupled with a price increase. This could potentially be caused by dividend capture buying. An examination of individual firm data showed, however, that the volume spurt was caused by trading in one single security and this security suffered a price decline on that day. The activity on day -29 thus constitutes a statistical anomaly and is unrelated to dividend capture.