

The Price Drop Puzzle on the Ex-dividend Day

George Leledakis*

Department of Accounting and Finance, Athens University of Economics and Business, Greece

The behavior of share prices around ex-dividend days has been the subject of considerable theoretical and empirical research for nearly 50 years. Prior empirical studies document consistently that, on average, stock price falls less than the dividend amount on the ex-dividend day, giving rise to positive abnormal returns on the ex-day. However, after so many years of debate among academics, no consensus has been reached regarding the main drivers of the pricing anomaly on the ex-dividend day. The “tax clientele hypothesis”, the “short term arbitrage and transaction cost hypothesis” and mainly, two market microstructure hypotheses, the “tick size hypothesis” and the “bid-ask bounce hypothesis” attempt to explain the empirical inefficiency of the price drop on the ex-dividend day.

The seminal paper of Elton and Gruber [1] is the beginning of contemporary theoretical attempts to explain the ex-dividend day stock price behavior. They first introduced the “tax clientele hypothesis” which posits that the drop in the stock price on the ex-dividend day is less than the amount of the dividend when ordinary income tax rates imposed on dividends exceed capital gains tax rates. In particular, they show that for long-term investors to be indifferent between trading the stock before and after the opening of the ex-day. Given that dividends historically carried a tax disadvantage relative to capital gains for individual investors, they should price the dividend at a value that is less than the cash amount distributed by corporations, resulting in a price drop ratio of less than one on the ex-dividend day. The argument of Elton and Gruber [1] also implies that the effective tax rate on dividends for the marginal investor can be inferred on the ex-day.

Alternatively, the “short-term arbitrage and transaction cost hypothesis” is based on the premise that marginal pricing on the ex-day is dominated by short-term arbitrageurs. Kalay [2] argues that, if transaction costs are negligible, risk neutral arbitrageurs who have the same tax rate on short-term capital gains and dividends will eliminate any abnormal returns on the ex-dividend day that are generated due to the relative taxation of dividends. If transaction costs are non-zero, the price drop should fall within the range of the amount of the dividend plus or minus the transaction cost paid on a “round-trip” transaction. As a result, the discrepancy between the ex-day price drop and the dividend will be a reflection of the transaction cost of arbitrage rather than the effective tax rate on dividends implied for the marginal investor.

Within the microstructure explanatory framework, Bali and Hite [3] argue that whenever price discreteness entails dividends that are inexact multiples of the tick size, the ex-day price drop will be equal to the dividend amount rounded down to the nearest tick below (“tick size hypothesis”). In addition, Frank and Jagannathan [4] presume that long-term investors who “find dividends more of a nuisance” due to the cost of collecting and reinvesting dividends will want to either sell the dividend on the day before the ex-day (cum-day) or buy (or repurchase) the dividend on the ex-day. This “sell at cum-day versus buy at ex-day” order imbalance will be met by market makers who purchase the stock at the bid price on the cum-day and subsequently sell it at the ask price on the ex-day. In the Hong Kong stock market, where neither dividends nor capital gains are taxed, Frank and Jagannathan [4] claim that this trading behavior can explain a price drop versus dividend discrepancy

that is equal to the bid-ask bounce (“bid-ask bounce hypothesis”). Both microstructure hypotheses directly challenge the “tax clientele hypothesis” in that they introduce explanations for the ex-day anomaly that are not related to taxes. Nevertheless, Graham et al. [5], and Jakob and Ma [6] examine the effect of changes in price quotation and find no support for microstructure explanations.

Understanding the causes of the ex-day return anomaly is central to understanding why capital markets are less than perfect. In addition to supporting the theory that the dividend tax penalty incurred by some shareholders is impounded into share prices, evidence consistent with the tax explanation would indicate that transaction costs are too great to enable tax-neutral arbitrageurs to eliminate the resulting tax discount on individual dividend payments. On the other hand, if microstructure arguments explain positive ex-day returns, then neither taxes nor transaction costs are necessarily limits to market perfection in this setting. Despite these empirical evidences, much remains to be investigated.

One possible avenue for future research might be the application of a model incorporating a combination of previous hypotheses and behavioral and psychological influences [7]. However, empirical tests of behavioral models face a number of challenges. The most important difficulty is that the models cannot be easily tested with aggregate data. Proper assessment of behavioral models requires detailed information on the trading behavior of market participants. Unfortunately, availability of such information is generally quite low. Until such information is available, we are confident to argue that tests of ex-dividend day price behavior will remain both inconclusive and inconsistent.

References

1. Elton E, Gruber M (1970) Marginal stockholder tax rates and the clientele effect. *Rev Econ Statist* 52: 68-74.
2. Kalay A (1982) The ex-dividend day behavior of stock prices: A Re-Examination of the clientele effect. *J Finance* 37: 1059-1070.
3. Bali R, Hite GL (1998) Ex-dividend day stock price behavior: Discreteness or tax-induced clienteles? *J Finan Econ* 47: 127-159.
4. Frank M, Jagannathan R (1998) Why do stock prices drop by less than the value of the dividend? Evidence from a country without taxes. *J Finan Econ* 47: 161-188.
5. Graham JR, Michaely R, Roberts MR (2003) Do price discreteness and transaction costs affect stock returns? Comparing ex-dividend pricing before and after decimalization. *J Finance* 58: 2611-2635.

*Corresponding author: George Leledakis, Department of Accounting and Finance, Athens University of Economics and Business, Greece, Tel: +30-210-8203-459; Fax: +30-210-8228-816; E-mail: glededak@aueb.gr

Received February 06, 2012; Accepted February 08, 2012; Published February 11, 2012

Citation: Leledakis G (2012) The Price Drop Puzzle on the Ex-dividend Day. *J Bus & Fin Aff* 1:e105. doi:10.4172/2167-0234.1000e105

Copyright: © 2012 Leledakis G. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

6. Jakob K, Ma T (2004) Tick size, NYSE rule 118, and ex-dividend day stock price behavior. J Finan Econ 72: 605-625.
7. Efthymiou V, Leledakis G (2011) The price impact of the disposition effect on the ex-dividend day of NYSE and AMEX common stocks.