DIVIDEND POLICY RELEVANCY IN THEORETICAL AND PRACTICAL ECONOMICS

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ABSTRACT

The foremost purpose of this paper is to concisely explain to individuals teaching economics in an academic setting or using economics in a practical setting some of the basics of long run financial theory focusing on the dividend policy decision of a corporation. The main motivation for this study is based on observations of economists being very deficient in the discipline of finance especially in long run financial concepts. Many times practitioners or academics who are educated in the area of economics lack any type of background in finance and therefore are deficient with their knowledge of financial theory and applications. This disconnect prevents using many financial applications in their own classes, in their own businesses or with their own research. This paper serves as a primer to some of the long run dividend policy theories that individuals can use as a starting point to their additional research, study or use in teaching. Areas related to dividend policy and financial theory in general can be utilized by economists in academia and the private sector to enhance and advance their professional careers.

Keywords: Dividends, Dividend policy, Financial theory, Financial policies.

Contribution/ Originality

This study contributes in the existing literature by demonstrating the usual disconnect between the disciplines of finance and economics. The paper illustrates that economists can gain substantially from a basic knowledge of financial theory. The contribution here emphasizes the dividend policy decision that corporations must make.

1. INTRODUCTION

Economists employed in the private sector, the public sector or in academia normally lack any type of background in finance. This is especially true of those individuals who obtained their economics degrees from non-business colleges such as colleges of arts and letters. The purpose of this paper is to offer some basic explanations of certain fundamental financial policy concepts with an emphasis on dividend policy and also provide an introduction to some of the "classic" research

in these areas. This will serve as a bridge of sorts that economists (and others) can then utilize in their own careers. There are many obvious similarities between finance and economics. In many cases finance is simply just applied economic theory. The disconnect between economists and finance prevents many from utilizing various financial applications in their own classes, in their own businesses or with their own research. Hopefully this paper will serve as a starting point for anyone interested in key areas of finance.

2. FINANCIAL POLICIES

A Nobel laureate and co-author wrote the first exhaustive work on the financial policies of business firms (Fama and Miller, 1972). They utilize a two period market partial equilibrium model without taxes to show that in a perfect capital market the capital structure decision of a firm does not affect the market value of a firm. This result occurs, because the financial decisions of a firm have no effect on the collection of probability distributions on the market value of a firm in time period two or on the probability distributions that can be sold by investors who owned these securities in time period zero and still hold these assets at time period one. This is known as the first separation principle. Their two period results extend also to a multi-period world with minor differences. When corporate taxes are introduced the conclusions change. Under current U.S. tax law, firms can deduct any interest paid on debt instruments, such as bonds. This makes the value of a levered firm equal to the value of an unlevered firm plus the discounted market value of future interest payments; hence a firm should finance their assets thru debt issues in lieu of issuing equity in order to maximize the value to stakeholders. The authors then introduce personal taxes into their model. During this time frame, individuals could deduct interest payments on their personal debt, much like corporations could do. If individuals could somehow replicate the tax subsidy that a corporation earns when it issues debt, then the initial result that a firm's capital structure does not matter would still hold. They find that no such replication can transpire, thus a firm's capital structure does affect firm value.

Dividend policy was also addressed by the authors. They find that under certain assumptions the dividend policy of a firm does not influence the shareholders value. The market value depends on interest rates, operating earnings and investment outlays, but not dividends or lack of dividends as illustrated by the following valuation equation obtained in a two period model:

$$V(t) = \frac{1}{1+r_{t+1}}[R(t+1) - W(t+1) - I(t+1) + V(t+1)]$$

V(t) represents the value of a firm at time period t, r_{t+1} is the discount rate, R is the firm's earnings, W is the outlay for operating expenses, such as wages, I represents investment outlays and V is the value of the firm, all at time period t+1. The above would also extend to a multi-period model with the equation changing only slightly due to differences in notation which I shall ignore reproducing in this chapter of my dissertation.

Pringle and Harris (1984) provide a more practical than theoretical analysis of the financial policy of a firm. In determining what capital structure a firm should adopt, they focus more on using sensitivity analyses and financial ratios to guide a firm towards the correct financing decision. They do provide a cursory look at the roles that corporate and personal taxes might play in swaying firm behavior in financing matters. In discussing dividend policy, they look at the effects that brokerage commissions and issuance costs of new securities play in determining the appropriate dividend level. Commissions may tend to exert a bias towards paying out a significant dividend, because otherwise if shareholders needed current income they would have to sell part of their shares and thus incur brokerage commissions. On the other hand individuals not desiring current income might assign a higher value to firms that pay out a low dividend, because they would have to presumably reinvest any dividend payouts and thus incur commission charges. High security issuance costs causes a firm to hold back dividends in the event those funds are needed for expenditures, otherwise the firm would have to issue new securities and incur further costs in doing so.

Keown et al. (2001) assign great importance to the financial policies of business firms. The authors cite that the main goal of a firm is to maximize the market value of the firm. They see a firm as facing two types of risk: business risk and financial risk. The two types of risk are related, but only financial risk is directly affected by the financial policies of a firm. A firm must decide on a degree of financial leverage that will be used to finance their capital projects or assets which will in turn impact their earnings. The degree of operating leverage must also be decided upon and this will also have an impact on variables such as sales and earnings. A firm's capital structure might also influence the market value of a firm. The appropriate mix of common stock, preferred stock and debt to utilize in financing assets is of the utmost importance. Under certain assumptions the authors demonstrate that it is possible for the value of a firm to be affected by different capital structure mixes. One argument calls for a firm to be financed entirely by debt, another states that a firm should be financed with a limited amount of debt due to the presence of positive bankruptcy and agency costs and a third theory suggests that a firm's choice of a capital structure doesn't have any impact on the value of a firm.

The authors also discuss the role that dividend policy plays within a corporation. When a firm makes positive earnings they can either retain all these earnings or remit some of these earnings to shareholders in the form of a dividend. Thus, firms can either have a positive payout ratio or a zero payout ratio. There are four important dates associated with a dividend payment decision. The declaration date is the date when firms publicly announce that they will be making a dividend payment. At this point the dividends become a financial obligation to the firm. The record date is the date that determines who will receive the dividend from the firm. The ex-date is set by the associated stock exchange and this is the date at which the common shares trade without the dividend. The ex-date is two days prior to the record date and in actuality determines who gets to actually keep the dividend. The payment date is when the dividend payment is actually made.

Similar to the capital structure of a firm, there are three rival theories concerning which is the correct dividend policy for a firm to follow. In other words, which policy maximizes the market value of a firm. One theory suggests that dividend policy is irrelevant, one recommends paying out a high dividend and the last theory proposes paying out a low dividend or none at all. The residual dividend theory, the clientele effect, the expectations effect and the information effect are also explored.

An abundance of empirical studies are reviewed by the authors. The studies offer a plethora of conflicting conclusions.

3. DIVIDEND POLICIES

Under conditions of perfects markets, rational behavior and perfect certainty it can be shown that the dividend policy of a firm is irrelevant, in other words it has no impact on share values (Miller and Modigliani, 1961). With the aforementioned assumptions adopted, each share of common stock must be priced such that the rate of return, which includes dividends and capital gains per dollar, on every company's shares must be equal. The authors develop the following relationship:

$$V(t) = \frac{1}{1 + p(t)}[X(t) - I(t) + V(t+1)]$$

Where V(t) is the value of a firm at time t, p(t) is the discount rate at time t, X(t) is the firm's net profit at time t, I(t) is the firm's level of investment at time t and V(t+1) is the value of the firm at time t+1. Dividends do not enter the valuation equation for the firm. The value of the firm is based solely on the earning power and investment policy of the firm. Shareholders do not care how their returns are packaged, only the return itself matters. These results still hold even if the perfect certainty assumption is dropped from the model.

There is a special case where dividend policy would influence the value of a firm. If a firm is financed entirely by internal funds, then the dividend policy and investment policy, which determines the value of a firm, would be indistinguishable.

The authors make a point of discussing the informational content of dividends. In a world of uncertainty there appears to be a positive correlation between increases in dividends and share prices. This does not negate the above dividend irrelevancy argument. A firm seeks to keep a constant payout ratio and thus would only increase dividends if they believed future earnings were going to rise, therefore the increase in share prices noticed after a dividend increase results only because the investing public takes the rise in dividends as a signal that earnings will be increasing as well. The perceived increase in earnings is what actually drives the market price upward, not the dividend escalation itself.

Graham and Dodd (1951), Clenddenin and Van Cleave (1954), and Gordon (1959) find that dividend policy does matter. They argue that a dollar dividend is more certain than a dollar in

capital gains, therefore investors prefer the dividend over the capital gain and will raise the relative price of these stocks accordingly via a larger demand. This is known as the bird in the hand model. Prior to the findings of Miller and Modigliani (1961) this model was never seriously questioned.

Black and Scholes (1974) demonstrate that dividend yields have no effect on share prices, therefore there is no way of telling whether or not a change in dividend policy will change firm value. There are two classes of investors that exist: those that prefer a high dividend payout and those that prefer a low dividend payout. Investors in the first class would include corporations, certain trusts funds, endowment funds and investors who find it cheaper and relatively easier to obtain income from their wealth by receiving dividends as opposed to selling their shares or borrowing money against their shares. Corporations pay a higher tax rate on realized capital gains than dividends, thus they prefer the higher payout. Endowment funds and certain trusts find it administratively easier to receive dividends in lieu of capital gains. Investors preferring a low payout include individuals in high income tax brackets who would prefer to pay the lower capital gains rate. These are called "tax effects". Corporations are aware that these dissimilar clienteles exist. If a firm's dividend policy has no effect on its' investment decisions then as a group they will adjust their dividend policies in such a way that satisfies the current investor demand for such policies. The supply of each level of dividend yield will come to match the demand in a well functioning market, such as the stock market is thought to be. This is called the "supply effect". If there was an excess demand for a particular dividend yield, then a company could alter its' dividend policy accordingly and increase the stock price of its' shares. This type of arbitrage opportunity would not exist for long in this type of market.

The authors show that it is impossible to construct a high yield portfolio and a low yield portfolio whose returns are perfectly correlated, since systematic differences between the two types of stock exist. Assuming investors seek to avoid risk and therefore prefer to be diversified, they would in practice shun these two extreme portfolios. This is called the "diversification effect".

The authors demonstrate empirically that there is no difference between the after tax returns on high dividend yielding stocks and low yielding stocks. When investors are aware of this it is called the "uncertainty effect". The final result is that despite the tax effects and supply effects that might exist, the uncertainty effect dominates and implies that investors can ignore tax effects. This leads to the conclusion that a firm does not have any reason to change its' dividend policy in order to increase share prices, because the attempt would prove futile. For example, an investor who is tax exempt for some reason realizes that dividend yield has no discernible effect on stock returns over time. In some periods the higher yielding stocks will provide a greater return and in some periods a lower return. The investor also realizes that by owning only high yielding stocks, he or she is not well diversified which all risk averse investors desire to be. Therefore the investor won't have a preference of a higher yielding stock over a lower yielding stock.

Long (1977) finds a significant clientele effect, but also concludes that dividend policy should be irrelevant to firms.

Empirical evidence does exist suggesting a positive correlation between dividend yields and expected returns on stocks (Litzenberger and Ramaswamy, 1979). They use a maximum likelihood technique to estimate the following regression equation:

$$E(R_i) - r_f = a + b\beta_i + c(d_i - r_f)$$

$E(R_i)$-r_f is the excess expected return of stock i over the risk free rate, B_i is the beta of stock i, which is the measure of systematic risk a security possesses, and d_i is the dividend of stock i. There work shows that the estimates for a,b, and c are all positive. The positive coefficient, c, suggests that a lower dividend causes a higher expected return on stock. They also apply a generalized least squares and an ordinary least squares model and arrive at the same signs for a, b, and c. They maintain that a one dollar increase in dividends will result on average in a 23 cent increase in required return. Their results imply that if a firm reduces their dividend, expected stock returns will rise, thus in order to maximize shareholder value they should payout the least dividend possible after setting their capital budget. Investors must be compensated with a higher return when receiving a dividend. This is referred to as the differential tax effect. They also find evidence of a dividend clientele effect.

Criticism of the empirical methods used by Litzenberger and Ramaswamy (1979) are presented by Hess (1982). He finds that the presumed differential tax effect is due to biases in their estimation methods. The seeming effect might be due simply to dividend announcement effects.

Miller and Scholes (1978) unearth additional evidence that no significant relationship exist between stock returns and dividend payouts or yields. They view any statistical relationship found between dividend yields ad stock returns to be due to unmeasured dividend information effects. Using a three step, pooled cross section and time series approach they find that dividends are irrelevant. They present evidence suggesting that the way dividend yields are defined will impact any empirical results produced. The authors posit that previous work finding a differential tax effect was flawed in the way dividend yields were defined and led to biases in parameter estimates. Informational effects were not properly weeded out of the data, thus leading to flawed conclusions.

Taxable investors are indifferent to dividends even when capital gains taxes are substantially below rates applied to dividends Miller and Scholes (1982). At this time the Internal Revenue Code limited interest deductions to the amount of investment income received and allowed the tax fee accumulation of wealth at a before tax interest rate in financial vehicles, such as life insurance policies and pension funds. (These parts of the Internal Revenue Code have not changed in any considerable manner to date.) These features of the Internal Revenue Code allow investors to reduce or eliminate any tax disadvantage that dividends have relative to capital gains, thus rendering dividend policy irrelevant to firm valuation. This is called the "strong invariance proposition".

Feenberg (1981) analyzes the aforementioned "strong invariance proposition" and finds that the conditions that must exist for this proposition to hold are extremely rare, thus rendering any role for this hypothesis in making dividend decisions moot. In order for the hypothesis to work,

individuals must borrow enough money in order to produce a one dollar interest expense deduction for each dollar in dividends they receive. The author sees this as something that individuals are unlikely to do and also as something that the Internal Revenue Service might not allow. Looking at tax returns for 1977, he finds that only 2.5% of dividend recipients even qualify for this type of dividend laundering, thus 97.5% of all shareholders would not be impacted by such a strategy.

A method of presenting and testing marginal stockholders tax brackets is introduced by Elton and Gruber (1970). Knowing these brackets will allow certain inferences to be drawn about what dividend policy is most appropriate for business firms that have positive earnings. A correlation between investor tax rates and dividend policy would suggest a clientele effect, which would make it costly for a firm to switch their dividend policy. On the ex-divined date a stock begins to trade minus the dividend. If an investor owns the stock before and on the ex-dividend date the investor gets to keep the dividend. If the investor sells before the ex-date the dividend is forfeited. If we assume that the stock market is rational, then the stock price should fall on the ex-date in an amount equal to the relative value of the dividends in relation to the capital gains to the marginal stockholders. Marginal tax brackets can then be deduced from the behavior of common stocks on the ex-date. The author forms a test statistic that would make a stockholder with a certain set of tax rates indifferent to the timing of purchases and sales of the stock which means the individual is indifferent to a dollar in dividends or a dollar in capital gains. The test statistic is presented below.

$$\frac{P_b - P_a}{D} = \frac{1 - t_o}{1 - t_c}$$

P_b=Price on the day before the stock goes ex-dividend

P_a=Price of the stock on the ex-dividend day

T_o=Ordinary income tax rate

T_c=Capital gains rate

D=The amount of the dividend

The author finds that individuals in high tax brackets prefer a low dividend yield and investors in lower brackets prefer dividends based on inferring tax rates from the ex-dividend date price changes. Evidence for a dividend clientele effect therefore exists.

Ex-dividend date returns vary according to the taxability of the distributions (Eades *et al.*, 1984). The authors find evidence suggesting that for taxable common stocks the ex-dividend date returns are consistent with the hypothesis that dividends are taxed higher than capital gains. They also find that the ex-dividend date returns of preferred stocks are consistent with preferreds being taxed at a lower rate than capital gains and that the ex-dividend date yield on non-taxable dividends are priced as if they actually were fully taxable. They offer no significant explanation as to why the various types of stocks behave in this manner.

Fama and French (1988) perform an empirical study of the effect that dividend yields have on stock returns. They find that a causal relationship between the two exists. As the return horizon is lengthened the coefficient of determination increases, meaning that the predictive power of

dividend yields on forecasting future stock returns improves over time. The authors find that significant autocorrelation and a type of discount rate effect are the probable causes.

Tax based and signaling type theories are tested against contracting theories (Smith and Watts, 1992). The authors find several empirical relationships among dividend policies, capital structures, compensation policies and various firm characteristics. Their evidence suggests that cross sectional variation in dividend policies are explained better by contracting theories rather than the traditional tax theories or signaling theories which are traditional used.

Fama and French (2001) find that since 1978 the percentage of publicly traded firms paying out dividends has fallen substantially from 66.5% to 20.8% in 1999. They reason that most of the newly listed firms during that time span have been smaller firms that are characterized by low profits and high growth opportunities. These characteristics make it difficult to pay out a cash dividend at least until the firms enter a more mature growth stage. The authors also find that even after adjusting for this trend in smaller firms being listed on U.S. stock exchanges dividend payouts have fallen over time. This might be due to the effect of the various tax schemes that have existed in the last 25 years.

Smaller firms tend to partially compensate managers with stock options more so than more established larger firms. These types of managerial stock incentives influence the dividend policy of firms (Fenn and Liang, 2001). The authors analyze the data of nonfinancial firms during the 90's. They find that companies with low management stock ownership tend to pay out a higher dividend. These types of firms would also be likely to have the greatest agency costs. Stock options have an impact on payout policy. The writers also find a significant negative relationship between management stock options and dividends. A positive relationship between stock repurchases and dividends is also found. Over the past few decades dividend payouts have decreased and stock repurchases have grown. This could be due to the increase in management stock options that have been issued over the same time period.

Some firms prefer to pay out dividends in lieu of repurchasing shares of common stock (Allen et al., 2000). These authors find that personal tax rates are not as important as differences in tax rates between institutional and individual investors in determining a firm's dividend policy. Over time, institutional investors have become relatively more important than individuals as investors in stock. If institutional investors are taxed less than individuals, then dividends could attract a certain clientele, i.e. institutional investors. Presumably, these investors are more adept at identifying firms that are well managed and generally higher in quality. This might explain why many firms still pay out a generous dividend even though for many individuals taxes create a bias against a high payout rate.

Grullon and Michaely (2002) demonstrate that stock repurchases utilize funds that would have been allocated towards dividend payments to stockholders. Firms find using stock repurchases instead of dividends a more efficient method of creating cash payouts to owners. This is true of both small and large firms. Small firms simply have a tendency to fully cannibalize dividends in

favor of repurchase and larger firms still pay out dividends, but tend not to increase them with as much fervor as they did in the past before repurchases became popular. Repurchases grew in popularity when regulations on these were relaxed during the 1980's. The authors refer to the crowding out of dividends by stock repurchases as their substitution hypothesis.

Pilotte (2003) assumes that the negative relationship between stock returns and inflation is due to inflation serving as an inverse indicator of future real output. The author conjectures that inflation also serves as a proxy for excess returns which are defined by real price to dividend ratios. When excess returns and inflation are correlated, the relationship between stock returns and inflation differ for the two components of return, which are a stock's dividend yield and capital gain. These relationships tend to differ when comparing U.S. and foreign markets, but this is most probably due to important and significant institutional factors that differ among countries.

Getry et al. (2003) focus specifically on real estate investment trusts (REIT's). REIT's under current laws have limited discretion over their dividend policy. They are required to pay out a dividend. This limited discretion combined with a relative transparent balance sheet enables the authors to avoid some of the empirical difficulties encountered by others when analyzing dividend polices of firms. They find that the value of a firm is influenced by dividends in the sense that all future dividend taxes are discounted and accounted for in share prices.

A catering theory of dividends is proposed by Baker and Wurgler (2004). They perform an empirical study which suggests that firms react to the prevailing investor sentiment for dividends. When investor demand for dividends is high, firms tend to begin paying out a dividend if they haven't been doing so. When investor demand for dividends is low evidence suggest that some firms omit paying a dividend. Managers tend to cater to investor demands when setting dividend policy. Their theory is a demand driven model.

Koch and Sun (2004) investigate whether or not dividends operate as a signaling apparatus. Investors can obviously observe past earnings changes of firms. They might view any changes as transitory and not an indication of what will happen to the future earnings of the firm. The authors conclude that changes in dividends signal investors that past earnings changes will persist in the future. This signaling effect fluctuates with the magnitude of the dividend modification and whether or not earnings increased or decreased in the recent past.

Dividend policy might also be shaped by agency problems LaPorta et al. (2000). These authors investigate two models using agency costs as the prime determinant of dividend policy. One model is identified as the "outcome model" and states that dividends are paid out due to the demand of minority shareholders for cash. The second model put forth is entitled the "substitute model". This hypothesizes that firms issue dividend payments in order to establish a positive reputation among minority shareholders. The outcome model would indicate a positive relationship between dividend payouts and the strength of minority shareholder rights. The substitute model predicts that a negative relationship between the two variables. The empirical results lead the authors to conclude that the outcome model is more appropriate in explaining actual firm behavior.

Naranjo *et al.* (2000) study the time variation of ex-dividend date stock returns. They find that the returns are influenced by a corporate dividend capture effect.

4. CONCLUSION

Hopefully this paper has served to concisely explain to academics teaching economics or practitioners using economics in a business situation some of the essentials of long run financial theory focusing on the dividend policy choice of a business firm. One major concern is that many economists seem very deficient in the discipline of finance especially in long run financial concepts. This detachment serves as a constraint for economists, in their own business practice or with their own academic research. This paper has served as a primer to some of the long run dividend policy theories that individuals can use as a starting point to their additional research, study or use in teaching.

REFERENCES

Allen, F., A.E. Bernardo and I. Welch, 2000. A theory of dividends based on tax clienteles. Journal of Finance, 55(Dec): 2499-2536.

Baker, M. and J. Wurgler, 2004. A catering theory of dividends. Journal of Finance, 59(Jun): 1125-1165.

Black, F. and M. Scholes, 1974. The effects of dividend yield and dividend policy on common stock prices and returns. Journal of Financial Economics, 1(May): 1-22.

Clenddenin, J. and M. Van Cleave, 1954. Growth and common stock values. Journal of Finance, 9(Dec): 365-376.

Eades, K., P. Hess and E. Kim, 1984. On interpreting security returns during the ex-dividend period. Journal of Financial Economics, 13(March): 3-34.

Elton, E. and M. Gruber, 1970. Marginal stockholder tax rates and the clientele effect. Review of Economics and Statistics, 52(Feb): 68-74.

Fama, E. and K. French, 2001. Disappearing dividends: Changing firm characteristics or lower propensity to pay? Journal of Financial Economics, 60(Apr): 3-43.

Fama, E. and M. Miller, 1972. The theory of finance. Florida: Dryden Press.

Fama, E.F. and K.R. French, 1988. Dividend yields and expected stock returns. Journal of Financial Economics, 22(Oct): 3-25.

Feenberg, D., 1981. Does the investment interest limitation explain the existence of dividends? Journal of Financial Economics, 9(Sept): 265-269.

Fenn, G.W. and N. Liang, 2001. Corporate payout policy and managerial stock incentives. Journal of Financial Economics, 60(April): 45-72.

Getry, W.M., D. Kemsly and C.J. Mayer, 2003. Dividend taxes and share prices: Evidence from real estate investment trusts. Journal of Finance, 58(Feb): 261-282.

Gordon, M., 1959. Dividends, earnings and stock prices. Review of Economics and Statistics, 41(May): 99-105.

Graham, B. and D. Dodd, 1951. Security analysis. 3rd Edn., New York: McGraw-Hill.

Grullon, G. and R. Michaely, 2002. Dividends, share repurchases, and the substitution hypothesis. Journal of Finance, 57(Aug): 1649-1684.

Hess, P., 1982. The ex-dividend day behavior of stock returns: Further evidence on tax effects. Journal of Finance, 37(May): 445-456.

Keown, A., J. Martin, J. Petty and D. Scott, 2001. Foundations of finance. 3rd Edn., New Jersey: Prentice Hall.

Koch, A. and A. Sun, 2004. Dividend changes and the persistence of past earnings changes. Journal of Finance, 59(Oct): 2093-2116.

LaPorta, R., F. Lopez, A. Shleifer and R. Vishny, 2000. Agency problems and dividend policies around the world. Journal of Finance, 55(Feb): 1-33.

Litzenberger, R.H. and K. Ramaswamy, 1979. The effect of personal taxes and dividends on capital asset prices. Journal of Financial Economics, 7(June): 163-195.

Long, J., 1977. Efficient portfolio choice with differential of dividends and capital gains. Journal of Financial Economics, 5(May): 25-53.

Miller, M. and F. Modigliani, 1961. Dividend policy, growth, and the valuation of shares. Journal of Business, 34(Oct): 411-433.

Miller, M. and M. Scholes, 1978. Dividends and taxes. Journal of Financial Economics, 6(Dec): 333-364.

Miller, M. and M. Scholes, 1982. Dividends and taxes: Some empirical evidence. Journal of Political Economy, 90(Dec): 1118-1141.

Naranjo, A., M. Nimalendran and M. Ryngaert, 2000. Time variation of ex-dividend day stock returns and corporate dividend capture: A reexamination. Journal of Finance, 55(Oct): 2357-2372.

Pilotte, E.A., 2003. Capital gains, dividend yields, and expected inflation. Journal of Finance, 58 (Feb): 447-466.

Pringle, J. and R. Harris, 1984. Essentials of managerial finance. Illinois: Scott, Foresman and Company.

Smith, C. and R. Watts, 1992. The investment opportunity set and corporate financing, dividends, and compensation policies. Journal of Financial Economics, 32(Dec): 263-292.