SIGNALLING THEORY OF DIVIDENDS: A REVIEW OF THE LITERATURE AND EMPIRICAL EVIDENCE.

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Abstract: The signalling theory suggests that dividends signal future prospects of a firm.However, recent empirical evidence from the US and the UK does not offer a conclusive evidence on this issue. There are conflicting policy implications among financial economists so much that there is no practical dividend policy guidance to management, existing and potential investors in shareholding. Since corporate investment, financing, and distribution decisions are a continuous function of management, the dividend decisions seem to rely on intuitive evaluation.

INTRODUCTION

Benartzi, *et al.* (1997) contend that many dividend theories imply that changes in dividends have information content about the future earnings of the firm. Upon investigation of this claim they found limited support for it. Firms that increase dividends in year 0 have experienced significant earnings increases in years –1 and 0, but show no subsequent unexpected earnings growth. Also, the size of the dividend increase does not predict future earnings. Firms that cut dividends in year 0 have experienced a reduction in earnings in year 0 and in year –1, but these firms go on to show significant increases in year 1. However, consistent with Lintner's (1956) model on dividend policy, firms that increase dividends are less likely than non-changing firms to experience a drop in future earnings. Thus, their increase in concurrent earnings can be said to be somewhat "permanent." This means that a dividend increase implies a rightward shift in distribution of earnings. They found that despite lack of future earnings growth, firms that increase dividends have significant (though modest) positive excess returns for the following three years.

THEORETICAL LITERATURE REVIEW

Since Modigliani and Miller (1958), the role and importance of corporate financial policies has been the subject of widespread controversy. This reflects the variety of issues where corporate financial behaviour is relevant, including corporate tax policy, the possible role of the financial system in encouraging capital investment, the relationship between company debt and financial stability and the impact of monetary policy on corporate spending.[1]

Miller and Modigliani (M&M) (1961) explicitly suggest that dividends can convey information about future cashflows when markets are incomplete. M&M exhibit conditions under which the firm's dividend policy does not affect its value. According to the homemade dividend argument of M&M, dividend is irrelevant, given that future earnings are held constant. This is known as the *dividend irrelevancy theory*, which holds that shareholders would be indifferent to dividend payment and capital gains and a payment of dividends would not alter the total value of the firm. The assumptions of the theory are; zero personal or corporate income taxes, zero floatation and transaction costs, independence between dividend policy and equity costs, symmetric information, and that the firm's capital invetstmnent policy is independent of its dividend policy. These assumptions imply that a firm would be operating in a perfect market.

A different point of view is expressed in

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1 Benito, A and G Young (2001) " Financial Pressure and Balance Sheet Adjustment by UK Firms" Bank of England Working Paper; 12 December.

Gordon and Lintner's *Bird-in-the-Hand Theory.* The theory focuses on M&M's assumption that the dividend policy does not affect the rate of return on capital. Gordon (1959) and Lintner (1962) argue that the cost of equity increases as the dividend payout is reduced because investors are surer of receiving dividends than they are of receiving capital gains resulting from retained earnings. These early proponents of the theory argued that dividends were less risky than capital gains. M &M refute this statement by arguing that investors will reinvest their dividends in the same firm or similar securities; and that the riskiness of the firm's cash flow is a function of the firm's assets.

The other contending theory, the *Tax Differential Theory* put forward by Farrar and Selwyn in 1967 and modified by Brennan in 1970 is based on the fact that capital gains are taxed at a lower rate than dividend income. It suggests therefore that investors would require a higher rate of return on stocks of firms with high dividend payout ratios than they do on stocks of firms with low payout ratios. Under the tax laws applicable in many countries, capital gains are not taxed until one's shares are sold and there are no taxes accruing to an investor who holds the shares till death.

To date the foregoing theories represent the basis for continuing debate. Whereas M&M hold that there is no optimal dividend policy, Gordon and Lintner suggest that a high dividend payout would be preferred as opposed to the *Tax Differential Theory*, which contends that a low dividend payout would be preferred.

In the context of the existing paradigm, some researchers have focused on the information content of dividends and the clientele effect. It has been empirically established that when dividends are increased or initiated, prices of the associated common stocks tend to go up, and when dividends are cut (less often) or omitted, prices fall. Many theorists explain the evidence that the dividend increases convey positive information, that is, managers use dividend to signal their views of future earnings prospects. The idea that changes in dividends have information content about the future earnings of the firm remains the received wisdom in corporate finance.

Allen and Michaely (1995)[2] use M&M's model as a benchmark against which they evaluate the assumptions of subsequent models that attempt to justify dividend policy in terms of value maximisation. They conclude that the theoretical literature has identified several potential "imperfections" including taxes, information asymmetries, institutional constraints, transaction costs and incomplete contracts that may induce value maximising firms to adopt specific dividend policies. However, as they point out, financial economists are not yet in a position to convert the insights into specific policy advice. Though dividend theories give prescriptions on how firms should determine their dividend policy, in practice firms adopt one or a mixture of four policies, viz.; constant payout ratio, constant steadily increasing dividends per share, low regular dividend plus extra dividend, and residual dividend policy.[3]

The question to pose at this juncture is why a dividend policy is interesting. One reason is that deciding on the amount of earnings to pay out, as a dividend is one of the major decisions that a firm's manager's face. Another is that a proper understanding of dividend policy is crucial for many other areas of financial economics. In particular, theories of asset pricing, capital structure, mergers and acquisitions, and capital budgeting all rely on a view of how and why dividends are paid[4].

Miller and Rock (1985), demonstrate that the dividend decision could reveal information about current earnings to the market. Based on the notion of asymmetric information, Bhattacharya (1979), Miller and Rock (1985), John and Williams

[2] In Jarrow R.A.*et al. (1995) p. 793-838*

[3] Macharia, Ester & B.Magembe (2001) p. 53-68

[4] Allen, F& R.Michaely p.793 in Jarrow et al., Eds

(1985), among others, go a step further. In these dividend theories, dividend changes are not actions that just happen to have information content. Rather, these are explicit signals about future earnings, sent intentionally and at some cost by management to the stockholders.[5]

Three most recent studies with regard to the information content effect of the dividend have provided evidence to shake the classical dividend signaling theory. The evidence of DeAngelo, DeAngelo and Skinner (1996)'s study suggests the firm's dividend increases are not reliable informative signals about future earnings. Benartzi, Michaely and Thaler (1997) argue that changes in dividends mostly tell us something about what has happened; the predictive value of changes in dividends seems minimal.

New evidence from New Zealand through Ed Vos, Roger Tong (2001) also question the validity of dividend signaling. All 137 publicly listed firms in New Zealand were used to analyse the relationship between dividend changes and earnings changes. The research question was: Do dividend changes point to good past performance, good current performance or signal growth in future performance? The findings show that there is not statistically significant relationship between dividend changes and either past or future performance but that dividend changes are related significantly to current earnings. This calls into question the notion that dividends can be seen as signals.

The question that arises from these results is whether the observed phenomenon tends to be universal or simply a subject of special cases. If the former is true, it is time for researchers to rethink the common received dividend-signalling dictum.

Dividends remain an enigma. They tend to be taxed at a higher rate than capital gains (such as share repurchases), and thus the common presumption is that dividends are less valuable than capital gains. In this view, firms that pay dividends are at a competitive disadvantage since they have a higher cost of equity than firms that do not pay. The fact that many firms pay dividend seems to be the difficult to explain.

The economic literature about dividends usually assumes that managers are perfect agents of investors, and it seeks to determine why these agents pay dividends. Other literature assumes that managers are imperfect agents and inquire how managers' interests may be aligned with shareholders' interests. These two lines of inquiry rarely meet.[6] Yet logically any dividend policy (or any other corporate policy) should be designed to minimise the sum of capital, agency, and taxation costs.

The effect of a firm's dividend policy on the current prices of its shares is a matter of considerable importance, not only to the corporate officials, who must set the policy, but also to investors planning portfolios and to economists seeking to understand and appraise the functioning of the capital markets. Do companies with generous distribution policies attract more equity capital than those that are ungenerous, through consistent selling at a premium? Is it the case that companies with ungenerous distribution policies consistently sell at a discount? Where these premises prevail, under what conditions?[7] Bernatzi, et al. (1997) used US data from the New York Stock Exchange (NYSE) and American Exchange (AMEX) firms' earnings

[5] Several costs associated with dividend payments have been proposed. Bhattacharya's (1979) model takes the cost of issuing new shares as the cost of the signal. Miller and Rock's (1985) model assume that the signalling cost is the forgone investment, and John and Williams (1985), and Bernheim (1991) take the higher taxes on dividends relative to capital gains as the signalling costs.

[6] One meeting place is Michael Rozeff (1982), who suggests that dividends and agency costs are related and offers a test showing that dividends depend in part on the fraction of equity held by insiders. He does not provide any mechanism, however, by which dividends and the consequent raising of capital control agency costs.

[7] These same questions were raised about 40 years ago by Miller and Modigliani (1961).

and dividends to investigate the signalling content of dividends. They found limited support for the conventional view that changes in dividends have information content about future earnings changes. While they found a strong past and current link between earnings and dividend changes, the predictive value of changes in dividends seems minimal. The only strong predictive power this study finds is that dividend cuts reliably signals an increase in future earnings. There is some evidence that dividend –increasing firms are less likely to have subsequent earnings decreases than firms that do not change their dividend despite similar earnings growth. The authors conclude that changes in dividends mostly tell us something about what has happened. If there is any information content in dividend announcements, it is that the concurrent change in earnings is permanent rather than transitory. It is also worth to note that announcements of dividends are not made on same day with announcement of earnings in the US; whereas in the UK announcements of dividends and earnings are made on the same day.

THEORETICAL AND EMPIRICAL EVIDENCE

Theoretical and empirical studies of the role of dividends in signalling the superior information that corporate insiders have about the prospects of a firm to a less informed market reveal a non-uniform interpretation of the communicating function of dividends. Although empirical evidence is consistent with many hypotheses generated by signalling models of the announcements effects of dividend initiations, dividend increases, dividend omissions, and dividend decreases; dividends policy advice remains an unsettled issue. We concur that overall, announcements of dividend increases generate abnormal positive security returns, and announcements of decreases generate abnormal negative security returns.

The dividend policy of a firm can be entirely independent of its investment policy in the idealised setting of perfect capital markets. However, theoretical studies show that the information content of dividends can be influenced by a firm's investments opportunities. If corporate insiders have superior information about the firm's prospects and its investment opportunities relative to investors, then independence may not hold. The least –cost blend of signals chosen by a firm, including the dividend component, may be determined by a firm's investment opportunities. Ambarish, John, and Williams characterized the different dividend policies implemented by growth firms and mature firms. They predicted that announcements effects of dividends for no or low growth firms –Tobin Q values less than 1.0 – will be larger than those for growth firms –Tobin Q greater than 1.0. John and Lang also predicted that the announcements effects of dividend increases may depend on the investment opportunities available to the firm. In addition J&L model provides some testable implications relating the announcements effects for dividend changes to the extent and direction of insider trading immediately prior to the announcement.

The evidence presented in Lang and Litzenberger shows that the announcement effect of dividend changes is significantly larger for firms with a low Tobin Q ($Q<1.0$) than for forms with a high Tobin Q ($Q>1.0$). John and Lang present evidence of differential announcements effect of dividend initiations as a function of insider trading in the previous quarter. Their evidence suggests that the market is using its information about the direction and extent of insider trading in interpreting whether a dividend initiation is 'good news' or 'bad news'.

Information about the prospects of a firm may include the firm's current projects and its future investments opportunities. The firm's dividend policy, either exclusively or in combination with other signals, such as capital expenditure announcements or trading by insiders, may communicate this information to a less informed market.

Table 1.0 gives highlights of six selected signalling models in summary, while table 2.0 gives a sum up of theoretical and empirical evidence of announcements effects of dividends for the period 1972 up to 2000.

Table 1: *Summary of Selected Dividend Signalling Models*

Author(s) of Study	Signal(s)	Main Empirical Implications
John and Williams (1985)	Cash dividends	Dividend increases elicit share-price increases. Share-price response should be higher with higher external financing and larger adverse tax consequence of dividend over capital gains.
Bhattacharya (1979)	Cash dividends	The announcement effects of dividend increases are positive. Dividend payouts are lower, with larger adverse tax consequences and higher flotation costs of external financing.
Miller and Rock (1985)	Cash dividends (net of external financing)	The announcements effects of dividend increases are positive. The announcements effects of increases in external financing are negative.
Ambarish, John, and Williams (1987)	Cash dividends and investments	The announcements effects of dividends increases different for growth firms and mature firms) and share repurchases are positive. The announcements effects on equity issues are positive. The announcement effects on equity issues are positive (negative 0 for growth (mature) firms.
John and Mishra (1990)	Investments and insider trading	The announcement effects for capital expenditure announcements are positive (negative) for growth (mature) firms. The announcements effects are positive (negative) for insider buying (selling).
John and Long (1991)	Dividend initiations and insider trading	The announcements effects for dividend initiations accompanied by concurrent insider buying (selling) are positive (negative)

Table2: *Summary of Studies of Announcement Effects of Dividends (Source:* Lease R.C. *et. al.* (2000):116-117 and Owain AP Gwilym et al (2000): 278-279.

Author(s) of Study	Type of Announcement	Data Study Period	Sample Size	Announcement Effect Two-Day Excess Return (percentage)	Hypothesis Supported by the Result (Author's Interpretation)
Petit (1972)	Dividend changes	1967-1969	135	Increases: + 0.935 Decreases: -3.69	Substantial information is conveyed by the announcement of dividend changes. The market is efficient in incorporating information into share prices.
Aharony and Swary (1980)	Dividend changes	1963-1976	149	When earnings announcements precede of follow dividend announcements: for dividend increases +0.72 and +1.03, respectively. For dividend decreases –3.76 and –2.82 respectively.	Changes in quarterly cash dividends provide information beyond that provided by quarterly earnings numbers. Stock market adjusts efficiently to quarterly dividend information.
Asquith and Mullins (1983)	Dividend Initiations	1964-1980	168	+3.7	Initiating a dividend policy conveys positive information to the market.
Kalay and Lowenstein (1986)	Whether dividend announced early or late	1981	Early; 72 Late; 76	Early = +0.331 Late=-0.124	The market interprets deferral of dividend announcements as conveying negative information
Healy and Palepu (1988)	Dividend initiations Dividend omissions	1969-1980	Initiations: 131 Omissions: 172	Initiations=+3.9 Omissions=-9.5	Share price increases upon dividend initiations. Share price decreases upon dividend omissions. Further, a firm's earnings performance changes significantly around either a dividend initiation of omission.
Lang and Litzenberger (1989)	Dividend Initiations	1979-1984	429	For Q>1.0, average daily abnormal return =+0.3 For Q<1.0 average daily abnormal return=+1.1	The average return for firms with Qs less than 1.0 is significantly larger (three times) than for firms with QS greater than 1.0 dividend changes for over investing firms signal information about investment policies.
John and Lang (1991)	Dividend Initiations	1975-1985	265	All firms, +3.23 For insider selling group, 2.2 less than that for the remaining group.	The announcement effect of dividend initiations is lower when accompanied by insider selling by 2.2 percent than otherwise. The evidence is consistent with insider trading being a signal jointly with dividend increases.
Dyl and Weigand (1998)	Dividend Initiations	1972-1993	240	Variance drops: 0.001329 to 0.001138 Beta drops: 1.397 to 1.218	Dividend initiations convey information to the market concerning the lower risk (variance and beta) of the firm. The risk is lower in the year following dividend initiation.
Lipson, Macquieira and Megginson (1998)	Dividend Initiations	1980-1990	1628 IPOs 114 initiations	+1,53	Dividend initiations are associated with favourable subsequent earnings surprises. Dividend surprises are more favourable for dividend initiating firms than for firms that went public at the same time and did not choose to initiate dividends.
Benartzi, Michaely, and Thaler (1997)	Dividend Increases Dividend decreases	1979-1991	1025	Increases=+0.81 Decreases= -2.53	Share price increases with dividend increases and decreases with dividend decreases. There is no evidence that dividend changes have information content about future earnings changes.
Owain AP Gwilym et al (2000)	Dividend Stability	1975-1997	LSE stocks (excluding investment trusts) with market capitalisation data		Stability of a firm's dividend policy, as well as its dividend yield, has a role to play in explaining the distribution ot returns for yield-ranked portfolios of UK stocks Significant inverse relation between systematic risk (beta) and dividend stability.