The influence of dividend yield and dividend stability on share returns: implications for dividend policy formulation

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Abstract

The relevance of the dividend decision has been a contentious issue in corporate finance research, partly due to contradictory views reported in existing literature. When faced with the dividend decision, management should understand its impact on shareholder value maximisation. This paper investigates the influence of the dividend decision on share returns for a sample of firms listed on the JSE from 1990 to 2010. Firms are allocated to portfolios based on dividend yield and dividend stability, and risk-adjusted abnormal returns for these portfolios are estimated. Results indicate that share returns were influenced not only by dividend payments levels, but also by the stability of these payments over time. The nature of a firm's dividend decision could therefore have an effect on its share return. Although these results contribute to understanding the dividend characteristics that are relevant to investors, future research should investigate different types of dividend policies in order to assess specific investor preferences.

Keywords

Dividends; dividend yield; dividend stability; dividend policy; share returns, value theory

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1. INTRODUCTION

The question whether a firm's dividend policy has an effect on the performance of its share price has been a contentious issue in the field of financial management for more than five decades. The publication of the seminal theory that focused on capital structure and firm value by Modigliani and Miller (1958) heralded the start of extensive research investigating the effect that firm-specific factors could have on the value of a firm's shares. The capital structure theory proposed by Modigliani and Miller (1958) was based on a restrictive set of assumptions that deviate substantially from the circumstances experienced by firms operating in the real world. Consequently, various researchers have since investigated whether this capital structure theory is also applicable if the assumptions are relaxed to represent the situation faced by actual firms. Modigliani and Miller themselves adjusted their initial theory to incorporate the effect that corporate taxes (Modigliani & Miller, 1963) and personal taxes (Miller, 1977) could have on firm value.

Among other things, researchers also investigated whether dividend payments had an effect on firm valuation. Miller and Modigliani (1961) argued that, since investors are able to substitute shares in order to create a portfolio that would provide them with their required dividend payments, a firm's dividend decision should not have an effect on its value. The decision to pay (or not to pay) a dividend, as well as the size of the dividend payment was therefore considered to be irrelevant (Miller & Modigliani, 1961). Contrary to this view, the results reported by Lintner (1962), Gordon (1963) and Fama and Babiak (1968) could be considered as an indication that investors incorporate factors pertaining to a firm's dividend policy as part of their investment evaluation process. Extensive research on the value effect of dividend payments has since been conducted, and various theories have been developed in an attempt to provide an explanation of the relationships that are observed between dividend payments and share returns (for a detailed summary of these studies see Clayman, Fridson & Troughton (2008)).

From an investor's point of view, it is not only the level of dividend payment that may be important, but also the stability of the payments when considered over time. Since investors could base their investment decision on a firm's current dividend policy, it is important that the management of a firm takes cognisance of the fact that unexpected changes in dividend payments could alienate existing and potential investors. A number of studies have investigated the effect of the relative size of dividend payments on share returns (McManus, Ap Gwilym & Thomas, 2004; Morgan and Thomas, 1998; Keim, 1985). The effect of a change in dividend levels on share returns has also been researched in a number of studies (Woolridge, 1983). A large number of these studies employ event-study methodologies to evaluate the influence that an announcement of a change from a firm's previous dividend level has on its share return. It appears, however, that there may be some uncertainty whether the stability of a firm's dividend payments over a longer period of time influences firm value (Ap Gwilym, Morgan & Thomas, 2000).

Since dividend policy may significantly and materially influence shareholders' wealth maximisation, management needs to understand the effect that dividend payments and the stability of these dividend levels could have on share returns and shareholder wealth. The objective of this study is therefore to investigate the relationship between dividend payment levels, dividend stability, and share returns for a sample of South African listed firms for the period 1990 to 2010.

The remainder of this article consists of four sections. In the first section, an overview of studies focusing on the relationship between dividend payments and share returns, and also the influence that dividend stability could have on share returns is presented. The second section contains the research method and provides an outline of the data collection and statistical analysis that were conducted in order to test the relationships between the variables identified in the literature survey. The third section provides a summary of the results obtained from the regression analysis which forms part of the empirical analysis of the data. Finally, a discussion of the results is presented, which highlights the effect that dividend payment levels and the stability of these dividend payments has on share returns.

2. BACKGROUND TO THE STUDY

Before investigating the influence of dividend levels and dividend stability on share returns, it is important to have a clear understanding of what exactly dividend policy entails. Furthermore, an overview of the existing literature on the value effects of dividend payments will provide the background against which the effect of different dividend policies on share returns can be evaluated. By focusing on previous studies that investigated the relationships between dividend levels, dividend stability and share returns, the theoretical foundation of this research is developed, and the relevance of the research is highlighted.

2.1 Distribution policy

The dividend decision is still considered one of the most intricate and complex factors that the management of a firm needs to consider (Hashemijoo, Ardekani & Younesi, 2012). The complexity of the dividend decision stems not only from the uncertainty surrounding the value effect of dividend payments, but also from the interaction between the dividend decision and a firm's investment and financing decisions (Dhrymes & Kurz, 1967). Nobel Prize laureate Fischer Black goes as far as to refer to the dividend decision as the dividend puzzle (Black, 1976: 5). In its simplest form, a firm's dividend decision entails deciding between the portion of its distributable profits that will be distributed to shareholders, and the portion that will be reinvested in the firm and utilised as internally generated capital (Brigham & Daves, 2010:619).

The complexity of the dividend decision arises from the fact that a firm may decide to distribute its profits to shareholders rather than reinvesting them, and end up having to obtain additional external capital to finance shortfalls in its capital requirement. Alternatively, a firm with limited profitable investment opportunities may decide to retain profits rather than distribute these to its shareholders, who may have access to more lucrative investment opportunities. Jensen (1986) argues that the reinvestment of profits in unprofitable investment alternatives (rather than distributing them to shareholders) will result in the destruction of shareholders' wealth. Similarly, firms that distribute profits when they could have invested them in profitable investment projects internally will have to obtain external capital that may be difficult to obtain and more expensive.

Specifics of the dividend decision include factors like the size of the dividend payment, the format used to transfer the profits to shareholders, and the frequency of the distributions. Usually, the first choice management needs to make as part of the dividend decision will be whether a dividend will be paid, and to decide on the amount of profit that will be distributed per share. Management will also have to decide whether profits will be distributed to investors in

the form of cash dividends, additional shares, or in the form of share repurchases. In terms of the frequency of dividend payments, listed South African firms often choose to declare an interim dividend towards the middle of their financial year, followed by a final dividend at the end of the year (Cready, 1994). Management also needs to decide whether dividend payments will be determined based on guidelines contained in a specific dividend policy, such as constant dividends or growing dividends. Alternatively, it could decide to distribute any surplus profits that are not required for investment opportunities if and when these surpluses occur, resulting in highly unstable dividend payments.

When finalising a firm's dividend decision, management should ensure that this decision contributes to the primary financial corporate objective of shareholders' wealth maximisation. Before deciding to implement the dividend decision, it therefore becomes important to understand whether the nature of the decision could have an effect on the value of a firm's shares. Based on the divergent results reported in studies investigating the relevance of dividend payments in terms of shareholder value over time, a number of dividend theories have been developed in an attempt to explain the relationships observed between dividend payments and share returns. A summary of these studies, highlighting some of the contradictory results in terms of the value effect of dividend payments, is provided by Al-Malkawi, Rafferty and Pillai (2010).

2.2 Dividend theories

In an attempt to provide a clearer understanding of the factors that could influence a firm's dividend decision, various dividend theories have been developed. The objective of this study is to investigate the relationship between the size of a firm's dividend payments, the stability of these payments over time, and its share returns. For the purposes of the study, the agency theory, signalling theory and clientele and catering theories are therefore of particular relevance, since these theories have important implications for the stability of dividend payments. These theories are therefore discussed in more detail in the following sections.

2.2.1 Agency theory

The efficient investment of capital in profitable investment opportunities lies at the centre of shareholders' wealth creation. In order to ensure that a firm creates value, it is therefore important that the firm's available capital should be invested only if the return generated on those investments is in excess of its cost of capital. The same principle applies to internally generated capital such as retained earnings. This implies that a firm should reinvest its profits only if it has access to value-creating investment opportunities. Jensen and Meckling (1976) considered the accumulation of surplus free cash flows in a firm as a potential source of agency problems, and Jensen (1986) consequently strongly recommends that these surplus free cash flows be distributed to shareholders in the form of dividends, rather than being reinvested in non-value-creating projects.

One of the major implications (in terms of dividend payments) of Jensen's (1986) recommendations is a highly unstable dividend stream. Since profit levels and investment opportunities for most firms may vary substantially over time, a strict application of the agency theory will result in variable dividend payments. Firms are hesitant to announce cuts in their dividend payments, so the recommendations of this theory are not often observed (Firer, Ross, Westerfield & Jordan, 2008).

2.2.2 Signalling theory

In terms of information content, dividends are sometimes considered as an important source of information to investors because they could convey information about the expected future financial performance of a firm (Kalay, 1985). Dividend cuts are therefore usually avoided, since they could be interpreted by investors as an indication that the financial performance of a firm is under pressure (Baker & Powell, 1999). Based on this observed reluctance to decrease dividend levels, Miller and Rock (1985) developed the dividend signalling hypothesis. John and Williams (1985) further refined this into a more general financial signalling model, according to which firms provide information by means of their dividend policy and reliance on external capital.

Based on the application of an adjusted version of this financial signalling model, Ambarish, John and Williams (1987) concluded that high-value firms use their dividend policy and investment levels in order to differentiate themselves from low-value firms. They argue that firms with relatively high historical dividend levels would trade at higher prices, since investors interpret the high dividend levels as an indication of high future returns. Ap Gwilym et al. (2000) conclude that this also implies that firms with consistent high levels of dividend payments are different from firms that do not consistently pay high dividends. As a result, Ap Gwilym et al. (2000) consider the stability of a firm's dividend payments over time as an important source of information when attempting to determine its value.

2.2.3 Clientele and catering theories

Supporters of the clientele theory posit that investors will invest in the shares of those firms that offer them the dividend levels they require (Scholz, 1992). As a result, management should approach any changes in the firm's dividend decision with extreme care, since changes in dividend payment levels could possibly alienate some of its existing or potential shareholders.

More recently, the focus in dividend research has moved towards the catering theory (Baker & Wurgler, 2004) of dividend payments. The catering theory states that firms will formulate a dividend decision that will incorporate the current dividend requirements of investors. Consequently, firms will cater to the requirements of investors and provide the type of dividend payments that are required by the market.

Both the clientele and catering theories should result in firms adopting more structured and stable dividend payout decisions, since the requirements of investors are placed at the centre of dividend payments. Highly unstable dividend payments would be avoided, since the instability could create uncertainty regarding expected future dividend payments.

2.3 Value effects of dividend payments

The influence of a firm's dividend payments on its share value has been the source of extensive investigation for a number of years. The intensity of the debate regarding the value effects of dividend payments intensified after the publication of the capital structure theory by Modigliani and Miller (1958) and their dividend irrelevance theory (Miller & Modigliani, 1961). Modigliani and Miller (1958) argued that the value of a firm is determined by its ability to generate revenue, and that the choice of a specific capital structure and dividend policy should not influence this ability. The decision to pay a dividend, as well as the size and stability of the

dividend, is therefore considered to be irrelevant according to the capital structure theory by Modigliani and Miller (1958).

This argument of Modigliani and Miller (1958) is in direct contrast with the results obtained by their contemporaries Lintner (1956; 1962), Gordon (1959) and Fama and Babiak (1968). Based on results that indicated significant relationships between dividend policies and firm value, these authors disagree with the views of Modigliani and Miller (1958) and argue that dividend payments are relevant in terms of firm valuation. Furthermore, Lintner (1956) observed a reluctance to decrease dividend payments for the firms included in his study. Lintner (1956) interpreted this as an indication that management considers changes in dividend payments to convey information about a firm's future prospects. The implication of the results reported in these studies is that factors such as the size and the stability of dividend payments may influence firm value.

Subsequent to the publication of the above-mentioned studies, numerous researchers have investigated various aspects pertaining to the value effect of dividend payments and dividend changes. A summary of the results of some of these studies is provided by Clayman et al. (2008). At this point, however, consensus has not been reached on the value effect of the decision to distribute dividends. Furthermore, for the purposes of this research it was also important to understand whether dividend payment levels and the stability of these payment levels over time convey information to the shareholders of a firm.

2.4 The influence of dividend levels and dividend stability on share returns

Based on results obtained in research conducted in developed economies, it is generally accepted that higher dividend payments are associated with higher share returns McManus et al. (2004). Keim (1985) and Morgan and Thomas (1998) report a U-shaped non-linear relationship between dividend yields and share returns based on the sample of US firms included in their studies. According to this relationship, the highest share returns are associated with high-dividend-yield firms, as well as those firms that pay no dividends. The lower-dividend-yield firms generally generated lower share returns. Contrary to Keim (1985) and Morgan and Thomas (1998), Ap Gwilym et al. (2000) do not observe the U-shaped relationship in terms of dividend levels and share returns based on a sample of UK firms. Instead, the zero-dividend-paying firms included in their study generated negative average share returns.

Wolmarans (2000) also reports higher share returns for South African firms with higher dividend payments than for the lower-dividend-paying firms. An important limitation of this study, however, is that only a relatively small sample (consisting of only the largest 30 firms listed on the JSE) was investigated. The results of this study may therefore be subject to size bias, since only the largest firms were considered. Furthermore, by focusing purely on those firms that remained listed during the entire study period, the results might have been skewed to some extent due to survivorship bias. Wolmarans (2003) also investigates whether the Lintner (1956) model could be applied to explain the dividend payments of South African firms. Based on a sample of 97 firms selected from the largest 200 firms listed on the JSE, he reports that the Lintner model did not provide a good fit for the firms included in his sample, and ascribes this to the relatively small sample size. One of the major problems he associated with the sample investigated in the study is the large number of firms that were not listed for the entire study period. Excluding these firms from the study exposes the results to survivorship bias.

Gombola and Liu (1993) conclude that information about a firm is provided not only by the size of its dividend payments, but also by the stability of these payments over time. Gombola and Liu (1993) also argue that high-dividend-paying firms with stable dividend payments perform differently from other firms, including firms with inconsistent high dividend levels. This is confirmed by the results reported by Ap Gwilym et al. (2000), who also observed higher share returns for those UK firms that had the highest dividend levels and greatest stability of dividend payments. Henne, Ostrowski and Reichling (2007) also investigated the effect of dividend yield and the historical stability of these levels on share returns, and reported similar results based on a sample of German firms.

Limited research on the influence of dividend stability over time has been conducted on firms operating in South Africa. Firer, Gilbert and Maytham (2008) conducted a survey among South African firms, and found strong support for the fact that very often management implements conservative dividend policies in order to avoid dividend cuts in future. Bhana (1991; 1997; 1998) conducted a number of studies where an event-study methodology was applied to investigate the effect of announcements concerning dividend payments and changes in dividend payments. These studies, however, did not investigate the influence that different levels of dividend stability had on the share performance of South African firms. Furthermore, they focused on the effect of a specific change in dividend levels, and did not consider dividend stability over a longer period of time.

The objective of the current paper is therefore to investigate whether the size of dividend payments, combined with the stability of these payments over time, influence the share performance of listed South African firms. The research attempts to improve on the results obtained by Wolmarans (2000; 2003) by not only considering the largest firms, but also by expanding the sample to include more listed firms. This choice of sample should also have reduced the potential problem of survivorship bias. Furthermore, the current paper also considers dividend levels in conjunction with dividend stability. Unlike Bhana's studies (1991; 1997; 1998), where only the effect of the announcement of changes in dividend payments on share returns was considered, the current paper also investigates possible differences that might have existed among firms offering different levels of dividend stability. By considering the dividend stability of firms providing different levels of dividend payments, the results of the current research could provide an indication to management whether a stable, well-defined dividend decision contributes to the creation of shareholders' wealth, or not. The results could point towards investor preferences in terms of the nature of the dividend stream they require.

3. RESEARCH METHOD

To investigate the influence of dividend payments and the stability of these payments on share returns, a quantitative study based on secondary data sources was conducted. Based on the literature review, the relevant variables for this purpose were identified and the data required to calculate it was obtained and analysed in order to address the research problem.

3.1 Variables

Dividend levels can be quantified in different ways. For instance, the absolute value of the dividend payment per share, or the total amount of dividends paid by a firm, could be considered. These values, however, would be influenced by factors like the size of a firm and the

number of shares issued. In order to quantify dividend levels, an approach similar to Ap Gwilym et al. (2000) was therefore applied. By calculating the dividend yield, dividend payments are standardised to compensate for the issued number of shares and firm size. Ap Gwilym et al. (2000) furthermore argue that the majority of international studies that investigated dividend levels applied a similar approach. Consequently, dividend levels were measured by means of the dividend yield, which was calculated on a monthly basis as follows:

$$DY_t = \frac{1}{\mathrm{P}_{t-1}} \sum_{T=t-12}^{t-1} DIV_T \quad \textbf{(1)}$$

where DY_t is the dividend yield in month t, DIV_T is the dividend paid during month t, and P_{t-1} is the share price in month $t-1$.

Since this paper investigates the effect of dividend stability on share returns, it is furthermore necessary to quantify the stability of a firm's dividend payments over time. Ap Gwilym et al. (2000) identify a lack of measures that are suitable for the measurement of dividend stability, and propose that the standard deviation in a firm's dividend yields may provide a solution to this problem. They argue that by calculating the standard deviation of a firm's monthly dividend yields over a period of five years, enough information should be available to estimate the variability of its dividend payment levels. To quantify dividend stability, the standard deviations of dividend yields over a rolling 60-month period were therefore calculated on a monthly basis as follows (Ap Gwilym et al. 2000):

$$SD_t = \sqrt{\frac{\sum_{T=t-1}^{t-60}(DY_T - DY_{ave})^2}{59}} \quad \textbf{(2)}$$

where SD_t is the standard deviation of the dividend yields, DY_T is the dividend yield in month T and DY_{ave} is the average dividend yield over the preceding 60 months.

To evaluate share price performance, monthly total share returns (TSR) were first calculated as follows:

$$TSR_t = \frac{(P_t - P_{t-1}) + D_t}{P_{t-1}} \quad \textbf{(3)}$$

where TSR_t is the total share return for month t, P_t and P_{t-1} are the share prices at the end and the beginning of month t respectively, and D_t is the dividend per share paid during month t.

Quantifying a firm's share performance by means of its TSR alone, however, results in the risk of the firm not being reflected in its share return. Market models, like the Capital Asset Pricing Model (CAPM), attempt to remedy this situation by incorporating the risk of the share during the estimation of its required return. Based on the CAPM, the required return on a firm's shares is estimated by means of the following equation (Hillier, Ross, Westerfield, Jaffe & Jordan, 2010: 282):

$$R_j = R_f + \beta_j(R_m - R_f) \quad \textbf{(4)}$$

where R_j is the required return on the shares of firm j, R_f is the risk-free rate, R_m is the return on the market, and β_j is the beta of the firm, an estimate of its systematic risk.

Although Jensen (1968) first suggested that risk-adjusted abnormal returns can be used to evaluate the performance of mutual fund managers, the approach is often applied to evaluate

the performance of individual shares or portfolios of shares (see, for instance, Cooper, Gutierrez & Marcum, 2005). By comparing the actual performance of a share or portfolio with its expected return (estimated according to a market model like the CAPM), its risk-adjusted abnormal return (or Jensen's alpha, α) can be determined. A positive risk-adjusted abnormal return would then indicate that the asset realised a return in excess of the market in risk-adjusted terms.

The objective of this study is to evaluate the effect of dividend payments, combined with dividend stability levels, on share returns. If these two characteristics of a firm's dividend decision are irrelevant in terms of its share performance, it should not be possible to generate any positive risk-adjusted abnormal share returns by distinguishing between firms based on their dividend payment levels or dividend stability. Ap Gwilym et al. (2000) therefore suggest that the risk-adjusted abnormal share returns of portfolios containing firms with different dividend payment characteristics should be compared to determine if these dividend characteristics contribute to abnormal returns.

It was consequently decided an approach similar to that of Ap Gwilym et al. (2000) would be followed, where the risk-adjusted abnormal returns of the various dividend portfolios were estimated based on the CAPM. By employing a similar approach to the one reported by Morgan and Thomas (1998) and Ap Gwilym et al. (2000), it is also possible to compare their results, which were obtained for firms operating in a developed economy (US and UK respectively), to those of firms in a developing economy (South Africa).

3.2 Data

In an attempt to reduce the effects of size and survivorship bias on the results of the research, it was initially decided that all firms that were listed on the Johannesburg Securities Exchange (JSE) during the period 1990 to 2010 would be considered. Firms listed in the financial sector, however, differ somewhat from other firms in terms of the format of their financial reporting. These firms are also usually highly regulated in terms of capital requirements, and consequently their dividend payments may be influenced. It was therefore decided that all financial firms would be excluded from the sample. Firms listed on the basic material sector also differ from industrial firms in terms of the nature of their operations and format of financial reporting. Consequently, all the basic material firms were excluded from the sample. Excluding these two sectors from the sample should contribute towards a more homogeneous group of firms included in the sample.

The financial data required to calculate the variables investigated in this research were downloaded from the McGregor BFA database (2010). Based on the method prescribed by Keim (1985) and Ap Gwilym et al. (2000) to calculate the stated variables, a firm had to have provided 60 months of continuous data to be included in the sample. This requirement is included to ensure that the standard deviation of a firm's monthly dividend yield could be determined over a five-year period, in order to estimate the variability of its dividend payment levels over time. The final sample included 291 firms with a total of 22 927 observations over the 192 months included in the study period.

3.3 Data analysis

To assess the influence of dividend levels, four portfolios based on dividend yield levels were constructed for each month during the study period. Similar to the portfolio formation method applied by Keim (1985), Christie (1990) and Ap Gwilym et al. (2000), all the dividend-paying

firms included in the sample were allocated to one of three dividend yield portfolios (high-, medium- and low-dividend yields) based on their dividend yield ranking. All firms that did not pay a dividend (zero-dividend firms) were allocated to the fourth dividend yield portfolio.

To investigate the influence of dividend stability levels considered in conjunction with dividend levels on share returns, firms were furthermore ranked within each of the four dividend yield portfolios (described in the previous paragraph) based on their level of dividend stability. For this purpose, all the firms included in a specific dividend yield portfolio were ranked according to the standard deviation of their dividend yields. Each one of the four dividend yield portfolios were then subdivided into three (high-, medium- and low-dividend stability) sub-portfolios. This resulted in a total of 12 dividend yield-dividend stability-ranked portfolios.

Monthly risk-adjusted abnormal share returns for each of the portfolios were calculated based on the following ordinary least square (OLS) regression model (Ap Gwilym et al. 2000):

$$(R_{pt} - R_{ft}) = \alpha_p + \beta_p(R_{mt} - R_{ft}) + \mu_{pt} \quad \textbf{(5)}$$

where R_{pt} is the return on portfolio p during month t, R_{ft} is the monthly risk-free rate (measured by the average return on 0-to-3-year SA government bonds as published by the South African Reserve Bank), R_{mt} is the return on an equally weighted portfolio consisting of all the shares included in the dataset during the month, α_p is the estimated risk-adjusted abnormal return generated by portfolio p, β_p is the estimated systematic risk of portfolio p and μ_{pt} is the error term.

The regression analysis was first conducted for each of the four (main) dividend yield portfolios to investigate the effect of dividend yield on share returns. The regression analysis was also conducted for the 12 dividend yield-dividend stability-ranked (sub) portfolios. An investigation of these results should provide some insight into the influence of a firm's dividend yield and dividend stability on its share return.

4. EMPIRICAL RESULTS

As stated above, an approach similar to that followed by Keim (1985) and Ap Gwilym et al. (2000) was followed for the research being reported here. Before the results obtained from the regression analysis are investigated, an overview of some descriptive statistics is also provided to investigate the nature of the data.

4.1 Descriptive statistics

As part of the dividend decision, management needs to decide on the portion of a firm's profits that will be distributed to shareholders in the form of a dividend payment. While management has control over the size of the dividend payments, the firm's profit levels are influenced by a number of factors (often beyond their direct control) that could result in variable profit levels over time. To investigate the behaviour of share returns, profit levels and dividend payment levels over time, annual descriptive statistics on monthly total share returns (TSR), earnings yields (EY) and dividend yields (DY) are provided in TABLE 1.

TABLE 1: Descriptive statistics

	TSR			EY			DY		
	Mean	*Median*	*Std Dev*	*Mean*	*Median*	*Std Dev*	*Mean*	*Median*	*Std Dev*
1994	1.366	0.685	0.084	7.031	5.610	6.181	3.180	2.015	4.591
1995	1.588	0.829	0.121	8.217	6.810	7.658	3.514	2.300	5.003
1996	1.174	0.107	0.142	8.837	6.890	10.226	3.933	2.300	9.483
1997	0.258	0.000	0.148	9.504	7.190	13.552	4.872	2.330	14.514
1998	0.440	-0.750	0.221	11.881	9.135	10.473	6.686	3.030	24.510
1999	4.092	2.492	0.175	13.527	10.770	35.221	5.444	3.660	13.364
2000	0.465	-0.001	0.155	5.262	10.000	35.074	4.170	3.140	4.556
2001	1.553	1.449	2.893	8.674	10.560	38.751	4.037	2.920	5.155
2002	2.412	0.665	0.152	9.341	11.555	53.941	4.137	3.410	4.956
2003	2.670	0.855	0.143	4.653	11.380	61.135	3.778	3.655	3.823
2004	4.454	1.728	0.350	4.402	9.250	226.865	3.171	2.620	5.757
2005	5.972	1.871	0.998	-6.388	7.820	172.240	2.683	2.480	3.537
2006	3.675	1.925	0.254	2.120	6.840	61.161	2.313	2.080	2.470
2007	2.667	0.469	0.231	5.401	6.470	12.235	2.372	1.710	13.199
2008	-2.110	-1.594	0.180	10.887	9.310	89.822	5.683	3.250	40.407
2009	2.047	0.937	0.129	7.757	8.935	127.378	3.769	3.550	3.695
2010	1.672	0.656	0.109	-7.930	6.820	114.961	2.879	2.580	3.845

Source: *Author's construction*

As regards share returns, negative monthly median total share returns were observed during 1998, 2000 and 2008. These periods correspond to the Asian financial crisis, the information technology (IT) bubble and the global financial crisis respectively. In contrast, the highest median levels were observed during 1999, the year preceding the IT bubble, as well as the period 2001 to 2006 following the IT bubble and leading up to the global financial crisis. These observations are in line with expectations, since the effect of these crises influenced share prices throughout the world.

One of the most important aspects that emerge from an investigation of TABLE 1 is the large differences between mean and median values that are observed during some years. Although these differences are observed for all three variables, they appear to be more pronounced for the TSR and EY values. This situation is not entirely surprising, since share prices and profit levels exhibited large degrees of variation, especially during the crisis periods that form part of the study period (Berkmen, Gelos, Rennhack & Walsh, 2009). Dividend payments, however, can be managed by management, resulting in a more stable time series.

The differences between the mean and median values, combined with the relatively large standard deviations, could also point towards the presence of outliers in the data set. During the compilation of the various dividend portfolios, outlier values were identified by applying the SAS statistical package. Before inclusion in the regression models, these outlier values were carefully scrutinised to determine if their inclusion would influence results. However, since the portfolios were compiled based on rankings, and not the absolute values of the variables, the effect of including these values was not considered significant.

To investigate the stability of share returns, profit levels and dividend payments over time, FIGURE 1 provides a presentation of the median TSR, EY and DY values for the period under review (1994 to 2010).

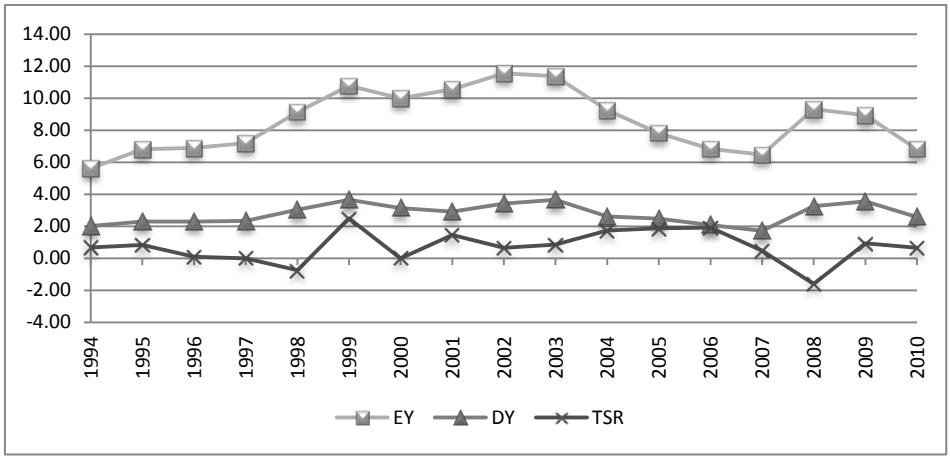

FIGURE 1: Median TSR, EY and DY values for the period 1994 to 2010

Source: *Author's construction*

Median EY values exhibit substantial variation during the period under review, ranging from a low of 5.6% during 1994 to a high of 11.6% during 2002. Dividend levels, on the contrary, remained relatively stable during the period. For the majority of the years considered, the median DY values remained close to levels between 2% and 3%.

In order to investigate the stability of EY and DY levels in more detail, the standard deviation of DY values (DIVSTAB) and EY values (EARNSTAB) is plotted in FIGURE 2.

The higher variation in EY values that was observed in FIGURE 1 is confirmed by the trend exhibited by EARNSTAB in FIGURE 2. DIVSTAB levels, in contrast, remained much more stable. Based on the information provided in the preceding two figures, it would appear that firms may have attempted to adjust dividend payments to achieve relatively stable dividend yields. Profit levels, which are more difficult to manage, showed considerably higher levels of variation, as reflected by the variability in EY.

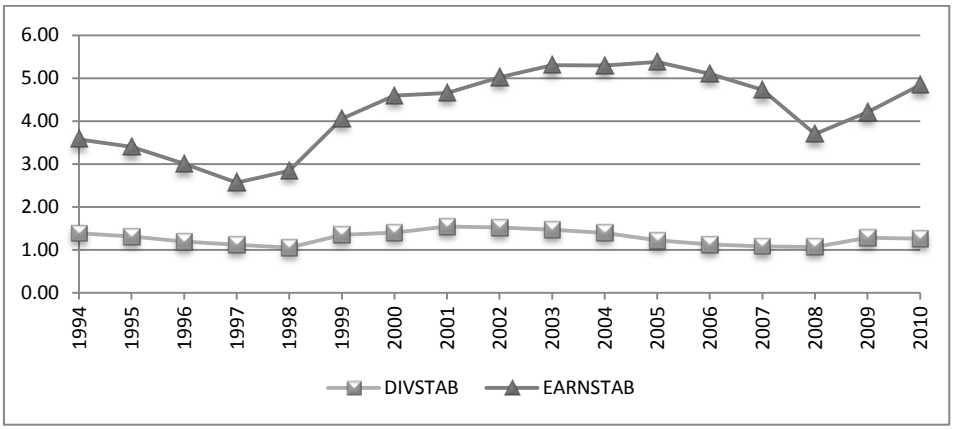

FIGURE 2: Median dividend stability and earnings stability levels

Source: *Author's construction*

4.2 Results from regression analysis

In order to evaluate the relationship between dividend yield, dividend stability and share returns, a regression model based on the CAPM was applied to estimate risk-adjusted abnormal returns (Ap Gwilym et al. 2000). The results from the regression analyses that were conducted for the four dividend yield portfolios are provided in TABLE 2:

TABLE 2: Results for the four dividend yield portfolios

Dividend Yield Portfolio	*Mean Dividend Yield*	*Mean Monthly Return*	*Market Model Estimate of α*	*Market Model Estimate of β*
High	6.148	1.793	0.547 ***	0.978***
Medium	3.515	1.410	0.189	1.029***
Low	1.899	1.257	-0.073	1.022***
Zero	0.000	0.857	-0.582 ***	0.983***

Source: *Author's construction*

Notes: The following regression equation was estimated based on monthly data (t) for each of the four dividend yield portfolios (p): $(R_{pt} - R_{ft}) = \alpha_p + \beta_p(R_{mt} - R_{ft}) + \mu_{pt}$

*** Significant at the 1% level

In the second column of TABLE 2, the mean dividend yields of the four dividend yield portfolios are provided. The mean dividend yield of the high-dividend-yield portfolio (6.15%) is substantially higher than the low-dividend-yield portfolio (1.90%). In terms of the mean monthly total share returns (third column of TABLE 2), the highest mean is observed for the high-dividend-yield portfolio. The share returns decrease in line with the decline in dividend yields, with the lowest mean share returns observed for the zero-dividend portfolio. This trend is

in contrast with the U-shaped relationship reported by Keim (1985) and Gombola and Liu (1993), who based their samples on US firms. The results in TABLE 2 therefore correspond more with the results obtained for UK-based firms reported by Ap Gwilym et al. (2000). This difference between firms operating in different countries is of interest, since it could point to a difference in investor preferences, or, alternatively, to differences in investors' perceptions on the information content of zero-dividend payments.

The last two columns of TABLE 2 report the estimated intercept terms (α_p) and estimated beta values (β_p) based on the regression model. If the capital asset pricing model (CAPM) holds, the α values could be interpreted as representing the risk-adjusted abnormal return on the four dividend yield portfolios. Similarly, the β values could be interpreted in terms of the systematic risk of the portfolios. In TABLE 2, the risk-adjusted abnormal returns (α_p) decrease in line with the corresponding decline in dividend yield. Similar to the results reported by Ap Gwilym et al. (2000), statistically significant positive abnormal returns were generated for the portfolio containing the high-dividend-yield shares. In the case of the zero-dividend portfolio, statistically significant negative abnormal returns were generated. Based on their dividend yield characteristics, it would therefore appear that high-dividend-yield firms generate greater abnormal returns than firms providing lower (or zero-) dividend payments.

An interesting observation with regard to the systematic risk of the portfolios is reported in the right-most column of TABLE 2. A comparison of the zero-dividend portfolio with the high-dividend yield portfolio reveals that the estimated β values are almost the same, even though the return on the zero-dividend portfolio is significantly lower than the return on the high-dividend-yield portfolio. The linear relationship between systematic risk and return reported by Gombola and Liu (1993) is therefore not present in this study. In terms of the systematic risk estimates, the results reported in TABLE 2 are therefore similar to the systematic risk estimates Ap Gwilym et al. (2000) obtained for their sample of UK firms.

In order to investigate the influence of dividend stability on these results, the same regression model was applied to the 12 dividend yield-dividend stability-portfolios that were defined in the methodology section.The results based on these regression analyses are presented in TABLE 3:

TABLE 3: Regression results for the dividend yield-dividend stability portfolios

Dividend Yield Portfolio	*Stability Group*	*Market Model Estimate of α*	*Market Model Estimate of β*
High	*High*	0.236	0.990**
	Medium	0.613 **	1.035***
	Low	0.458 *	0.968***
Mid	*High*	0.273	1.057***
	Medium	0.164	1.035***
	Low	0.774 *	0.986***

Dividend Yield Portfolio	Stability Group	Market Model Estimate of α	Market Model Estimate of β
Low	High	0.474 **	0.981***
	Medium	0.243	1.019***
	Low	-0.207	0.688***
Zero	High	-1.323 ***	0.932***
	Medium	-1.286 ***	1.188***
	Low	0.261	0.988***

Source: Statistical analysis

Notes: The following regression equation was estimated based on monthly data (t) for each of the 12 dividend yield stability portfolios (ap): $(R_{pt} - R_{ft}) = \alpha p + \beta p(R_{mt} - R_{ft}) + \mu_{pt}$

*** Significant at the 1% level
** Significant at the 5% level
* Significant at the 10% level

In terms of the high-dividend-yield portfolio, statistically significant positive abnormal risk-adjusted returns were observed for the medium-dividend stability (at a 5% level) and low-stability (at a 10% level) sub-portfolios. It is important to note that the significant positive abnormal return reported for the high-dividend-yield portfolio (provided in TABLE 2 of the previous section) was contributed by the medium-stability firms (and, to a lesser extent, also the low-stability firms).

In the case of the zero-dividend portfolio, statistically significant negative returns were observed for the high- and medium-dividend stability sub-portfolios. For the zero-dividend firms, the source of the significant negative abnormal returns reported (provided in TABLE 2 of the previous section) was therefore found in the high- and medium-dividend stability sub-portfolios.

In terms of the β values reported in the right-most column of TABLE 3, no evidence of the linear relationship between systematic risk and return as reported by Keim (1985), Blume (1980) and Gombola and Liu (1993) is observed. It is important, however, to note that β values estimated for South African firms are sometimes inversely related to returns (Van Rensburg & Robertson, 2003; Strugnell, Gilbert & Kruger, 2011). Interpreting β values as measures of systematic risk should therefore be conducted with care within the South African context. Ap Gwilym et al. (2000) also recommend that the focus should be placed on the estimates of risk-adjusted abnormal returns obtained, rather than on the estimated systematic risk of the portfolios.

5. CONCLUSIONS AND RECOMMENDATIONS

Although extensive research on the importance of dividend payments with regard to share performance has been conducted over the past few decades, limited attention has been given to the influence that the stability of these dividend payments over time may have on share returns. The research on which this article is based therefore investigated the influence of dividend yield,

combined with dividend stability, on share returns for a sample of South African firms. In terms of South African research, previous studies on this topic might have suffered from shortcomings relating to sample size and survivorship bias. In this paper, an attempt is therefore also made to improve on these shortcomings by focusing on an extended sample.

The results reported in this article revealed that it is important that a firm's dividend yield be considered in conjunction with the stability of its dividend payments when the value effect of its dividend decision is investigated. In the case of high-dividend-yield firms, the positive abnormal returns that are often reported in dividend studies could be predominantly ascribed to those firms who implement medium- and low-stability dividend payments. This could be interpreted as a sign that investors may not merely be satisfied with a current high dividend yield on their investment, but that they may also place importance on increases in this dividend level over time. No distinction between dividend increases and decreases was made in this research to investigate if that was the case. In future research, the influence of increases or decreases in dividend payments could possibly be addressed.

According to conventional wisdom, the group of zero-dividend firms is often considered to include start-up firms with large profitable investment opportunities. Consequently, these types of firms are expected to reinvest most of their current profits in order to finance future growth. The results of this research, however, indicated that zero-dividend firms with high and medium-stability zero-dividend streams (i.e., firms that are not likely to start paying dividends) generated negative abnormal returns. Although this zero-dividend stream could be a characteristic of a firm that is currently experiencing high growth, it could also be a characteristic of a firm that is experiencing financial difficulties. In order to be able to distinguish between these two types of firms, investors will also be interested in the possibility that a zero-dividend firm will initiate dividend payments in future. In this study, no distinction between firms that never paid dividends and those that previously did so was made, in order to investigate the effect of dividend initiations or discontinuations. In future research, this could be specifically investigated.

Based on the results reported in this study, it appears that dividend yields influence share returns. This finding corresponds with the results reported by Ap Gwilym et al. (2000). It is important to notice, however, that the stability of dividend levels should also be incorporated into the analysis of this relationship, since return distributions within dividend-yield groups exhibit statistically as well as economically significant differences depending on the level of dividend stability. To some extent, the empirical evidence reported in this article supported the dividend signalling theory, since changes in dividend levels were found to influence share returns. During the formulation and implementation of dividend policies, management should realise that investors may incorporate the nature of a firm's dividend payments in their investment appraisal process. Although the results of this study provide some insight into the dividend characteristics that may be required by investors, an even more detailed investigation of dividend policy characteristics could greatly improve financial decision-making. This should ultimately contribute to the creation of shareholder value.

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