

# THE EFFECT OF SPECIFIC SHARE REPURCHASES ON SOUTH AFRICAN PAYOUT RATIOS: AN EXPLORATORY STUDY

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## Abstract

This article reports on an investigation of whether the introduction of share repurchases in 1999 resulted in differences in the dividend payout ratios of South African listed firms. Dividend payout ratios for the two ten-year sub-periods preceding and following the introduction of share repurchases respectively are compared for a sample of repurchasing firms and all listed firms. The results indicate that dividend payout ratios were statistically significantly lower during the ten-year sub-period following the introduction of share repurchases than before. The payout ratios for those firms involved in specific share repurchases, however, were found not to differ significantly from payout ratios in general. Furthermore, the payout ratios of repurchasing firms did not change significantly during the two sub-periods.

**Keywords:** Specific Share Repurchases, Payout Ratio, Distribution Policy.

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## 1. Introduction

“The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don’t fit together.” Fischer Black made this statement in 1976 in his article, “The Dividend Puzzle”. More than four decades later, the dividend decision remains one of the most fundamental issues in corporate finance that keeps puzzling financial researchers.

For many years, firms have preferred to distribute cash in the form of dividends rather than share repurchasing. However, since the mid-1980s, relatively more US firms than before have decided to initiate share repurchase programmes rather than to initiate dividends (Grullon and Michaely, 2002:1651). This extraordinary growth in share repurchase activities resulted in a renewed interest in share repurchases, and extensive research on share repurchases followed in various countries such as the United States, Canada, the United Kingdom, Japan and Australia. Research on share repurchases in South Africa is, however, relatively limited due to the fact that South African firms were only allowed to repurchase their own shares from 1 July 1999.

The amendment to the Companies Act in July 1999 brought South African firms on a par with firms operating in other countries, since they now had a choice between two distribution methods, namely

dividends or share repurchases. The combined use of these two distribution methods raises a relevant question of whether firms are substituting share repurchases for dividends. In 2001, Fama and French indicated that share repurchases may have become the preferred method of payout for firms, and Grullon and Michaely (2002) also found that the cash used to finance share repurchases would otherwise have been used to pay cash dividends.

Based on the existing literature, a possible decline in payout ratios of South African firms could have been expected after the introduction of share repurchases. In South Africa, limited empirical research has been conducted on the relationships between dividend payment levels and share repurchases. Furthermore, of the two share repurchase options available to firms (general repurchases and specific repurchases) only a limited number of prior studies on South African share repurchase activities involved repurchases under specific authority. The aim of the current study was, therefore, to empirically investigate the influence of specific share repurchases on payout ratios of South African firms. This may give an indication of whether firms in South Africa use specific share repurchases as a substitute for dividends.

This study focused on a twenty-year period from 1990 to 2009. Since firms in South Africa were only

allowed to repurchase their own shares as from 1 July 1999, it was decided to investigate differences between payout ratios for the period before 1999 and after 1999. This was done for those firms that took part in specific share repurchases (86 firms) as well as for all firms listed (1 071 firms) during the period under review.

The remainder of this article consists of five sections. The first section provides the background to the study. The second section describes the sample and research method. In the third section, the empirical results are reported. The final two sections of the article contain the conclusions and managerial implications, and future research areas.

## 2. Theoretical overview

The dividend decision remains one of the most fundamental issues in corporate finance and one that keeps puzzling financial researchers. The uncertainty surrounding the dividend decision, which is determined by the dividend policy, as well as how managers should determine such a policy, has become known as the dividend puzzle (Black, 1976). The dividend policy of a firm refers to the practice that financial managers follow in making dividend payout decisions or, in other words, the size and pattern of cash distributions over time to shareholders (Al-Malkawi, Rafferty and Pillai, 2010:172). If a net profit after tax is realised, a firm has a number of options as to how to allocate the profit. The firm can decide to reinvest the profit in current operations, distribute the profit to shareholders in the form of dividends, pay off existing debt, or use the funds to repurchase their own shares from the shareholders. Solving this puzzle is very important in corporate finance, since it affects the investment as well as financing decisions of firms.

More than 50 years ago, Lintner (1956) published an article, which laid the foundation for the modern understanding of dividend policy. He found that financial managers set long-term target dividend payout ratios when determining dividend policy. He furthermore concluded that dividends are sticky, tied to long-term sustainable earnings, paid by mature firms, and smoothed from year to year (Brav, Graham, Harvey and Michaely, 2005:484).

In 1961, Miller and Modigliani published an article on dividend policy, growth and the valuation of shares. In this article, they argued that in an efficient market, the value of a firm's shares is independent of its dividend policy. This proposition, however, was based on restrictive assumptions such as perfect capital markets, homogenous expectations and no transaction costs. The proposition furthermore implied that if no taxes exist, or if the tax rate is the same for capital gains and dividends, investors should be indifferent to the source of their returns (capital gains or dividends) (Firer, Gilbert and Maytham, 2008:5).

It is, however, important to consider that not all investors are the same in terms of their preferences. Furthermore, a perfect capital market does not exist in the real world. Multiple real-world factors such as taxes and different transaction costs have to be considered when a dividend policy is determined. Shortly after Miller and Modigliani's (1961) dividend irrelevance theorem, Lintner (1962) and Gordon (1963) respectively argued that there is a direct relationship between a firm's dividend policy and its market value, thus supporting the relevance of dividends.

Following these two opposing propositions by Miller and Modigliani (1961) and Lintner (1962), the dividend policy has been extensively researched and a number of theories have been developed in an attempt to explain dividend policy. Examples of such theories are the signalling theory, the agency theory as well as the tax preference explanation (Firer *et al.*, 2008).

One important aspect that was, however, not incorporated in the articles by Lintner (1956) and Miller and Modigliani (1961) is share repurchases. This is most probably due to the fact that repurchases were practically nonexistent at the time. In the late 1960s, however, researchers such as Bierman and West (1966) and Elton and Gruber (1968) started examining share repurchases as a result of the growth of share repurchasing activity during the 1960s by major US corporations. This growth resulted in a renewed interest in share repurchases as a means of distributing cash to shareholders.

Since the mid-1980s, share repurchases increased significantly in the United States, and share repurchase programmes became a significant payout method. Between 1984 and 2000, the dollar amount distributed through repurchases relative to dividends (on average) was 57.7% and it reached a high of 113.1% in 2000 (Grullon and Michaely, 2002:8). Some of the reasons offered for this increase in share repurchases and the decrease in firms paying dividends in the US were a change in the general profile of listed firms, lower transaction costs for selling stocks, larger holding by managers preferring capital gains and better corporate governance (Fama and French, 2001).

Extensive research on share repurchases followed in various countries such as the United States (Grullon and Michaely, 2002), Canada (Jong, Van Dijk and Veld, 2003), the United Kingdom (Stonham, 2002), Japan (Hatakeda and Isagawa, 2004) and Australia (Otchere and Ross, 2002). These studies furthermore investigated a number of issues surrounding share repurchases such as the reasons for share repurchases, share price behaviour induced by share repurchase announcements, the signalling effect of share repurchase announcements, and the substitution of share repurchases for dividends (Chivaka, Siddle, Bayne, Cairney and Shev, 2009:2).

## 2.1 Share repurchases in South Africa

From the above discussion, it is evident that share repurchasing activities became an important financial tool for firms and received much attention from academics all over the world. South African firms, however, only started following the international trends of share repurchases during 1999. Prior to 1999, dividends were the only cash distribution method available to South African firms. Share repurchases in South Africa are only allowed as from 1 July 1999. The Companies Act (Act 61 of 1973) was amended through the Companies Amendment Act (Act 37 of 1999) to make provision for firms to repurchase their own shares (Bester, 2008:11).

One of the most significant results of the amendment to the Companies Act in July 1999 was that South African firms now had a choice between two distribution methods, namely dividends or share repurchases, bringing South African firms on a par with other countries internationally. Prior to July 1999, the corporate cash distributions by South African firms were usually associated with dividend payouts (ordinary dividends, special dividends, scrip dividends and distribution out of share premium) (Bester, 2008:7). Since the cash effect of share repurchases is similar to that of dividends, share repurchases can be used as an alternative way to return cash to shareholders (Bester, 2008:7). The combined use of dividends and share repurchases as a method to distribute cash to shareholders resulted in many researchers substituting the term “dividend policy” with the term “payout policy” or “distribution policy” (De Ridder, 2009; De Angelo and De Angelo, 2007). The rationale behind the change of terminology is that the latter terms reflect the total cash distributions made to shareholders better, whether it is by means of cash dividends or by way of share repurchases. The term “distribution policy” will be used for the remainder of this article.

## 2.2 The South African share repurchase environment

### 2.2.1 Challenges imposed by share repurchase

Although the introduction of share repurchasing in South Africa brought the country on a par with other countries, it also created various new challenges to firms, their shareholders, as well as accountants and financial analysts. The accountants and auditors of firms were confronted with the problem of understanding the new concept of share repurchases, as well as the reporting of share repurchases in financial statements. The process is relatively simple if a firm repurchases its own shares. Such shares will be cancelled as issued shares and restored to the status of authorised shares (RSA, 1999:section 85 (8)). The reduction in the number of issued shares will be accompanied by a decrease in share capital

(and reserves, if applicable), as well as a decrease in cash (SAICA, 2007:IAS 32 par.33). On the other hand, if shares are bought by a subsidiary company or a consolidated share trust, such shares are not cancelled, but regarded as treasury shares in the consolidated financial statements (Bester, Hamman, Brummer, Wesson and Steyn-Bruwer, 2008:16). Upon consolidation of company accounts, such treasury shares should then be deducted from equity (share capital and reserves, if applicable) (SAICA, 2007: IAS 32 par. 33).

Another challenge for firms is the management of the tax implications presented by share repurchases. Share repurchases in South Africa are affected by the income tax treatment thereof, requiring a distinction between repurchases of its own shares by the holding company and repurchases by its subsidiary firm (Bester *et al.*, 2008:18). If a holding company repurchases its own shares, the repurchase will be regarded as a dividend, and it will therefore attract the same secondary company tax rate as dividends. On the other hand, repurchases of shares by a subsidiary of a holding company will not be regarded as a dividend and will therefore not be subject to secondary company tax on dividends.

Due to the uncertainty regarding the treatment of repurchases under tax laws at the time, as well as inconsistency between the Companies Act and the Johannesburg Securities Exchange Limited (JSE) listing requirements, share repurchases in South Africa got off to a slow start (Bester, Wesson and Hamman, 2010:17). Once the tax implications had been clarified and companies became familiar with this new distribution mechanism, repurchase programmes were initiated by many listed firms (Daly, 2002:47). Bester (2008) reported that over the period July 1999 to June 2007, 121 JSE-listed companies had made 312 repurchase announcements. The total number of repurchased shares noted in these 312 announcements was 4.2 billion shares worth a total value of almost R50 billion (Bester, 2008:94).

### 2.2.2 Share repurchases options

The relevant sections 85 and 90 of the Companies Amendment Act impose various restrictive regulations on share repurchase activities in South Africa (Bester *et al.*, 2010:16). These regulations are mainly intended to ensure that the repurchase activities do not compromise the liquidity and solvency provisions of firms. One of these restrictive regulations is in reference to the share repurchase methods available to firms. Firms in South Africa have two share repurchase options available to them, namely repurchase under general authority (which is analogous to open-market repurchases) and repurchase under specific authority (which is equivalent to the US-style fixed-price tender offer) (Daly, 2002).

Share repurchases under general authority occur when a firm repurchases shares from shareholders on the open market without prior understanding between the firm and its counterparts. This method is the most generally used method in the United States, with over 90% of all share repurchase transactions between 1984 and 2000 completed through open-market repurchase programmes (Grullon and Michaely, 2004:651). The JSE listings requirements has laid out a few requirements that must be met when conducting share repurchases under general authority, such as the repurchase may not exceed 20% of the company's share capital in any one financial year (Section 5.68). Repurchases may not be made at a price greater than 10% above the weighted average of the market value for the five business days immediately preceding the repurchase (Section 5.72(d)). All open market share repurchases must be channelled through a single broker (Section 5.72(e)). Once a company has repurchased 3% or any 3% increment thereafter, of its own securities, the company is obliged to announce such repurchases by no later than 08:30 on the following business day. These announcements must be distributed through the Securities News Agency (SENS) (Section 5.79) (Bester *et al.*, 2008:17).

Repurchases under specific authority, on the other hand, is a commitment to repurchase a specified number of shares at a fixed price. Based on the JSE listings requirements, specific share repurchases may be executed in two ways: the specific offer may be extended to one or more specifically named shareholders, or the offer may be open to all shareholders on a pro-rata basis based on their shareholding (Bester *et al.*, 2008). The listings requirements applicable to specific repurchases (Section 11.25) further state that an announcement needs to be made via SENS immediately after the terms of the repurchase have been agreed on and that a circular should be dispatched to all shareholders of the firm. Lastly, the firm must pursue any announcement of a specific repurchase, unless the firm is permitted not to do so by the JSE (Section 5.69(h)).

### **2.3 Research on share repurchases in South Africa**

Prior research on South African share repurchase activities has been based predominantly on announced general repurchases (Daly, 2002; Bhana, 2007) while only a limited number of studies involved specific repurchases. According to Bester *et al.* (2010:49), regulations on general share repurchases are more flexible and less cumbersome than those on specific repurchases. The general perception is that South African firms favour general repurchases, and that specific repurchases are only used when exceptionally large portions of shares are sought for repurchase. As a result, limited research on

specific share repurchases has been conducted in South Africa.

Bester (2008) and Chivaka *et al.* (2009) are examples of researchers who included specific share repurchase announcements in their studies. Bester (2008) included a total of 35 specific repurchase announcements (and 57 general repurchase announcements) for the period 1999 to 2007 in order to determine the impact of share repurchases on dividend payouts. Chivaka *et al.* (2009) examined a total of 55 specific repurchase announcements (by 47 companies) in the period 1999 to the end of 2004 to establish the reasons for repurchases that were stated by directors in the SENS circulars. In spite of general repurchases being favoured by firms, specific repurchases make up about 35% of total repurchases by value and 45% by volume of shares (Bester, 2008:117).

In South Africa, researchers are confronted with the lack of a comprehensive and accurate database for share repurchase activities such as the likes of the Standard and Poor's Compustat Financial database in the United States. Due to this lack of a comprehensive database, research on share repurchases in South Africa got off to a slow start. Daly initiated data collection of share repurchases in South Africa in 2002. He analysed the share returns of JSE-listed companies that made 88 announcements of open-market share repurchases under a general authority between 1 July 1999 and 30 September 2001. Bhana (2007) published the first scientific article in South Africa on the same topic (Bester *et al.*, 2008:18). Bhana's sample comprised of 117 repurchase announcements and covered the period October 2000 to March 2003. Unfortunately, the specific details of the repurchase announcements were not listed in his article. In 2006, the Stellenbosch University Business School started to compile a comprehensive database, which currently contains all repurchase announcements and actual repurchases since the inception of repurchases in July 1999 up to the end of 2010. This database distinguishes between repurchases under general authority and specific authority, as well as whether the repurchases were executed by the holding company itself, by a subsidiary or by a share trust (Bester, 2008). The database consequently enables more thorough and concise research on share repurchase activities in South Africa.

Extensive research on distribution policy has been done in South Africa over the past 40 years, with the focus placed predominantly on cash dividends as a form of distributing profits to shareholders. The same is, however, not true with regard to research on share repurchases as an alternative method of payout to shareholders. Research in South Africa focused on various aspects surrounding share repurchases such as market reactions to open-market repurchases (Bhana, 2007), and reasons for share repurchases in South Africa

(Chivaka *et al.*, 2009). One aspect of distribution policy that has not yet been researched extensively in South Africa concerns the relationship between share repurchases and dividend payment levels. At present, dividends and share repurchases are the two main methods used by firms to return cash to shareholders (Guay and Harford, 2000:386). The combined use of dividends and share repurchases raises a relevant question of whether firms are repurchasing shares with funds that they would otherwise have used to pay out dividends (Grullon and Michaely, 2002:1649). This aspect has already been researched extensively internationally to determine whether dividends are disappearing due to the increased use of share repurchases.

#### **2.4 Dividends versus share repurchase**

Fama and French (2001) investigated dividend payment levels for US firms over the period 1926 to 1999, and noticed a significant decline in the levels of cash dividends after 1978. They indicated that even after controlling for firm characteristics, firms had a lower propensity to pay dividends during the latter part of their study period than they did in the past. This was to them an indication that dividends may be disappearing. However, it is also important to note that DeAngelo, DeAngelo and Skinner (2004:452) reported in a later study that dividends paid out by industrial firms have actually increased over the period 1978 to 2000, both in nominal and in real terms. These findings, therefore, do not support Fama and French's (2001) argument that dividends are disappearing. DeAngelo *et al.* (2004) found that the aggregate real dividends increased even though fewer firms paid dividends in 2000 than they did in 1978. This was the result of industrial firms' dividends being highly concentrated.

According to Jagannathan, Stephens and Weisbach (2000), firms may use share repurchases and cash dividends to distribute different forms of cash flow. According to these authors, firms with permanent operating cash-flow surpluses prefer cash dividends, while by firms used repurchases to distribute temporary, non-operating cash flows. They also argue that firms tend to repurchase shares after poor market performances, while cash dividends are increased after periods of good performance. Jagannathan *et al.* (2000) consider the flexibility associated with share repurchase programmes as one of the reasons repurchasing is sometimes used instead of cash dividend payments. Von Eije and Megginson (2008) investigated cash dividends and share repurchases for European firms. They report a decline in the percentage of dividend-paying firms during their study period, while the use of share repurchases increased substantially.

Grullon and Michaely (2002) also found that the cash used to finance share repurchases would otherwise have been used to pay cash dividends.

Based on the results of their study, they argue that share repurchases started to substitute cash dividend payments in the case of US firms since regulatory constraints that limited share repurchases were reduced in the 1980s.

Since South African firms were only allowed to repurchase their own shares since July 1999, the opportunity to engage in share repurchases could therefore have had a negative effect on the number of firms paying cash dividends. Since repurchases instead of cash dividends could be utilised to distribute temporary cash flows, it is suggested that cash dividend payments may have decreased after 1999 for this reason. It is, thus, expected that the introduction of share repurchases in South Africa may have an effect on distribution policies and payout ratios. In a recent study by Firer *et al.* (2008), it was found that South African managers view dividends and share repurchases as complements rather than as substitutes and furthermore that management targets a payout ratio and wants to avoid dividend cuts. The results reported by Firer *et al.* (2008) were obtained by applying a survey approach to test the views of South African management on distribution policies.

The aim of the study being reported here was, therefore, to empirically investigate the influence of specific share repurchases on payout ratios of South African firms. It was hoped that this would provide empirical evidence as to whether firms in South Africa use specific share repurchases as a substitute or as a compliment for cash dividends.

### **3. Methodology**

In this study, the focus was placed on the twenty-year period from 1990 to 2009. Since share repurchases were only allowed in South Africa since July 1999, this study period provided ten years of observations before and after the implementation of share repurchases. Since the objective of this study was to determine whether specific share repurchases had an effect on firms' payout ratios, differences between the payout ratios before and after 1999 of those firms that took part in specific share repurchases, as well as the differences between the payout ratios of the repurchasing firms and the payout ratios of all firms listed during the period under review were investigated.

The population for this study consisted of all firms that were listed on the JSE during the study period (1990–2009). In order to reduce survivorship bias, it was decided to include not only those firms that were listed for the entire study period, but all firms that were listed during the period under review. A total of 1 071 firms were considered. In order to investigate the effect of specific share repurchases, a sample consisting of firms that were involved in specific share repurchases after the introduction of share repurchases in 1999 was obtained. As indicated in the literature review, the disclosure with regard to

share repurchases in South Africa is relatively limited. In order to identify firms that undertook specific share repurchases, a list of firms was purchased from the McGregor BFA database (2011). The firms identified in this list were compared to the samples used in the studies by Bester (2008) and Chivaka *et al.* (2009), and reconciled to obtain a more extensive sample of firms. Based on this process, a

final list of 86 firms was compiled and used as the sample of firms that carried out specific share repurchases.

Annual dividend payout ratio values for all firms were obtained from the McGregor BFA database (2011). The payout ratio (PR) values in McGregor BFA were calculated according to the following equation:

$$PR = \left( \frac{\text{Ordinary dividends declared}}{\text{Profit attributable to ordinary shareholders}} \right) \times 100$$

The amount for dividends declared in the income statement of firms, provided by the McGregor BFA database, included ordinary dividends as well as special dividends declared by firms. The database did not distinguish between ordinary and special dividends. This was, however, not a problem for the statistical analyses of this particular study, since both types of dividends represented cash dividends.

The objective of this study was to investigate the effect the introduction of share repurchases had on cash dividends. To this effect, this study evaluated whether differences existed over time between the payout ratios of firms, between repurchasing firms and all firms in the population, as well as between the two types of firms during the two sub-periods included in the study. The data included in this study had a clustered structure, and two sources of variation could have existed. A mixed model analysis could be

used since this type of analysis assumes that the sources of variation arise within clusters and between clusters. Since the number of clusters included in the study was small (two) and the number of observations per cluster large (the firms included in the clusters), it was decided to fit a fixed-effects model to investigate the effect of the sub-periods and repurchasing activity on payout ratios.

#### 4. Analysis

##### 4.1 Descriptive statistics

Table 1 contains descriptive statistics of the payout ratios, calculated for the full data set and the repurchasing firms over the entire study period, as well as the two sub-periods (1990 to 1999 and 2000 to 2009).

**Table 1.** Descriptive Statistics: Payout Ratio

	ALL FIRMS		
	1990–2009	1990–1999	2000–2009
<b>MEAN</b>	33.45%	37.35%	28.33%
<b>MEDIAN</b>	26.49%	31.15%	15.28%
<b>STANDARD DEVIATION</b>	34.68%	34.13%	34.73%

	REPURCHASING FIRMS		
	1990–2009	1990–1999	2000–2009
<b>MEAN</b>	33.43%	37.07%	30.88%
<b>MEDIAN</b>	29.75%	33.22%	24.51%
<b>STANDARD DEVIATION</b>	31.50%	30.29%	32.10%

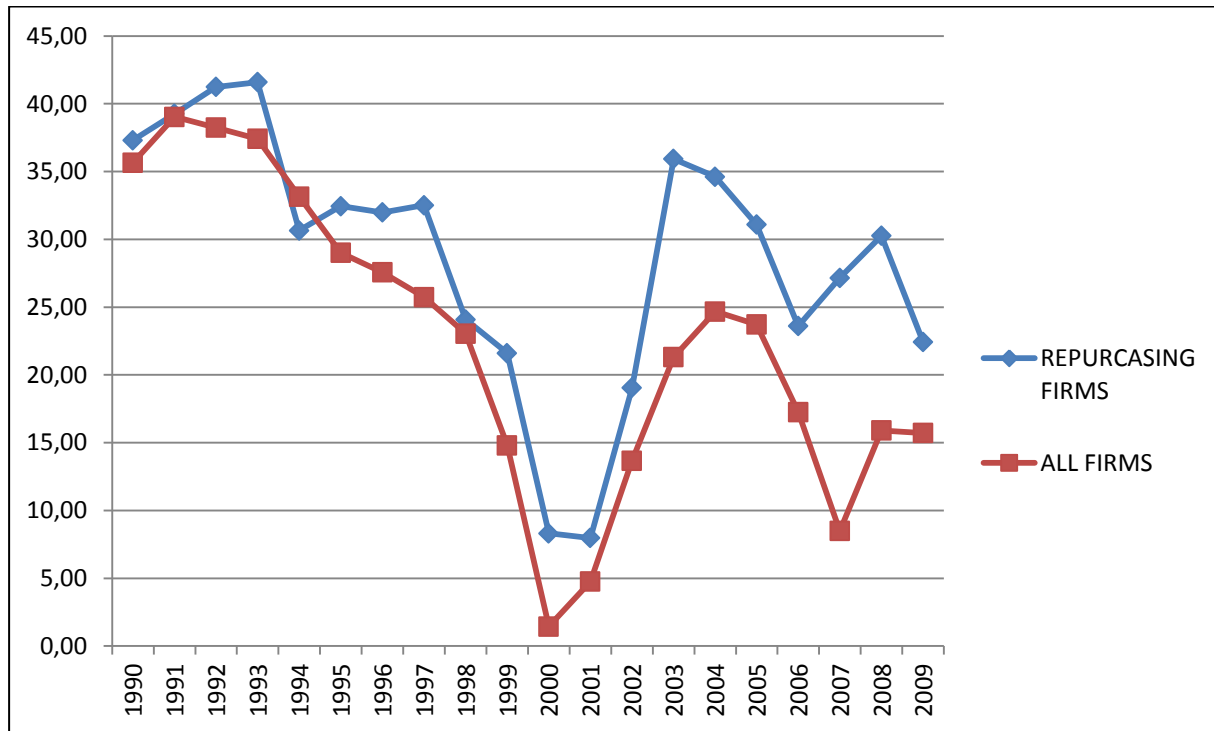
If the entire study period is considered, the mean payout ratio for the repurchasing firms is almost exactly the same as the mean payout ratio for all the firms. If the median value is considered, a slightly higher payout ratio is observed for the sample of repurchasing firms than for the full data set. The standard deviation for the repurchasing firms is slightly lower than the standard deviation for all the firms.

If the two sub-periods, however, are considered, some important differences are observed. The mean payout ratio for both repurchasing firms, as well as for the full data set, is higher during the first ten-year period (1990 to 1999) than during the second sub-period (2000–2009). These differences between the

two sub-periods are even more pronounced when the median values are considered. Overall, it would appear that payout ratios were lower during the second sub-period that occurred after share repurchases had been introduced in South Africa than during the first sub-period.

The differences between the mean and median values, as well as the relatively large standard deviation values, could point towards the presence of outlier values in the data set. In order to investigate changes in the payout ratio for the sample of repurchasing firms and the full data set over time, annual median values are therefore provided in Figure 1.

**Figure 1. Annual Median Payout Ratios**



It is clear that the median payout ratio of firms involved in specific share repurchases was slightly higher than the median for the full data set for all the years of the study period except during 1994. A clear decline in payout ratios is observed during the first part of the study period (1990-2000), with the median payout ratio for all firms declining from 35.66% in 1990 to only 1.44% in 2000. After 2000, the median payout ratio increased again to almost 25% in 2004. A decline in payout ratios is again observed from 2004 to 2007, with median values dropping from 24.68% to only 8.49%. After 2007, payout ratios increased to levels around 15%. Similar trends are observed for the repurchasing firms.

#### 4.2 Fixed effects model

In order to investigate whether the differences between the mean payout ratios observed during the two sub-periods included in the study, as well as between the repurchasing firms and the study population, are statistically significant, a fixed-effects model was fitted to the data. This fixed-effects model was considered appropriate for this study, since it makes provision for data that is not normally distributed. The results of the Type III test of fixed effects are provided in Table 2.

**Table 2. Type Iii Tests of Fixed Effects**

Source	Numerator df	Denominator df	F-value	Sig.
Intercept	1	868.17	458.07	0.000***
Period	1	643.18	3.27	0.071*
Repurchase	1	868.17	0.01	0.916
Period*Repurchase	1	643.18	1.92	0.167

Notes: The dependent variable included in the model was the payout ratio. Independent variables were the sub-period (PERIOD), whether a firm was involved in specific share repurchases during the study period (REPURCHASE) and the interaction between the two variables (PERIOD\*REPURCHASE).

\*\*\* significant at the 1% level

\* significant at the 10% level

The results contained in Table 2 indicate that the variable PERIOD is statistically significant at the 10% level. This indicates that PERIOD is a potentially important predictor of the dependent variable, namely payout ratio, and that a statistically significant difference is observed between the mean payout ratios observed during the two sub-periods. REPURCHASE and the interaction between PERIOD and REPURCHASE (PERIOD\*REPURCHASE) are not statistically significant. When comparing the

repurchasing firms with the full data set containing all firms, the difference in the mean payout ratio between the two groups is therefore not significant. When considering the interaction effect, an  $F$ -value of 1.92 is observed. Although this  $F$ -value is larger than the value observed for REPURCHASE, it is not large enough to indicate a statistically significant relationship. More detailed information on the fixed-effects parameters are provided in Table 3.

**Table 3.** Estimates of Fixed Effects

PERIOD	ESTIMATE	STANDARD ERROR	DF	95% CONFIDENCE INTERVAL		
				LOWER BOUND	UPPER BOUND	
<b>PANEL A: Between sub-periods</b>						
1990–1999	31.90%	1.72	1 546	28.52%	35.27%	
2000–2009	28.47%	1.68	1 510	25.18%	31.76%	
<b>PANEL B: Between firms</b>						
Repurchasing firms	30.03%	0.81	1 027	28.44%	31.63%	
All firms	30.33%	2.70	855	25.03%	35.64%	
<b>PANEL C: During sub-periods between firms</b>						
1990–1999	All	33.06%	0.97	1 570	31.15%	34.96%
	Repurch.	30.73%	3.30	1 544	24.26%	37.21%
2000–2009	All	27.01%	1.04	1 615	24.98%	29.04%
	Repurch.	29.93%	3.19	1 494	23.68%	36.19%

When considering Panel A of Table 3, it can be observed that the estimated mean values of the payout ratio differ substantially between the two sub-periods included in the study. This indicates that mean payout ratios decreased during the period under review, with statistically significant lower payout ratios observed during the second sub-period ranging from 2000 to 2009. In Panel B of Table 3, where the payout ratios of repurchasing firms are compared to the total population, the estimated means are however almost equal. When the payout ratios of repurchasing firms are compared to those of the firms included in the population, no significant differences are therefore observed.

In order to evaluate the differences between the different types of firms during the two sub-periods, Panel C of Table 3 also shows the results of the interaction between the two sub-periods and the two types of firms (all and repurchasing). For the set of repurchasing firms, almost no differences are observed when the estimated means during the two sub-periods are compared (the estimated mean payout ratio declines from 30.73% to 29.93%). In the case of the set of all firms, however, a larger difference between the estimated mean payout ratios is observed with a decline from 33.06% to 27.01%. The

differences between the estimated means, however, are not statistically significant. This could be seen as an indication that the sample of repurchasing firms maintained relatively stable payout ratios throughout the study period, while the decline in payout ratios that are reported over time can be largely attributed to the decline in the payout ratios of the set of all firms.

## 5. Conclusions

Share repurchases offer firms an alternative to cash dividends when wanting to distribute cash to investors. As such, share repurchases could have an effect on firms' payout ratios. In South Africa, limited research has been conducted on the effect that share repurchases has on distribution policy. This study therefore reports on an investigation of the differences between payout ratios during the two ten-year sub-periods before and after the introduction of share repurchases in South Africa in 1999. Payout ratios of a sample of firms involved in specific share repurchases were also compared over this period, and also compared to the payout ratios of all listed firms in general in order to determine whether significant differences occurred during the period under review.



The results indicated that payout ratios differed significantly during the two sub-periods investigated in this study. The statistically significant differences in the mean payout ratios of all the firms may be a result of two factors, namely the dot-com bubble in 2000 and the most recent 2007–2009 financial crisis. During the mid 1990s, the dot-com bubble (also referred to as the internet bubble or the information technology bubble) occurred when stock markets experienced rapid growth in the internet sector and related fields. Unfortunately, this bubble did not live up to its promises, and the bubble burst in March 2000. This resulted in the liquidation of firms in this particular industry or acquisitions by other firms. The majority of the firms that did manage to survive paid very low dividends or did not pay out any dividends at all due to the fact that they did not have cash available.

The more recent financial crisis that occurred during 2008 could also be an explanation for the significant decrease in the mean payout ratios in the sub-period 2000–2009. Across countries, this crisis had a large impact on dividend payments. During 2009, firms in the United Kingdom reduced the level of dividend payments by roughly 15% compared to 2008 (Riley, 2010). In the US, more than 70 firms in the Standard and Poor's index either reduced or suspended their dividends during the first 11 months of 2009 (Siegel, 2010). This crisis also affected the financial performance of firms in South Africa, which may explain the significant drop in the payout ratios observed in the second sub-period of this study.

When focusing on only those firms that participated in specific share repurchases since 1999, it is interesting to note the drop in the mean payout ratio between the two sub-periods. The decrease, however, was not statistically significant. This result shows that the payout ratios of the repurchasing firms remained relatively stable, despite the burst of the dot-com bubble and the more recent financial crisis. Thus, it would appear that those firms that participated in specific share repurchases did not lower their dividend payments in order to repurchase the shares. This could indicate that the firms in South Africa that participate in specific share repurchase activities maintain more stable distribution policies when compared to other firms.

## 6. Limitations and recommendations for future research

Researchers attempting to study share repurchases in the South African environment have been confronted with the lack of a comprehensive database for share repurchase activities. Researchers in South Africa, specifically at Stellenbosch University Business School, consequently started compiling a share repurchase database by collecting data from their initial sources. However, the lack of a comprehensive database of detailed share repurchase activities in

South Africa (such as the Standard and Poor's Compustat Financial database in the United States) will continue to hinder ongoing research on share repurchases.

As mentioned earlier, in South Africa, firms have two share repurchase options available to them, namely general repurchases and specific repurchases. This study focused specifically on specific share repurchases, since it is difficult to obtain data on general share repurchases. The omission of general share repurchases, however, may result in an understatement of share repurchase activities in South Africa. A further recommendation is, therefore, to incorporate both specific repurchases and general repurchases in similar studies.

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