

# The relationship between conservatism in financial reporting and subsequent equity returns

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This study investigates whether or not long-term discretionary accounting conservatism has benefits for equity investors, as measured by long-term subsequent equity returns. Based on the long-term relationship between cash flows and earnings documented by Dechow (1994), this paper develops a new proxy for discretionary accounting conservatism. This proxy utilises earnings before interest and tax and cash flow generated by operations, highlighting conservative discretion within earnings. Importantly, and in contrast to prior research, this study controls for market assessments of the growth prospects of sample firms and finds that discretionary accounting conservatism is insignificantly related to subsequent equity returns, once market assessments of growth prospects have been controlled for. Compensating for cross-sectional differences, based on the relative gearing of firms, reveal that the relationship between subsequent equity returns and discretionary accounting conservatism remains insignificant, regardless of the level of gearing of the sample firm.

## **KEY WORDS**

Discretionary conservatism, equity returns, growth firms

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## INTRODUCTION

During the preparation of financial statements, management is frequently required to exercise judgement in the application of accounting standards as well as in the development of accounting estimates. The current trend of judging in an unbiased way is in fact a very recent development in accounting, with the tradition of exercising accounting judgement conservatively being long in standing. Basu (1997), for example, documents a reference to conservative accounting judgements dating from the eighteenth century. Given the longevity of the conservatism tradition in accounting, intuition suggests that real benefits accrue to the equity investors in the firm, as they have the most influence over a firm's reporting norms over the long run. Therefore the question that this paper investigates is whether or not long-term conservative accounting practices benefit a firm's equity investors.

Prior research tends to investigate whether or not conservatism significantly affects financial reporting (e.g. Basu, 1997) or focuses on the potential short-term (i.e. contemporaneous) negative consequences thereof for equity investors (e.g. Penman & Zhang, 2002). Other research finds that potential causes of conservatism include benefits to providers of debt capital (Zhang, 2008) and lower litigation risk for the firm (Khan & Watts, 2009). The findings of the latter studies, together with the longevity of conservative accounting practices, suggest that benefits may accrue to equity investors due to lower cost of debt capital or lower litigation risk, but do not investigate the potential long-term (i.e. subsequent) benefits to equity investors directly. Such long-term benefits may well be a significant contributing factor to the continued existence of conservative accounting practices.

Prior conservatism research commonly uses ratios derived from market values as a proxy for conservatism, such as the market to book value ratio (cf. Givoly & Hayn, 2000; Rowchowdhury & Watts, 2007). However, the market to book value ratio is also an accepted indication of market assessments of the growth prospects of a firm, i.e. a growth firm (cf. Skinner & Sloan, 2002; Fama & French, 1992), indicating that findings in the conservatism literature that utilise the market to book ratio may be ascribing results to market assessments of growth prospects, rather than accounting conservatism. Therefore, in order to investigate potential long-term benefits to equity investors, this study develops a proxy for discretionary conservatism, which is not market-based.

Theoretically the purpose of accrual accounting is to smooth the recognition of cash flows over time, for example the recognition of depreciation, rather than expensing an asset immediately. This theoretical principle has been widely used in the accrual literature (e.g. Dechow, 1994; Dechow, Richardson & Sloan, 2008). The theoretical concept is further supported by Dechow (1994) who finds that cash flows and earnings have similar explanatory power for equity returns over longer timeframes. This suggests that remaining differences over longer timeframes relate to the discretion (conservatism or lack thereof) of management in developing estimates that affect earnings but not cash flows. Therefore the conservatism proxy in this paper is based on the relationship between cumulative earnings before interest and tax and cumulative cash flow generated from operations, which is theoretically grounded in the aforementioned accrual literature.

The results of the model suggest that, once market assessments of the growth prospects of firms are compensated for, increased long-term discretionary conservatism is not

significantly related to subsequent equity returns. Adjusting the model for cross-sectional differences, based on the relative gearing of firms, leaves the relationship between discretionary accounting conservatism and subsequent equity returns insignificant.

This study contributes to the existing literature in several ways. Firstly it considers the impact of conservatism in financial reporting in relation to subsequent, rather than concurrent equity returns. Furthermore the study controls for market assessments of the future growth prospects of firms, while prior research (e.g. Penman & Zhang, 2002) controlled only for historical growth rates. Significantly this study finds that conservatism is not related to subsequent equity returns once market assessments of the future growth prospects of the firm are controlled for.

The rest of the paper is set out as follows: firstly prior conservatism research is discussed, secondly the hypothesis development is set out, the section thereafter relates to the sample selected and data obtained, followed by a discussion of the research design. Research results are presented in the following sections, including descriptive statistics, the detailed findings from the model and an additional analysis to investigate cross-sectional differences between firms. The final section summarises and concludes the paper.

## **PRIOR CONSERVATISM RESEARCH**

### **Definition of conservatism**

Conservatism is a concept in accounting that can be defined in several ways. A frequent cited example is “anticipate no profit, but anticipate all losses” (Bliss, 1924). Adhering to this definition would require a significantly larger weight of evidence to support the recognition of a gain relative to the recognition of a loss. This introduces an element of bias into the financial statements, with losses being more readily incorporated into the accounts.

Conservatism in financial reporting may, however, have different implications depending on how it is defined. Watts (2003a), for example, points out that most critics of conservatism define it with reference to its effect within a short timeframe. In other words, the critics of conservatism in financial reporting often focus on the manipulation opportunities this characteristic may create. As manipulated profits are considered to be of inferior quality, conservatism as a characteristic of financial reporting would therefore be undesirable and ignored by market participants. The alternative definition of conservatism, that Watts (2003a) proposes, is the cumulative financial effects since the firm started operating. In this paper the alternative definition of Watts (2003a) is utilised, as benefits to equity investors imply a long-term mindset rather than a short-term opportunistic decision.

### **Types of conservatism**

Two types of conservatism in financial reporting are usually distinguished, being conservatism dependent on current circumstances (“conditional conservatism”) and conservatism applied regardless of circumstances (“unconditional conservatism”) (cf. Beaver & Ryan, 2005). However, following research such as Ahmed, Billings, Morton

and Stanford-Harris (2002), this paper also distinguishes conservatism in financial reporting on the basis of whether it is discretionary or non-discretionary. Discretionary conservatism relates to the degree of conservatism that management exercises when applying the requirements of the applicable reporting standards, for example in estimating useful lives and recoverable amounts of assets, measuring fair values where no market prices exist and classifying a lease as a finance or operating lease. In contrast, non-discretionary conservatism results from the inherent conservatism in accounting standards themselves by, for example, preventing the write-up of assets in many situations. Inherently, as the research question in this paper is a cross-sectional analysis of firms, the research question investigates discretionary conservatism.

## **Conservatism over time**

A significant branch of conservatism research is focused on the influence of conservatism on financial reporting (i.e. whether this influence in fact exists) and its development over time. Central to this branch of research is a paper of Basu (1997) who finds that earnings and negative stock price returns have greater correlation than earnings and positive stock price returns. This “asymmetric timeliness” suggests that the immediate recognition of losses in financial reports is closely related to stock market reactions while the recognition of gains over several reporting periods is not. More recently the asymmetric timeliness measure has come under some criticism due to the lack of correlation with other measures of conservatism and the potential inherent bias of the test statistics (cf. Dietrich, Muller & Riedl, 2007). Roychowdhury and Watts (2007) find, however, that asymmetric timeliness does correlate with other measures of conservatism, provided longer timeframes are considered.

Studies of the changes in conservatism in financial reporting over time also consider the differing time-series properties of earnings versus cash flows and the support this provides for the existence of conservatism in financial reporting. Givoly and Hayn (2000) find, for example, that the standard deviation of cash flows has remained fairly stable over time in contrast to increased earnings volatility and ascribe this divergence to increasing conservatism being applied to the accrual component of earnings.

The recent trend in standard setting is towards more neutral financial statements – thus attempting to limit both discretionary and non-discretionary conservatism in financial reporting. This is most clearly evident from the recently published Conceptual Framework (IASB, 2010). The concept of “prudence” in the previous Conceptual Framework (IASB, 1989) was removed by the standard setters as a qualitative characteristic of financial statements due to it being in conflict with the concept of “neutrality” (Conceptual Framework:BC3.26 – 3.27, IASB, 2010). This trend towards a principle of neutrality has elicited some criticism from proponents of conservatism. Watts (2003a) suggests, for example, that removing conservatism from accounting ignores the existence of problems that conservatism evolved to address, while Kothari, Ramanna and Skinner (2010) argue that conservative accounting serves both equity and debt holders in the protection of their interests and in the enforceability of contracts. Studies that investigate the causes and potential benefits of conservatism are discussed in the next subsection.

## Causes and benefits of conservatism

Prior research has investigated the reasons for the tradition of conservatism becoming and remaining part of the accounting paradigm in spite of the bias it introduces into financial reporting. For example, Watts (2003a) identifies the asymmetric payoffs resulting from contractual relationships as contributing to the emergence of conservatism. Commonly cited causes for the increase in conservatism over time are the increasing risk of litigation against auditors and new requirements of accounting standards (cf. Basu, 1997). Khan and Watts (2009) find that firms with longer investment cycles, higher information asymmetry and higher risk of litigation are more conservative than other firms.

Studies around the potential benefits of conservatism effectively investigate the objective of financial reporting as defined in the Conceptual Framework (IASB, 2010). Meeting this objective would require that financial statements provide information that is useful to capital providers in making capital allocation decisions. With regard to providers of debt capital, such studies appear to somewhat favour conservatism as an attribute of financial reporting. For example, it has been found that conservatism in accounting mitigates conflicts between bondholders and shareholders over dividend policies (Ahmed *et al.*, 2002) and that more conservative borrowers accept debt covenants that are effectively tighter as a result of conservatism - consequently lenders tend to offer these borrowers lower interest rates (Zhang, 2008).

With regard to the impact on providers of equity capital, the findings from studies around the potential benefits of conservatism are more critical of the potential benefits from conservative financial reporting. Penman and Zhang (2002) consider the potential for creating hidden reserves through use of conservative estimates of asset and liability values that may be released in subsequent periods to increase earnings. They find that conservatism (as proxied by higher market-to-book-values) reduces earnings quality. Francis, LaFond, Olsson and Schipper (2004) use a market-based measure of conservatism (similar to the asymmetric timeliness measure of Basu (1997)) and find that it has the weakest association with cost of equity of the seven attributes of earnings quality examined (an accrual based measure performs best). The paper furthermore notes that all measures with the best association with cost of equity are accounting based measures. Intuitively this makes sense. The cost of equity is derived from market information, while market participants use accounting information (amongst others) to determine a fair price for capital provided to the firm in question.

This interaction between accounting information and the cost of equity may explain why research focused on debt capital providers find benefits of conservatism in contrast to research focused on equity capital providers. For example, the cost of equity capital in Francis *et al.* (2004) is derived from the price targets of analysts. If analysts price in potential benefits from conservative accounting practices (which may include lower cost of debt capital) in determining price targets, the measure will fail to identify potential benefits for equity capital providers. However, benefits for debt capital providers could still be identified.

From the preceding discussion it becomes clear that potential long-term benefits of conservatism for equity investors have not been investigated in prior research. Secondly it appears that the purest proxies for conservatism (i.e. those that are most likely to hold across contexts and timeframes) are accounting based. Therefore this study attempts to

utilise an accounting-based proxy for conservatism. In this respect, a branch of research that is termed to be “cash flow based research” in this paper is particularly relevant. Research in this area is discussed in the next section.

## **Cash flow based research**

In theory, the purpose of the accrual concept of accounting is simply to smooth the recognition of cash flows over time and therefore, over the lifetime of an entity, net profit and net cash flows would be equal. Flowing from this, each item included in earnings should have as its basis a past, present or future cash flow, which relationship has been captured in several accrual models (e.g. Dechow & Dichev, 2002).

A comparison between cash flows and earnings has been utilised in several prior studies to investigate conservatism. For example, Basu (1997) compares the asymmetric timeliness of earnings and cash flows to determine the influence on conservatism on financial reporting, while Givoly and Hayn (2000) investigate the changing properties of earnings and cash flows over time. Ball and Shivakumar (2005) adapt an accrual model to investigate the differential timeliness of gain and loss recognition based on the correlation between accruals and contemporaneous cash flows.

The reason for utilising a comparison between earnings and cash flows is twofold. Firstly, cash flows are less affected both by management discretion and the requirements of accounting standards. Secondly, the effect of conservative accounting practices should reflect in the relation between earnings and cash flows. If management is consistently understating profits relative to cash flows over a significant period of time (i.e. reporting conservative profits), the entity has cash on hand that will only be recognised as profit in the future. The question that this paper effectively asks is whether equity participants price these potential future profits and/or dividends (i.e. cash flows) immediately or if it is only incorporated into prices and related equity returns over the long-term (i.e. as the future profits arise).

Such a question is analogous to the accrual anomaly literature, which compares the pricing of cash flows and earnings. Some researchers in this area have found that stock market participants tend only to price reported profit, regardless of whether it consists of mainly cash earnings or has a large accrual component. A seminal paper in this area is that of Sloan (1996) who determined that the higher degree of persistence in the cash component of earnings is not accurately priced by stock market participants. Penman and Yehuda (2009) find that, after controlling for the cash investment component of free cash flow, additional cash flow from operations in fact reduces the market value of a business. The researchers interpret this as a tendency of investors to fixate on earnings.

In contrast, a study that suggests that investors do price accruals accurately is that of Resutek (2010), who studies accruals over a three year time period. This represents a longer timeframe than that of many studies of the accrual anomaly. Similarly Easton and Pae (2004) find that share prices are in part explained by the unrecognised net present value of new investments. This suggests that such future projects, the benefits of which have not been incorporated into profit, are priced by market participants.

Therefore, based on studies that find that the accrual anomaly dissipates over time, the long-term focus of this study suggests that any remaining mispricing effect of the

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accrual component of earnings (as opposed to benefits of conservatism in recognising accruals) should be negligible.

Based on the preceding discussion of prior research, in the section that follows, the hypothesis is developed.

## HYPOTHESIS DEVELOPMENT

Over the longer term, in theory, providers of equity capital could benefit as much from conservative financial reporting practices as debt capital providers. The weighted average cost of capital of a conservative firm will decline as lenders extend funds on more generous terms (Zhang, 2008). Lower fixed costs provide a firm with a greater capability of servicing fixed payments, including dividends to shareholders. Ultimately equity capital providers have as much an interest in the long-term survival and success of a firm as debt capital providers and should, in theory, place a value on conservative financial reporting practices that increase the likelihood of such survival.

Intuitively, at the very least, it seems unlikely that conservatism as a principle in accounting would have survived (while other accounting practices did not) if it did not provide benefits to those ultimately affected by financial results, namely a firm's owners. Accordingly, this paper's focus is on the long-term impact of conservatism on subsequent equity returns. Watts (2003a) suggests short-term measures of conservatism highlight the opportunistic elements thereto, while conservatism can also represent a mindset, which should be assessed over the lifetime of a firm. Since it is not practical to assess conservatism over the lifetime of firms, but the period-specific (i.e. short-term opportunistic) effects should be ignored for a true assessment of potential benefits, conservatism in this study is defined as relating to a cumulative understatement of profits over a longer timeframe (relative to potential profits).

This study does not suggest that cumulative conservatism over time is necessarily of a positive or negative nature. The application of conservative judgement in the accounting process may be a useful counterforce to overoptimistic estimation tendencies whereby humans tend to expect current conditions to continue indefinitely. It may also limit opportunities and incentives for major accounting manipulation. On the other hand, market participants may ignore such conservative adjustments in favour of more neutral assessments of financial reports. Furthermore an attempt to account for transactions conservatively (rather than without bias) could be viewed by investors as accounting manipulation in itself. My hypothesis (stated in null form) is therefore that:

**H1n:** The degree of cumulative conservatism within a firm's reporting practices does not affect its subsequent cumulative equity returns.

The next sections discuss the research design and model specifications for the study as well as the sample period and selection.

## SAMPLE SELECTION AND DATA

The sample consists of the annual financial results of all firms listed on the main board of the JSE Limited for financial years ending from 2000 to 2006 and the subsequent market returns on equity for 60 months from the 2005 financial year end up to 31 December 2010 at the latest (depending on the financial year end) with all data obtained from the McGregor BFA database<sup>1</sup>. Data for a firm for the entire period from 2000 to 2006 is required, resulting in a sample size of 207 firms. For the market returns subsequent to this period, i.e. up to 31 December 2010, adjusted share prices as per McGregor BFA are used and, as a result, sample firms need not exist for the entire subsequent period<sup>2</sup>. The top and bottom 1% of sample firms are winsorised for the conservatism, market-to-book and size variables in the research models. Due to data limitations on adjusted share prices, the sample is reduced to 196 firms. Eighteen firms with negative cumulative cash flows generated from operations are excluded from the sample for reasons discussed in the section which follows, resulting in a final sample of 178 JSE listed firms<sup>3</sup>.

## RESEARCH DESIGN

As mentioned before, the objective of this paper is to assess the impact of long-term discretionary conservatism on subsequent equity returns. In order to determine whether cumulative profits have been understated a benchmark is required. Asymmetric timeliness studies use stock price returns (a proxy for economic returns) as a benchmark and regress these against accounting profits. An important specification of such studies is that accounting profits are specified as the dependent variable in the investigations performed (cf. Basu, 1997). Although the statistical properties of the investigation may be best served by such a specification it feels somewhat counterintuitive for the purposes of this study. When investigating what the impact of conservative accounting profits is on stock price returns, it appears appropriate to view the driver of the equation (i.e. accounting profits) as the independent variable. Furthermore, although asymmetric timeliness measures support the existence of conservatism in financial reporting, they are not as useful when investigating the impact of the identified conservatism on long-run equity returns.

Another benchmark commonly used in the literature that investigates conservatism in accounting is the market-to-book ratio (Watts, 2003b). The basis for using this ratio is the idea that failing to recognise assets and valuing liabilities conservatively (i.e. at higher values) would cause the net book value of an entity to be lower than would

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<sup>1</sup> The research model utilises cash flow information over a seven year period (2000 to 2006) to develop a proxy for conservatism. Subsequent equity returns are measured from 2005. However, the purpose of this study is to investigate the potential future benefits of conservatism and not to predict future equity returns. Therefore no effort has been made to ensure that all data was available to potential investors at the time of the analysis.

<sup>2</sup> Adjusted share prices are calculated by McGregor BFA and take into account the effects of stock splits, stock consolidations, cash dividends, special dividends, capital distributions and unbundling of operations. Accordingly returns calculated utilising adjusted share prices eliminates the need for a firm to exist in a constant form throughout the subsequent period.

<sup>3</sup> As each firm is included only once for the purposes of this study, the number of firms in the sample therefore also represent the number of sample firm-years (namely 178).



otherwise be the case, thus increasing market-to-book ratios. A weakness of using this ratio is that it is frequently used to posit for growth firms in accounting research. Skinner and Sloan (2002) demonstrate that growth firms typically experience inferior returns compared to value stocks due to overoptimistic expectations of investors. The implication is that studies attempting to investigate conservatism in accounting using higher market-to-book ratios as a proxy thereof, may be presenting the weaker equity returns of growth firms identified by Skinner and Sloan (2002) as evidence of the impact of conservative financial reporting (rather than as the impact of market expectations).

A third benchmark also identified in Watts (2003b) are accrual measures of conservatism of which a prominent example is the finding by Givoly and Hayn (2000) that accumulated accruals over time support the existence of conservatism in financial reporting as well as the increase of it over time. Therefore the proxy used in this paper to quantify the degree of conservatism in financial reporting, is the ratio of cumulative EBIT to cumulative cash flow generated from operations for the period under consideration. This benchmark has the advantage of avoiding market data, which may introduce noise into traditional conservatism measures. Furthermore the benchmark is an accrual based measure, akin to non-market measures utilised in prior conservatism research.

The ratio is developed on the basis that the profits for any given financial year is to a large degree influenced by the cash flows of the preceding, current and subsequent financial year. Starting with Dechow and Dichev (2002), several accrual models capture this relationship. Dechow (1994) provides much of the empirical support for such models, showing that the relationship between equity returns and earnings is similar to the relationship between equity returns and cash flows over a longer (four year) time period. These findings imply that the accrual method serves its function to smooth the recognition of earnings mainly in the short-term; over longer time periods cash flows and earnings are much more similar.

The difference is, however, that management has a degree of discretion around estimates (e.g. around useful lives, provisions, fair values), which affect earnings, but not cash flows. As this paper is concerned with consistent conservative judgements over the longer-term, the conservatism indicator (*CONS*) has been developed over a timeframe longer than one year, taking into account the impact of cash flows in the years immediately preceding and succeeding the earnings period.

Applying the theoretical concepts discussed above would suggest that, over a longer timeframe, the main portion of earnings should be explained by concurrent cash flows. However, as prior research illustrates (e.g. Dechow & Dichev, 2002; Dechow, Richardson & Sloan, 2008) cash flows of preceding and succeeding periods may have a significant impact on working capital accruals. Therefore, the following ratio is utilised as a conservatism indicator that reflects cumulative conservatism, while compensating for short-term fluctuations in working capital:

$$CONS = EBIT_{1-5} / CFGO_{0-6} \quad \dots (1)$$

where:

EBIT<sub>1-5</sub> represents the cumulative annual earnings before interest and taxation (line #098) for the years 2001 to 2005 and CFGO<sub>0-6</sub> the annual cash flow generated from operations (line #711) for the years 2000 to 2006, to allow for the relationship between cash flows of preceding and succeeding periods as identified by Dechow and Dichev (2002). Lower *CONS* values correspond to a greater degree of conservatism in a set of financial statements, as this would imply that a larger amount of cash flows generated from operations have not been recognised in earnings before interest and taxation.

A potential problem arises with *CONS* ratios calculated from (1), where a firm has negative cumulative cash flow generated from operations. Consider an example of three firms (table 1) with simplified *CONS* ratios. It can be seen that Firm 2 is much more conservative than Firm 1, as the *CONS* value is much lower. On the other hand, Firm 3 has recognised positive cumulative EBIT, despite negative cumulative CFGO and has therefore theoretically been far more aggressive (i.e. less conservative) in its financial reporting practices than Firm 2. However, because of the negative cumulative CFGO, a direct reading of the *CONS* value would imply that Firm 3 has been more conservative than Firm 2, as its *Cons* value is lower. To address the potential problems for inferences, eighteen firms with negative cumulative CFGO are dropped from the sample as noted earlier.

**Table 1: Negative cumulative cash flows generated from operations**

	Cumulative EBIT A	Cumulative CFGO B	<i>CONS</i> A / B
Firm 1	100	50	2
Firm 2	50	100	0.5
Firm 3	100	-50	-2

The calculated conservatism proxy as discussed above is thereafter integrated into the following regression:

$$\text{Return} = \alpha_0 + \alpha_1 \Sigma_i \text{Ind} + \beta_1 \text{CONS} + \beta_2 \text{Gth} + \beta_4 \text{Size} + \varepsilon_t \quad \dots (2)$$

Where:

- **Return** is calculated using the adjusted share price of the relevant firm in 2005 (on the financial year end) and 2010 (60 months after the financial year end in 2005)<sup>4</sup>,
- **CONS** is the ratio of cumulative earnings before interest and taxation (EBIT) from 2001 to 2005 to cumulative cash flow generated from operations from 2000 to 2006, with lower values indicating a greater degree of discretionary conservatism,
- **Gth** is represented by the market-to-book value ratio of the firm on the day of its 2005 financial year end,
- **Ind** is an indicator variable of the industry the firm belongs to, and
- **Size** is the natural logarithm of the market value of the firm's equity on the day of the 2005 financial year end.

<sup>4</sup> The conservatism indicator (*CONS*) is determined by using cash flow information from 2006, while the returns data in equation (2) uses 2005 adjusted share prices as a base. However, the purpose of this study is to investigate the potential future benefits of conservatism and not to predict future equity returns. Accordingly, no effort has been made to ensure that all data was available to potential investors at the time of the analysis.

*Return:* As identified under sample selection above, the requirement that a firm should exist throughout the sample period is somewhat relaxed for the second period of 2005 to 2010. This allows for the effect of unbundling transactions, for example, which are compensated for in the model by using adjusted share prices, as available on the McGregor BFA database, to calculate the equity return. Adjusted share prices also compensate for cash distributions and are therefore a total returns measure. By using returns over a five year period, any significant effect of the accrual anomaly should have been eliminated well before the end of the sample period<sup>5</sup>.

*Gth:* As previously discussed, the market-to-book ratio is a commonly accepted measure of differentiating growth firms from others within the accounting literature. An alternative ratio is the price-to-earnings ratio, however, this ratio tends to present difficulties when loss-making firms fall into the sample as loss firms are valued differently from other firms. A second alternative is to use a market-to-sales ratio but, as the correlation between sales and assets tends to be extremely high and sales for financial firms are difficult to specify consistently, the market-to-book ratio has been used as a proxy. As an additional advantage, by using this ratio as a proxy for growth firms, the robustness of the model is increased by explicitly separating the effect of growth firms from that of conservative financial reporting. Although Penman and Zhang (2002) control for growth, they control for the historical growth rate of reserves versus net operating assets, rather than market assessments of growth prospects. The market-to-book ratio is determined as at the start of the analysis period and is not adjusted during the period for which the dependent variable is calculated.

*Ind:* Conservatism in financial reporting is expected to differ significantly between industries due to either factors inherent to the industry or specific circumstances that firms within an industry faced during the sample period. This expectation is supported by research findings of Easton and Pae (2004) that conservatism does vary across industries. Accordingly the indicator variable in equation (2) controls for this effect by including an industry-year intercept.

*Size:* The third control variable relates to the size of the firm in question as measured by the total market value of equity at the start of the period over which market returns are assessed. Controlling for relative size is necessary as the size of the firm impacts on its stock price response to financial reports (cf. Atiase, 1985). Firm size at the start of the sample period may have a significant impact on subsequent stock returns as information asymmetry is of greater concern for smaller firms, where profits are unlikely to be incorporated into market valuations to the same degree as for larger firms<sup>6</sup>.

As the model specification leads to a cross-sectional analysis of the firms involved, the model is largely focused on detecting discretionary conservatism as the firms in question would all be subject to the same accounting standards and economic

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<sup>5</sup> As discussed earlier in the paper, prior research finds that the accrual anomaly largely dissipates within three years after the end of a reporting period.

<sup>6</sup> A potential factor that affects future equity returns, which has not been controlled for, is that of momentum. It was not considered necessary to control for the momentum effect as De Bondt and Thaler (1985) find that the momentum effect manifests in the second and third year after a given sample year and Rouwenhorst (1998) subsequently finds that the effect has largely dissipated by the end of the first year. As this study makes use of a sample period of five years, the momentum effect should not have a meaningful impact on inferences.

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environment during the sample period. Any differences arising between firms due to industry are controlled for by the dummy variable *Ind*. My expectation is that  $\beta_1$  will be statistically different from zero. Given the nature of the hypothesis, no prediction is made with regard to the sign of the coefficient. Based on prior research relating to the equity returns of growth firms, it is predicted that the coefficient of  $\beta_2$  will be negative.

## DESCRIPTIVE STATISTICS

Table 2 presents descriptive statistics for the variables in equation (2). Sample firms appear quite conservative with a mean (median) *CONS* of 0.5549 (0.5989). However, the measure is not perfect, as cumulative cash flows generated from operations also relate to profits of periods that have not been included in the calculation of *CONS*. Furthermore, the aggregate measures hide wide discrepancies between firms with a minimum value for *CONS* of -3.5871 and a maximum value of 3.0244, with higher values indicating less conservatism in earnings recognition.

**Table 2: Descriptive statistics**

	<b>CONS</b>	<b>MTB</b>	<b>Size</b>
Minimum	-3.5871	-0.6295	15.2797
Maximum	3.0244	30.5074	25.6551
Mean	0.5549	3.3142	20.8873
Median	0.5989	2.1039	20.9617
Standard deviation	0.8203	4.3782	2.4391
N	178	178	178

  

CONS	Conservatism indicator
MTB	Market-to-book ratio
Size	Natural logarithm of total market value of equity

Sample firms reflect a significant difference between the market value and book value of equity with a mean (median) MTB of 3.3142 (2.1039). Once again, there are wide discrepancies between firms sampled with a maximum MTB of 30.5074 and a minimum MTB of -0.6295. The size of sample firms reflect a mean (median) value for Size of 20.8873 (20.9617) with values ranging between 15.2797 and 25.6551.

Table 3 presents Pearson univariate correlations for the variables in equation (2). Most variables show little correlation with each other or the dependent variable. This may be caused by the fact that the variables represent values for differing timeframes and, as a result, the lack of correlation could reflect inter-temporal differences. However, *CONS* is mildly negatively correlated with subsequent returns ( $p = 0.107$ ). This suggests that cumulative subsequent returns are positively impacted by increased discretionary conservatism, as lower *CONS* values indicate greater conservatism.

Furthermore Size is positively correlated with *CONS* at the 1% level (2-tailed significance), which suggests that larger firms had more aggressive accounting practices during the sample period. This phenomenon contrasts with prior research findings that politically sensitive firms have incentives to be more conservative due to the political risk they are exposed to (e.g. Givoly, Hayn & Katz, 2010). Furthermore Khan and Watts (2009) note that larger firms have less need of conservatism for contracting purposes, but may still engage in conservative financial reporting practices to avoid costly litigation. It is also possible that the correlation merely reflects that industry-

effects are not compensated for in univariate analyses; results may be specific to the sample period or sample country.

**Table 3: Pearson univariate correlations**

	<b>Return</b>	<b>CONS</b>	<b>MTB</b>	<b>Size</b>
Return		-0.121 (0.107)	-0.056 (0.457)	-0.051 (0.496)
CONS	-0.121 (0.107)		0.033 (0.659)	0.356*** (<0.001)
MTB	-0.056 (0.457)	0.033 (0.659)		0.358*** (<0.001)
Size	-0.051 (0.496)	0.356*** (<0.001)	0.358*** (<0.001)	

Return	60-month equity return subsequent to 2005 financial year end, based on adjusted share prices
CONS	Conservatism indicator
MTB	Market-to-book ratio
Size	Natural logarithm of total market value of equity

p-values for two-tailed significance are reported in brackets.

\*\*\* Significant at the 0.01 level (2-tailed test)

Lastly, table 3 shows that MTB and Size are highly positively correlated (at the 1% level, 2-tailed significance). Several explanations could be advanced for this. It could, for example, be that larger listed firms were perceived to be the growth firms during this period of South African history. However, it could also reflect uncapitalised assets, such as brand names and other intangible assets, of the larger firms as a result of non-discretionary conservatism. Although these relations are suggestive, the results of the multi-variate regression discussed in the section that follows is relied upon.

## DETAILED FINDINGS

Table 4 reflects the results of the multi-variate regression of equation (2) estimated using ordinary least-squares. The variable of interest, namely the proxy for discretionary conservatism (*CONS*) reflects that greater discretionary conservatism relates positively to cumulative subsequent returns, but not to a significant degree (t-stat of -0.605)<sup>7</sup>. As far as the other variables are concerned, consistent with prior research related to growth firms (e.g. Skinner & Sloan, 2002) and predictions, the market-to-book ratio is significantly negatively related to subsequent equity returns (coefficient of -0.056) at the ten percent level (t-stat of -1.893). Size is not significantly related to subsequent returns (t-stat of 0.568). Industry variables (untabulated) are generally insignificant, with the exception of the technology hardware and equipment (t-stat of 2.441) and food and drug retailers (t-stat of 1.854) industries which are significantly related to subsequent equity returns.

<sup>7</sup> Recall that lower *CONS* values reflect a greater degree of discretionary conservatism.

**Table 4: Primary regression results**


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$$\text{Return} = \alpha_0 + \alpha_1 \Sigma \text{Ind} + \beta_1 \text{CONS} + \beta_2 \text{Gth} + \beta_4 \text{Size} + \varepsilon_t$$


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	Coefficient	t-stat
Intercept	0.699	0.499
CONS	-0.096	-0.605
MTB	-0.056	-1.893*
Size	0.037	0.568

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R<sup>2</sup> = 20,4%

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CONS	Conservatism indicator
MTB	Market-to-book ratio
Size	Natural logarithm of total market value of equity

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\* Significant at the 0.10 level (two tailed)

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Several factors should be considered when evaluating these results. When considering conservatism (*CONS*), one may conclude that, consistent with prior research, discretionary conservatism in accounting provides little or no benefit for equity investors. However, consistency with prior research might imply that proxies for conservatism utilised in previous studies should be sufficiently correlated with *CONS*, utilised in this study, to lead to similar inferences. As discussed earlier, a common proxy for conservatism is the market-to-book ratio. However, the univariate correlation between *CONS* and the market-to-book ratio is insignificant with a p-value of 0.659 (refer to table 3). However, viewing the market-to-book ratio as a proxy of market assessments of growth prospects, leads to the conclusion that discretionary conservative accounting provides no benefit to equity investors over the long-term, *provided* market assessments of growth prospects are controlled for.

An alternative conclusion could be that discretionary conservative accounting does provide a benefit (witness the negative coefficient), but that equity investors realise this and price the firm's securities accordingly over the longer-term. This explanation does, however, raise questions of its own. For example, this would suggest that equity investors see through accounting conservatism in favour of more neutral financial statements. This is in contrast to prior research which has consistently found an increase in conservatism over time (Givoly & Hayn, 2000).

One conclusion that holds consistently throughout, however, is that discretionary accounting conservatism in one period does not appear to be a good predictor of future benefits for equity investors in the firm over the long-term, once market assessments of growth have been controlled for. As a result, at least on average, it would therefore suggest that discretionary conservatism in accounting has developed (and is continued to be practiced) with a view to other stakeholders in, or objectives of, the firm. Such an explanation has the advantage of explaining why prior research has found little benefits for equity investors arising from conservatism, but significant benefits for debt investors.

## ADDITIONAL ANALYSIS

As prior research finds that conservatism benefits debt holders (e.g. Zhang, 2008), one possible source of cross-sectional variance may be the result of gearing. Highly indebted firms have a greater incentive to be conservative when considering their debt

obligations, as these firms have a greater benefit to glean from lower borrowing cost. Therefore, this study expands equation (2) as follows:

$$\text{Return} = \alpha_0 + \alpha_1 \Sigma_i \text{Ind} + \beta_1 \text{CONS} + \beta_2 \text{Gth} + \beta_4 \text{Size} + \beta_5 \text{Gear} + \beta_6 \text{CONS} \times \text{Gear} + \varepsilon_t \quad \dots (3)$$

where:

- **Gear** represents the average gearing of a sample firm from 2000 to 2006, proxied by the ratio of average total assets to book value of equity over this period,
- **CONS x Gear** is an interaction variable, capturing the impact of gearing on the conservatism proxy,
- and the other variables have the same definitions as in the earlier equation.

**Table 5: Additional analysis regression results**

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Return =  $\alpha_0 + \alpha_1 \Sigma_i \text{Ind} + \beta_1 \text{CONS} + \beta_2 \text{Gth} + \beta_4 \text{Size} + \beta_5 \text{Gear} + \beta_6 \text{CONS} \times \text{Gear} + \varepsilon_t$

	Coefficient	t-stat
Intercept	0.512	0.366
CONS	-0.085	-0.472
MTB	-0.073	-2.253**
Size	0.044	0.664
Gear	0.044	1.571
Cons x Gear	-0.006	-0.297

R<sup>2</sup> = 21,9%

CONS	Conservatism indicator
MTB	Market-to-book ratio
Size	Natural logarithm of total market value of equity
Gear	Total assets to equity ratio
CONS x Gear	Interaction of conservatism indicator with gearing variable

\*\* Significant at the 0.05 level (two-tailed)

The findings of the multi-variate regression are presented in table 5. Consistent with the primary regression results, the market-to-book ratio is significantly negatively related to subsequent equity returns (coefficient of -0.073, t-stat of -2.253) at the five percent level. Furthermore, the size variable remains statistically insignificant. More importantly, the coefficient on the proxy for conservatism, *CONS*, remains similar (-0.085) compared to the primary analysis as well as statistically insignificant (t-stat of -0.472).

The level of gearing has no significant impact on subsequent equity returns (coefficient of 0.044). More importantly, the coefficient of the interaction between conservatism and level of gearing, *CONS x Gear*, is also insignificant (t-stat of -0.297).

Taken together, the findings suggest that discretionary conservative accounting practices provide greater (less) benefits for the equity holders of firms with lower (higher) gearing. However, the findings are not statistically significant for sample firms, indicating that on, average, discretionary conservatism does not provide equity investors with significant benefits or, similar to the earlier discussion, the benefits are accurately priced by equity investors over the longer-term.

The regression is also run specifying Gear to be the ratio of average market value of equity to average total assets from 2000 to 2006. Specifying Gear with relation to market values of equity reduces the significance of the market-to-book ratio to beyond the 10% level, while Gear itself is significant at the 5% level. However, as noted in Fama and French (1992), controlling for both market-to-book ratios and size (market value of equity) absorbs the explanatory effect that leverage would have on equity returns. It would therefore suggest that the decline in significance on the market-to-book ratio from the original specification is explained by the similar specification of this ratio and Gear. Most importantly, however, the main finding of this paper remains unaffected, namely that discretionary conservative accounting practices do not have a significant effect on subsequent equity returns, once the growth prospects of firms are controlled for.

## **SUMMARY AND CONCLUSION**

This study investigates the impact of discretionary long-run conservatism on subsequent, longer-term equity returns. This study differs from prior research which has mainly focused on the existence of conservatism in accounting, contemporary equity returns and did not control for market assessments of growth prospects. In addition, this study utilises a proxy for conservatism, relying solely on accounting data of earnings before interest and tax and cash generated by operations, avoiding potential inference problems of prior research that utilises market data in developing conservatism measures.

This study finds that the proxy for long-run discretionary conservatism utilised in this study, is also not significantly related to subsequent longer-term equity returns once market assessments of growth prospects have been controlled for. Consistent with prior research such market assessments, as proxied by the market-to-book ratio are significantly negatively associated with subsequent equity returns. In addition, when controlling for cross-sectional differences based on the differences in average gearing over the sample period, inferences remain unchanged. Discretionary conservatism provides greater benefits to firms with lower gearing, but the relationship remains statistically insignificant.

The findings of this study do have limitations in their application. The findings of the study are not generalisable to all industries or countries. Because of the sampling limitations, the results also do not apply to firms with negative cash flow and potential errors in variable measurement may exist. Furthermore this study does not address some questions of interest that may arise. For example, the findings do not reveal whether cross-sectional differences between deciles of conservatism impact on significance. It may well be that extreme forms of discretionary conservatism (or lack thereof) may affect future equity returns, while a more sedate form does not. Furthermore, the study does not illuminate whether the sources of conservatism stems from operational or non-operational causes or to what degree each influences the overall conservatism of the firm. These and other questions are left to future research.



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