Long-run Accounting Conservatism and subsequent equity returns

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Abstract

This paper investigates the impact of long-run accounting conservatism on subsequent equity returns. The accounting conservatism proxy used is based on prior research and considered for different possible specifications. In contrast to prior research, this study compensates for the impact of momentum and the accrual anomaly by using five-year subsequent buy and hold total returns. A three-factor Fama and French model finds that accounting conservatism does not have a significant impact on subsequent equity returns for a sample of US firms. Stratifying the sample into pre-crisis and crisis periods does not affect results. However, this study also reveals that firms within certain industries do benefit from increased accounting conservatism, during both pre-crisis and crisis sample periods.

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1. INTRODUCTION

The preparation of financial statements involves a substantial amount of judgement. Management uses its judgement to determine measurements in accordance with accounting policies selected, to decide whether and how to apply specific accounting policies and to select accounting policies to apply. These decisions collectively result in accounting which may be described as 'aggressive' or 'conservative' at opposite ends of the scale. Attempts to define this scale have been many. One group of researchers define it as accounting methods and estimates which cause an understatement of book values compared to market values (Beaver & Ryan, 2005; Penman & Zhang, 2002). Another suggestion is that accounting is conservative if negative financial consequences are more readily incorporated into earnings than positive financial consequences (Basu, 1997). A common factor in these definitions is that they are valid only at a specific time or for a specific accounting period. However, accounting conservatism can also reflect a cumulative build-up of conservative decisions independently of market valuations or the needs of a specific accounting period (Watts, 2003). This study therefore follows Badenhorst (2013) and defines accounting conservatism as the understatement of earnings compared to potential earnings (cash flows) over a five-year period. This ensures a proxy which is free from market influences and which is more likely to reflect a long-term mindset than an opportunistic decision (Badenhorst, 2013).

Most certainly, accounting conservatism is not a fleeting characteristic of accounting practice. Basu (1997:8), for example, documents a reference to conservative accounting rules dating from the eighteenth century. However, more recently standard-setters have come to view accounting conservatism with suspicion. As a result, references to 'conservatism' or 'prudence' in underlying accounting frameworks have been removed, as standard-setters consider such a principle to be in conflict with the neutrality of financial statements (FASB, 2010; IASB, 2010). This view of the standard-setters is supported by findings that accounting conservatism reduces earnings quality (Penman & Zhang, 2002) as well as the association between earnings and current price changes (Ryan & Zarowin, 2003). More recently, however, Francis, Hasan and Wu (2013) find that accounting conservatism had a positive association with subsequent stock returns during the 2007-2008 financial crisis. These findings might explain why accounting conservatism has endured and increased over time (Givoly & Hayn, 2000) and supports the arguments of Khan and Watts (2009) that accounting conservatism has benefits for shareholders, including reduced litigation risk.

However, it remains unclear whether accounting conservatism has benefits for shareholders during normalised economic circumstances. In addition, Francis et al. (2013) investigate subsequent returns over a relatively short time-frame (approximately 18 months). This leads to two potential problems. Firstly, prior research finds that the explanatory power of earnings and cash flows equalises only over periods of about four years (Dechow, 1994) and that investors price accruals accurately only over periods of three years and longer (Resutek, 2010). Secondly, De Bondt and Thaler (1985) find that the momentum effect has a significant impact on equity returns in the second and third year after portfolio formation. Consequently, the impact of accounting conservatism on the results of Francis et al. (2013) could be overstated due to market factors. An investigation using longer time-frames therefore appears warranted. Furthermore, this study explicitly investigates accounting conservatism for different industries, providing greater insight in to which industries derive the greatest benefit from conservative accounting practices.

The findings of this paper suggest that accounting conservatism has an insignificant impact on subsequent equity returns over a five-year time-frame, using a Fama and French (1993) three-factor model. However, in limited industries, accounting conservatism has a significant positive impact on such subsequent equity returns. Stratifying the sample into pre-crisis and crisis periods shows that accounting conservatism did not have a uniform impact on differing industries during the 2007-2008 financial crisis.

The rest of this paper is set out as follows: section two provides an overview of the literature, followed by a discussion of the research methodology and sample selection in section three. Section four details descriptive statistics, including univariate investigations, and section five provides the main regression results. Section six summarises and concludes the paper.

2. LITERATURE REVIEW

2.1 Definition of accounting conservatism

Various competing definitions for accounting conservatism have been formulated by past researchers. For example, Bliss (1924) suggested that accounting conservatism is summarised by the statement: 'Anticipate no profit, but anticipate all losses.' This definition is similar to an asymmetric timeliness definition of accounting conservatism. This holds that accounting is conservative if events with negative financial outcomes affect earnings faster than events with positive financial outcomes (Basu, 1997). However, it is also possible to define accounting conservatism with reference to the statement of financial position. In this respect, some researchers have defined conservatism as accounting methods and estimates which lead to an understatement of book values compared to market values (Beaver & Ryan, 2005; Penman & Zhang, 2002).

A common factor in the above definitions is a negative slant on accounting conservatism, which is perceived to cause understatements compared to 'actual' earnings or 'actual' book value. In this respect Watts (2003) argues that accounting conservatism is usually criticised based on its short-term impact. Because accounting conservatism biases earnings and book values downward in the short-term, it is therefore criticised as a manipulation opportunity. However, accounting conservatism can also be defined with reference to its long-term impact (Watts, 2003). In this respect Badenhorst (2013) suggests that accounting conservatism brings benefits to shareholders only when accounting conservatism represents a firmly held principle, rather than a convenient earnings manipulation tool. As a principle can be distinguished from short-term convenience only over longer timeframes, this paper investigates the impact of long-term cumulative accounting conservatism.

2.2 Accounting conservatism and equity investors

Despite the negative connotations which sometimes attach to accounting conservatism, Givoly and Hayn (2000) find that accounting conservatism has been increasing over time. Specifically they find that economic fundamentals reflecting in cash flows have remained relatively unchanged in recent decades, but that accounting conservatism has increased the volatility of earnings. Because predictable earnings is often considered to be of higher quality (Francis, Olsson & Schipper, 2006) the increasing trend in accounting conservatism must therefore be due to other potential benefits. Indeed, Kothari, Ramanna and Skinner (2010) argue that accounting

conservatism supports the enforcement of contracts and protects the interest of both debt and equity investors. Similarly, Watts (2003) holds that information asymmetry is present in many contractual relationships and that accounting conservatism evolved as a mitigating mechanism.

By contrast, Penman and Zhang (2002) use the market-to-book ratio as a proxy for accounting conservatism and find that it allows for the creation of hidden reserves, which reduce earnings quality. Such a reduction in earnings quality may explain why Ryan and Zarowin (2003) find that increased accounting conservatism results in a weaker association between current period earnings and current period price changes. Indeed, Francis, LaFond, Olsson and Schipper (2004) consider several different measures of accounting quality and find that their measure of accounting conservatism (a market-based measure) has the weakest association with cost of equity. However, the aforementioned studies all utilise market-based data to measure accounting conservatism. If the benefits of accounting conservatism have been incorporated into market prices, this could explain why these studies do not detect the benefits (Badenhorst, 2013).

To combat this particular endogeneity problem, Badenhorst (2013) develops a conservatism proxy using accounting data, but does not find a benefit from accounting conservatism for a small sample of South African firms. By contrast, Francis et al. (2013) use a conservatism measure which incorporates both market and accounting data and find that accounting conservatism had a positive association with stock returns during the 2007-2008 financial crisis. Both studies find that accounting conservatism differs between industries. This confirms findings by Khan and Watts (2009) that firm-specific characteristics, including litigation risk and the length of investment cycles, significantly influence the degree of conservatism in a firm's accounting processes.

The contrasting findings of the above studies do not offer definitive answers on the possible benefits of accounting conservatism for equity investors. Francis et al. (2013) investigate accounting conservatism under extreme economic circumstances and Badenhorst (2013) uses a relatively isolated setting. Consequently the null hypothesis for this paper is that long-run accounting conservatism is not associated with subsequent equity returns.

3. RESEARCH METHODOLOGY AND SAMPLE SELECTION

3.1 Research methodology

The hypothesis is investigated using a three-factor Fama and French (1993) model, adjusted to control for industry and accounting conservatism, resulting in the following regression:

$$\text{Return}_{i,t6-t11} = \alpha_0 + \alpha_1 \text{Ind}_{i,t6} + \beta_1 \text{Gth}_{i,t6} + \beta_2 \text{Beta}_{i,t6} + \beta_3 \text{Size}_{i,t6} + \beta_4 \text{Cons}_{i,t6} + \varepsilon \qquad (1)$$

where:

Return   represents the five-year buy and hold total return. To compensate for corporate actions, the buy and hold return is calculated using the net total return index (RZ) as per Datastream;

Ind   is an indicator variable, set to one if a firm falls into a given industry and zero otherwise. Industry classifications are based on two-digit SIC classifications obtained from Datastream;

Gth   represents the market-to-book ratio;

Beta   is the 23-37 month beta obtained from Datastream;

Size   is the natural logarithm of market value of equity; and

Cons   represents two alternative specifications of a cash flow / earnings ratio. The first specification is the ratio of cash flow from operations (CFO) from t_0 to t_7 to earnings before interest and tax from t_1 to t_6. The second specification uses the ratio of funds from operations (FO) from t_0 to t_7 to earnings before interest and tax from t_1 to t_6. In both specifications, higher Cons values represent greater accounting conservatism.

Cons is based on the principle that earnings and cash flows approximate over longer periods of time (Dechow, 1994; Resutek, 2010). In addition, earnings of a specific period are related to the cash flows of the preceding, current and succeeding periods due to the accrual principle (Dechow & Dichev, 2002). As a result the ratio is developed by comparing a cash flow measure over a seven-year period to earnings over a five-year period. Higher Cons values imply greater accounting conservatism, because a higher Cons value suggests that a firm has generated excess cash flows, which have not been recognised as earnings. Note, however, that Cons values are only a relative measure of accounting conservatism, as cash flows of the first and seventh year also relate to earnings recognised outside of the five-year period. The objective of this paper is not the prediction of future equity returns, and therefore no effort has been made to ensure that all data was available to equity investors to measure subsequent returns.

Cons is consistent with the accounting conservatism proxy of Badenhorst (2013) and utilises solely accounting data to arrive at a long-run measure of accounting conservatism. This ensures that Cons does not reflect opportunistic bursts of accounting conservatism and solves the endogeneity problem of a market-based measure. However, this study differs from that of Badenhorst (2013) in several ways. Firstly, the regression model is a full three-factor Fama and French (1993) model, while Badenhorst (2013) does not control for Beta. Secondly, alternative cash flow specifications are investigated: CFO takes changes in working capital and extraordinary items into account, while FO does not. Both variables have theoretical support in the determination of accounting conservatism. Working capital changes are reflected in earnings before interest and tax and therefore using a comparable cash flow number would be appropriate. On the other hand, it could be argued that management has little influence over working capital changes and that significant accounting conservatism manifests only in other items. As a result, an analysis using a cash flow measure which excludes these items (CF) appears warranted. A further difference with Badenhorst (2013) is that this study investigates multiple sample periods for a far larger sample.

Importantly, Return in this study is measured over a five-year period. This specification ensures that the momentum effect, which manifests in the second and third year after portfolio formation (De Bondt & Thaler, 1985), should not have a meaningful impact on results. Furthermore, investors price accruals accurately over the longer term, specifically over periods exceeding three years (Resutek, 2010). These elements ensure a purer measure of the potential benefits of accounting conservatism compared to Francis et al. (2013), who measure subsequent returns after approximately 18 months. In addition, results in this study are also reported per industry, enabling a deeper understanding of differences in accounting conservatism between industries.

3.2 Sample selection

The initial sample consists of live stocks listed on the New York Stock Exchange per Datastream as at 8 April 2014. This sample is filtered to include only those stocks active on both 31 December

1993 and 31 December 2013, which represent the limits over which data is incorporated into analyses. Financial services firms are deleted from the sample, based on two digit SIC codes obtained from Datastream, as Gth and Cons may be incorrectly specified for these firms. To ensure accurate interpretation of results, observations with negative cumulative CFO are deleted from the sample. Similarly, observations are deleted where Beta from Datastream is zero.

In addition, to ensure meaningful industry analyses, industries with fewer than 50 observations are deleted from the sample. As analyses are stratified into pre-crisis and crisis subsamples, this limitation is applied in a manner which ensures that both subsamples contain the minimum required industry observations. A few observations are also lost where data was not available on Datastream for one or more variables. The resultant sample is 4 154 observations, representing 383 unique firms from nine different industries. Subsequent returns are analysed for these firm-years ending from January 1998 to December 2008. In the following section the descriptive statistics are discussed.

4. DESCRIPTIVE STATISTICS

The descriptive statistics for the study are detailed in TABLE 1. Panel A of this table shows that subsequent five-year buy and hold returns differs significantly between sample firm-years, ranging from -99.2% to 2 201.1%. This causes some skew in the variable with a mean Return of 90.6% compared to a median of 52.4%. Similarly, Gth reflects a mean value of 17.164 and a median of 2.033. By comparison, the means and medians of Beta and Size are much more similar, suggesting that the distribution of these variables is less skewed.

Although the Cons variables should be considered as relative variables, the descriptive statistics do suggest that sample firms tend to be conservative. Cons 1 reflects that cash flow from operations covers earnings before interest and tax by an average of 1.982 times (median 1.367), while Cons 2 shows that funds from operations covers the same earnings variable by an average of 3.178 times (median 1.456). When considering the distribution of sample firm-years across industries, Panel B of TABLE 1 reveals that utilities represent 17.7% of sample firm-years and investment entities 16.2%; other industries are represented at close to or less than 10% of sample firm-years. In addition, Panel B shows that accounting conservatism varies dramatically between industries, with industrial and commercial machinery firms being the most conservative and business services entities the least.

Elements identified from the descriptive statistics with a possible impact on inferences are dealt with in several ways. Skew is mitigated by deleting observations more than 2.5 standard deviations from the mean. The potential impact of industry distribution is assessed by analysing the data per industry.

Univariate correlations are detailed in TABLE 2, with Pearson (Spearman) correlations above (below) the diagonal. Of the control variables, Size appears to be most consistently correlated with the dependent variable (Return), although correlations significant at the 1% level are detected between Size and the other control variables (Gth and Beta).

TABLE 1: Descriptive statistics

Panel A: Distribution of variables

	N	Mean	Median	Standard Deviation	Minimum	Maximum
Return	4 154	0.906	0.524	1.654	−0.992	22.011
Gth	4 154	17.164	2.033	317.572	−163.084	10 474.286
Beta	4 154	1.198	1.130	0.714	−0.380	4.390
Size	4 154	14.354	14.239	1.775	7.836	20.044
Cons1	4 154	1.982	1.367	66.654	−2 235.737	3 585.818
Cons2	4 154	3.178	1.456	100.786	−2 267.184	5 520.727

Panel B: Sample firm-years per industry

	Number	Proportion	Mean Cons1	Mean Cons2
Oil and gas	476	11.5%	2.620	7.430
Chemicals	529	12.7%	1.812	1.955
Industrial and commercial machinery	404	9.7%	10.348	15.467
Electronics	322	7.8%	2.212	2.626
Transportation equipment	294	7.1%	2.762	2.970
Medical equipment	412	9.9%	0.274	0.826
Utilities	737	17.7%	1.439	1.544
Investment entities	673	16.2%	1.289	1.332
Business services	307	7.4%	−5.599	−5.571
Total	4 154	100.0%		

Return	The five-year buy and hold total return. To compensate for corporate actions, the buy and hold return is calculated using the net total return index (RZ) as per Datastream.
Gth	Market-to-book ratio.
Beta	23-37 month beta obtained from Datastream.
Size	Natural logarithm of market value of equity.
Cons1	The ratio of cash flow from operations (CFO) from t_0 to t_7 to earnings before interest and tax from t_1 to t_6.
Cons2	The ratio of funds from operations (FO) from t_0 to t_7 to earnings before interest and tax from t_1 to t_6.

Source: Author

TABLE 2: Univariate correlations

	Return	Gth	Beta	Size	Cons1	Cons2
Return		-0.002	0.006	***-0.312	<0.001	-0.008
		(0.921)	(0.694)	(<0.001)	(0.978)	(0.629)
Gth	***-0.250		***-0.046	***-0.048	-0.001	-0.001
	(<0.001)		(0.003)	(0.002)	(0.969)	(0.955)
Beta	***-0.091	0.024		***-0.150	*-0.026	-0.005
	(<0.001)	(0.120)		(<0.001)	(0.088)	(0.748)
Size	***-0.259	***0.455	***-0.139		-0.014	-0.021
	(<0.001)	(<0.001)	(<0.001)		(0.370)	(0.171)
Cons1	-0.020	<0.001	***0.077	***0.140		***0.926
	(0.201)	(0.975)	(<0.001)	(<0.001)		(<0.001)
Cons2	*-0.028	*-0.026	***0.118	***0.084	***0.876	
	(0.067)	(0.100)	(<0.001)	(<0.001)	(<0.001)	
Cons2						
N	4 154					
Return	The five-year buy and hold total return. To compensate for corporate actions, the buy and hold return is calculated using the net total return index (RZ) as per Datastream.					
Gth	Market-to-book ratio.					
Beta	23-37 month beta obtained from Datastream.					
Size	Natural logarithm of market value of equity.					
Cons1	The ratio of cash flow from operations (CFO) from t_0 to t_7 to earnings before interest and tax from t_1 to t_6.					
Cons2	The ratio of funds from operations (FO) from t_0 to t_7 to earnings before interest and tax from t_1 to t_6.					

Source: Author

* Significant at the 10% level
** Significant at the 5% level
*** Significant at the 1% level
p-values for 2-tailed significance are indicated within the brackets

Neither of the accounting conservatism variables is significantly correlated with the dependent variable on a consistent basis. This offers an initial suggestion that accounting conservatism does not offer universal benefits to equity holders. However, this study relies on the results of the multivariate regressions discussed in the next section.

5. MULTIVARIATE REGRESSION RESULTS

The sample firm-years for this study represent a time series with potential serial correlation (autocorrelation) effects. Consequently, results reported in this section are autoregression results using maximum likelihood estimation. Autoregression with maximum likelihood estimation corrects for serial correlation and, as an added advantage, tends to be less sensitive to the impact of outliers, skewness and heteroskedasticity than ordinary least squares, as it is a nonparametric estimation method.

Durbin-Watson statistics reveal that the method is effective at correcting for serial correlation in the sample. To facilitate comparisons, results are reported for pre-crisis and crisis periods as well as a combined period. In this paper a firm-year is considered to be a crisis year if it ends during or after February 2007, as Ryan (2008) identifies this as the starting date of the financial crisis. As returns are traced for five years subsequent to the calculation of Cons, the final firm-years are those ending on 31 December 2008, which are considered to be crisis years for the purposes of this study.

Regression results when Cons is calculated using cash flow from operations are reported in TABLE 3. Pooled results reflect that Beta and Size are significantly negative at the 1% level for all sample periods. These results appear consistent with research suggesting that low beta firms outperform high beta firms (Frazzini & Pedersen, 2014) and research showing that small firms tend to outperform large firms over the long term (Ilmanen, 2011). The negative sign on Gth is also consistent with prior research (Badenhorst, 2013; Skinner & Sloan, 2002), but the variable is insignificant in the pooled results for all sample periods. However, this is not completely unexpected, as subsequent returns in this study are five-year buy and hold total returns and the value-versus-growth differential tends to disappear five years after portfolio formation (Skinner & Sloan, 2002).

More importantly, the variable of interest, Cons 1, is insignificant in the pooled results for all sample periods. This implies that accounting conservatism does not offer a significant incremental explanation for long-term cross-sectional returns, beyond the three-factor model of Fama and French (1993). However, results also imply that accounting conservatism is not significantly detrimental to long-term equity returns. In fact, Cons 1 is positive for the Crisis sample period (0.002), although insignificant ($p = .391$).

When results are analysed per industry, isolated differences from the main results are identified for the control variables. For example, Gth is significantly negative for several sample periods in the transportation, medical equipment and utility industries. Interestingly, Size is no longer significant for several industries during the crisis sample period. This offers a suggestion that large firms were disproportionately affected by the financial crisis, so that the differential between small and large firms decreased during subsequent periods. Turning to the variable of interest, Cons 1 is significant for four industries. For chemical firms, Cons 1 is significantly positive for the pooled period ($p < .001$), but stratification reveals that this result is dominated by the crisis period. Another industry where the impact of accounting conservatism appears to be restricted to the financial crisis period is business services. However, in this industry Cons 1 is negative (-0.086) and significant at the 10% level ($p = .089$). By contrast, the findings for utilities and investment entities appear to be dominated by the pre-crisis sample period. For these industries Cons 1 is significantly positive for the combined and pre-crisis sample periods, but insignificant at conventional levels for the crisis sample period.

TABLE 3: Regression findings when accounting conservatism is based on cash flow from operations

$$Return_{t/6+t11} = \alpha_0 + \alpha_1 Ind_{t/6} + \beta_1 Gth_{t/6} + \beta_2 Beta_{t/6} + \beta_3 Size_{t/6} + \beta_4 Cons_{t/6} + \varepsilon$$

	Pooled			Oil and gas			Chemicals			Industrial & Comm. Machinery		
	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis
Gth	-0.001	-0.001	-0.001	-0.054	-0.100	-0.125	0.001	0.001	-0.015	-0.090	-0.010	0.007
	(0.233)	(0.427)	(0.604)	(0.322)	(0.105)	(0.250)	(0.654)	(0.799)	(0.311)	(0.379)	(0.376)	(0.790)
Beta	***-0.263	***-0.279	***-0.178	***-0.363	***-0.353	**-0.377	***-0.455	***-0.379	***-0.706	-0.072	-0.076	-0.095
	(<0.001)	(<0.001)	(0.005)	(<0.001)	(<0.001)	(0.040)	(<0.001)	(<0.001)	(<0.001)	(0.257)	(0.278)	(0.547)
Size	***-0.185	***-0.194	***-0.113	***-0.289	***-0.307	-0.048	***-0.209	***-0.192	***-0.291	***-0.124	***-0.111	**-0.167
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.586)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.014)
Cons1	-0.001	-0.001	0.002	0.001	-0.001	0.030	***0.019	0.008	***0.019	-0.001	-0.001	-0.178
	(0.467)	(0.352)	(0.391)	(0.913)	(0.884)	(0.438)	(<0.001)	(0.362)	(0.003)	(0.290)	(0.275)	(0.577)
N	4 081	3 339	742	459	372	87	519	423	96	396	325	71
Structural R²	12.2%	15.6%	10.4%	15.8%	17.9%	7.0%	18.5%	15.7%	31.7%	8.0%	7.2%	11.5%

	Electronics			Transportation equipment			Medical equipment			Utilities		
	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis
Gth	0.004	0.013	-0.054	*-0.041	*-0.047	0.005	**-0.056	-0.040	***-0.174	***-0.116	***-0.082	***-0.362
	(0.803)	(0.458)	(0.293)	(0.057)	(0.077)	(0.922)	(0.016)	(0.114)	(0.008)	(<0.001)	(0.003)	(<0.001)
Beta	**-0.263	*-0.240	*-0.469	**-0.208	-0.180	-0.246	*-0.257	**-0.379	0.384	***0.211	**0.156	***0.478
	(0.021)	(0.057)	(0.081)	(0.039)	(0.103)	(0.349)	(0.065)	(0.013)	(0.272)	(0.003)	(0.047)	(0.002)
Size	***-0.203	***-0.254	-0.029	**-0.086	**-0.090	-0.085	***-0.189	***-0.203	-0.119	***-0.055	***-0.069	0.027
	(<0.001)	(<0.001)	(0.753)	(0.016)	(0.033)	(0.373)	(<0.001)	(<0.001)	(0.115)	(0.004)	(0.001)	(0.546)
Cons1	-0.001	0.001	-0.025	-0.001	0.021	-0.002	0.002	0.002	-0.019	***0.118	***0.135	-0.122
	(0.926)	(0.793)	(0.105)	(0.652)	(0.805)	(0.518)	(0.265)	(0.245)	(0.224)	(0.003)	(0.001)	(0.329)
N	317	259	58	287	237	50	408	335	73	735	601	134
Structural R²	8.6%	11.3%	10.1%	5.5%	6.0%	4.3%	13.7%	14.3%	23.9%	7.5%	6.5%	21.3%

TABLE 3: Regression findings when accounting conservatism is based on cash flow from operations (continued)

$$Return_{t16+t11} = \alpha_0 + \alpha_1 Ind_{t16} + \beta_1 Gth_{t16} + \beta_2 Beta_{t16} + \beta_3 Size_{t16} + \beta_4 Cons_{t16} + \varepsilon$$

	Investment entities			Business services		
	Combined	*Pre-crisis*	*Crisis*	*Combined*	*Pre-crisis*	*Crisis*
Gth	-0.001	-0.121	-0.001	-0.002	0.001	-0.018
	(0.862)	(0.775)	(0.294)	(0.823)	(0.984)	(0.835)
Beta	**-0.188	***-0.240	-0.052	***-0.336	***-0.502	0.371
	(0.022)	(0.010)	(0.746)	(<0.001)	(<0.001)	(0.157)
Size	***-0.128	***-0.121	**-0.130	***-0.199	***-0.217	-0.042
	(<0.001)	(<0.001)	(0.043)	(<0.001)	(<0.001)	(0.657)
Cons1	**0.161	**0.162	0.233	0.001	0.001	*-0.086
	(0.029)	(0.050)	(0.156)	(0.417)	(0.551)	(0.089)
N	662	543	119	298	244	54
Structural R²	3.8%	4.0%	4.6%	17.4%	26.6%	13.4%

Return	The five-year buy and hold total return. To compensate for corporate actions, the buy and hold return is calculated using the net total return index (RZ) as per Datastream.
Gth	Market-to-book ratio.
Beta	23–37 month beta obtained from Datastream.
Size	Natural logarithm of market value of equity.
Cons1	The ratio of cash flow from operations (CFO) from t_4 to t_7; to earnings before interest and tax from t_1 to t_4.

Source: Author

* Significant at the 10% level
** Significant at the 5% level
*** Significant at the 1% level
p-values for 2-tailed significance are indicated within the brackets

TABLE 4: Regression findings when accounting conservatism is based on funds from operations

$$Return_{y,t6:t11} = α_0 + α_1.Ind_{t,t6} + β_1.Gth_{t,t6} + β_2.Beta_{t,t6} + β_3.Size_{t,t6} + β_4.Cons_{t,t6} + ε$$

	Pooled			Oil and gas			Chemicals			Industrial & Comm. Machinery		
	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis
Gth	-0.001	-0.001	-0.001	-0.054	*-0.103	-0.127	0.001	0.001	-0.015	-0.009	-0.010	0.009
	(0.232)	(0.426)	(0.605)	(0.314)	(0.098)	(0.242)	(0.658)	(0.798)	(0.309)	(0.379)	(0.376)	(0.710)
Beta	***-0.263	***-0.279	***-0.178	***-0.358	***-0.347	**-0.380	***-0.455	***-0.379	***-0.706	-0.072	-0.076	-0.170
	(<0.001)	(<0.001)	(0.005)	(<0.001)	(<0.001)	(0.039)	(<0.001)	(<0.001)	(<0.001)	(0.257)	(0.278)	(0.263)
Size	***-0.186	***-0.194	***-0.113	***-0.290	***-0.307	-0.047	***-0.209	***-0.191	***-0.293	***-0.124	***-0.111	***-0.190
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.591)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)	(0.004)
Cons2	-0.001	-0.001	0.002	-0.001	-0.001	0.031	***0.018	0.008	***0.019	-0.001	-0.001	**-0.645
	(0.157)	(0.107)	(0.422)	(0.507)	(0.414)	(0.397)	(<0.001)	(0.271)	(0.003)	(0.287)	(0.273)	(0.011)
N	4 081	3 339	742	459	372	87	519	423	96	396	325	71
Structural R²	12.2%	15.7%	10.4%	15.9%	18.1%	7.2%	18.5%	15.8%	31.6%	8.0%	9.0%	19.9%

	Electronics			Transportation equipment			Medical equipment			Utilities		
	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis
Gth	0.004	0.013	-0.053	*-0.041	*-0.051	0.005	**-0.056	-0.040	***-0.174	***-0.119	***-0.086	***-0.339
	(0.803)	(0.460)	(0.300)	(0.057)	(0.056)	(0.921)	(0.016)	(0.113)	(0.008)	(<0.001)	(0.002)	(<0.001)
Beta	**-0.263	*-0.240	*-0.462	**-0.208	-0.178	-0.246	*-0.259	**-0.381	0.380	***0.220	**0.167	***0.459
	(0.021)	(0.577)	(0.086)	(0.039)	(0.106)	(0.349)	(0.063)	(0.012)	(0.276)	(0.002)	(0.034)	(0.003)
Size	***-0.203	***-0.253	-0.035	**-0.086	**-0.085	-0.085	***-0.189	***-0.202	-0.119	***-0.053	***-0.065	0.022
	(<0.001)	(<0.001)	(0.703)	(0.016)	(0.033)	(0.373)	(<0.001)	(<0.001)	(0.115)	(0.006)	(0.002)	(0.628)
Cons2	-0.001	0.001	-0.023	-0.001	-0.021	-0.002	0.002	0.003	-0.020	***0.116	***0.119	0.041
	(0.885)	(0.855)	(0.116)	(0.622)	(0.721)	(0.508)	(0.366)	(0.316)	(0.201)	(0.004)	(0.006)	(0.712)
N	317	259	58	287	237	50	408	335	73	735	601	134
Structural R²	8.6%	11.3%	9.8%	5.5%	6.1%	4.3%	13.6%	14.2%	24.1%	7.4%	6.0%	21.2%

TABLE 4: Regression findings when accounting conservatism is based on funds from operations (continued)

$Return_{t,t4-t11} = \alpha_0 + \alpha_1 Ind_{t,t4} + \beta_1 Gth_{t,t4} + \beta_2 Beta0_{t,t4} + \beta_3 Size_{t,t4} + \beta_4 Cons_{t,t4} + \varepsilon$

	Investment entities			Business services		
	Combined	Pre-crisis	Crisis	Combined	Pre-crisis	Crisis
Gth	-0.001	0.001	-0.001	-0.002	0.001	-0.008
	(0.768)	(0.885)	(0.294)	(0.825)	(0.982)	(0.924)
Beta	**-0.208	***-0.260	-0.067	***-0.336	***-0.501	0.382
	(0.011)	(0.006)	(0.677)	(<0.001)	(<0.001)	(0.142)
Size	***-0.130	***-0.122	**-0.132	***-0.199	***-0.218	-0.051
	(<0.001)	(<0.001)	(0.038)	(<0.001)	(<0.001)	(0.588)
Cons2	***0.232	***0.241	0.251	0.001	0.001	*-0.077
	(0.001)	(0.003)	(0.108)	(0.390)	(0.512)	(0.072)
N	662	543	119	298	244	54
Structural R²	4.5%	4.7%	5.1%	17.5%	26.6%	14.0%

Return	The five-year buy and hold total return. To compensate for corporate actions, the buy and hold return is calculated using the net total return index (RZ) as per Datastream.
Gth	Market-to-book ratio.
Beta	23-37 month beta obtained from Datastream.
Size	Natural logarithm of market value of equity.
Cons2	The ratio of funds from operations (FO) from t_t to t_7 to earnings before interest and tax from t_1 to t_t.

Source: Author

* Significant at the 10% level
** Significant at the 5% level
*** Significant at the 1% level
p-values for 2-tailed significance are indicated within the brackets.

Overall, the results imply that the benefits from accounting conservatism are limited. Furthermore, these benefits are restricted to specific industries and do not appear to be clustered in a specific sample period. In contrast to Francis et al. (2013), the findings suggest that benefits from accounting conservatism during the financial crisis dissipate when subsequent returns are considered over longer periods. In addition, such benefits appear to accrue disproportionately to specific industries, which explain prior research findings that the level of accounting conservatism differs between industries.

TABLE 4 shows that results generally remain qualitatively unchanged when Cons is calculated using funds from operations, which excludes working capital changes. Minor exceptions are that Gth is now significant during the pre-crisis period for oil and gas firms, while Cons 2 is now positive for utility firms during the crisis period, although still insignificant (p = .712). A final difference with TABLE 3 is that Cons 2 is now significantly negative during the crisis period for industrial and commercial machinery firms at the 5% level (p = .011). The consistency between these results and those of TABLE 4 suggest that the conservatism proxy is not sensitive to the inclusion of working capital changes, which implies that management has little discretion over investments into working capital. In other words, the relative classification of firms based on their accounting conservatism is not affected by investments in working capital.

When the statistical properties of results are considered, graphical analyses reveal that the distribution of residuals is approximately normal and that residuals do not exhibit heteroskedasticity. As noted earlier, the autoregression technique utilised effectively corrects for serial correlation with Durbin-Watson statistics close to two.

6. SUMMARY AND CONCLUSION

This paper investigates the impact of long-run accounting conservatism on subsequent equity returns. The accounting conservatism proxy used is based on Badenhorst (2013) and considered for different specifications. Although prior research has found benefits from accounting conservatism (Francis et al., 2013), subsequent returns have been investigated only for periods approximating 18 months. By utilising five-year subsequent buy and hold total returns, this study compensates for the impact that momentum and the accrual anomaly may have on subsequent equity returns. A three-factor model (Fama & French, 1993) finds that accounting conservatism does not have a significant impact on subsequent equity return for a sample of US firms. Stratifying the sample into pre-crisis and crisis periods does not affect results. However, this study confirms that differences in accounting conservatism between industries exist, because the benefits of accounting conservatism are not uniformly available between industries.

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