# The Market Reaction to Unexpected Earnings via Discretionary Accruals and Sustainability Reporting

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## Introduction

This study investigates the impact of earnings management on the sustainability financial reporting and branding position among the listed companies in the UK. We pay particular attention on the roles of discretionary accruals and find that they are negatively related to future stock returns.

## Key points

This study builds on this prior work regarding the contribution of accruals to explaining future returns

To understand the association between stock returns and accounting earnings.

Attempts to investigate the relationship by linking earnings management in annual financial reporting and sustainability reporting

A considerable body of research is concerned with the relationship between accounting earnings and stock

To find the positive or negative earnings management can creates positive or negative returns.

Managers may try to manage the earnings by using discretionary accruals.

To show the ability of accruals for both actual and simulated earnings management.

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**Background of the chapter**

In this study we analyses long term panel data to test the sustainability of financial reporting (Schaltegger & Wagner, 2006; Milne & Gray, 2013; Kumar & Christodoulopoulou, 2014) of listed companies in UK for period of ten years from 2009 to 2019. Our finding support our hypothesis that managers minimize the earnings by using discretionary accruals. Mangers use their own discretion on financial information which is provided to external users. Given that, earnings management is mostly identified as unethical behavior. Many previous researches (e.g., Vollero et al., 2016; Deigh et al., 2016; Palazzo, 2019; Vollero et al., 2020) show the concern for the societal well-being which goes beyond profit making. Moreover, taking into account several past studies, the engagement in socially responsible strategies and tactics can help companies in reaching many significant goals, especially in terms of branding, such as: enhance brand performance (Lai et al., 2010); strengthen corporate brand equity (Hur et al, 2014); boost brand loyalty (He & Lai, 2014); reinforce brand image (Popoli, 2011); develop brand attitude and buying willingness (Wu & Wang, 2014).

On the other hand, it must be said that, as reported by earlier researchers (Roychowdhury, 2006; Cohen & Zarowin, 2010; Badertscher, 2011) managers not always pay attentions to all these benefits linked with leveraging on sustainable brand; they, in fact, by using accounting choices manipulate earnings. The recent study by Kałdoński et al (2019) shows the negative relationship between ownership sustainability and managing eraning. Also, they research findings indicate that firms with more sustainability ownership are involved in lesser sales manipulation. Accounting literature has reported many reasons that managers may try to use their discretion to manage the reported earnings. For example, Graham et al. (2005) demonstrate that managers' job anxieties are important drivers of accounting practices. Healy (1985) investigate how bonus schemes may affect managers' methods; Warfield et al. (1995) explores how managers' accounting choices are associated to the ownership of managers; Bergstresser and Philippon (2006) demonstrate that earnings management is associated with the option holdings and CEO's stock. Although, the new definition of earnings management proposed by Walker (2013) is quite wider than previous definitions and does not indicate that all management of earning is bad[2]. He believes that there is a possibility that managers may select an accounting choices to control the earnings. A considerable body of this chapter is concerned

[2] Walker (2013) provides a new definition of Earnings Management (EM) as follows: "*The use of managerial discretion over (within GAAP) accounting choices, earnings reporting choices, and real economic decisions to influence how underlying economic events are reflected in one or more measures of earnings.*"

with the relation between stock returns and accounting earnings, and provides important insights into the characteristics of financial accounting information. In simple terms, a theoretical link between accounting earnings and stock prices considers the earnings provide information that can be used to predict earnings in future periods, which in turn informs stockholder expectations about future dividends, and hence affect the stock current price.[3]

This study examines whether current accruals are used in the same way as annual current accruals to increase or decrease giving opportunities to managers to continue returns patterns. Many variables can affect the level of accruals. For instance, working capital drives changes in accruals which in sequence to rise with sales. Therefore, a past growth in sales may impact on the level of accruals. Earlier study by Shleifer (2000) show that investors conclude trends from the recent past into the future. There is an evidence that shows the market may react to the information of earnings (Chanet al. 1996) and part of the response may be to the components included in accruals.

For example, when sales growth slows managers may face pressures (manage) to exaggerate earnings to meet the forecasts of analysts, so it may leads them to increase in accruals. In this situation, the inventory item of firms may start to accumulate as sales smooth, and account receivables may increase as market pressures force firms to provide a better credit terms. Given that, we except that accruals increase (Chen et al., 2006). This ongoing inquiry into the relationship between stock returns and accruals has been central to the research on earnings management. In general, however, there are questions to be asked about the discretionary accruals models power used in estimation. A research by Kothari et al. (2005) has been compared different methods of measuring discretionary accruals, based on stratified-random samples and over multi-year horizons. The results reveal that performance-matched model measures improve the reliability of inferences from earnings management research. Kang et al. (2010) report the power of discretionary accruals that are aggregated across periods in predicting returns is robust not only with regard to the accruals model used to estimate discretionary accruals, but also to the choice of sample period, the measurements of returns, business conditions and proxies of risk. Whereas is defined a

[3]Nichols and Wahlen (2004) show the relationship between the stock returns and earnings changes and their result replicates the result of research of Ball and Brown (1968). Also, they investigate this relationship and its connection with the relationship between changes in the stock returns and cash flows from operating activities.

predominant perspective in the financial researches. The earlier research by, Graham et al. (2005) demonstrates the external reputation of mangers is significant driver of reportting practices.

However, the ability of models to spot actual earnings management and simulated is still questioned elsewhere (Livant and Santicchia, 2012). The link to earnings management is even more evident in Dechow et al. (1995), who show for firms subject to performance actions by the U.S. Securities and Exchange Commission, the accounting accruals can be above the average[4]. Further, Subramanyam (1996) suggests that the discretionary accruals pricing may arises in order to managers may use their own discretion to improve the power of earnings to show a fundamental value of firms (also called intrinsic value; the value of a security that is intrinsic to, or contained in, the security itself).Research by Papanastasopoulos (2015) examines the accrual anomaly and finds that return predictability in the UK is correlated with accounting accruals which is attributable to accounting bias. Regarding to the mandatory adoption of Financial Reporting FRS3, as it is mandatory to get a broad understanding of the accrual difference. Standard setters are interested to decrease accounting biases, to improve disclosure of accounting to reassure value-enhancing investment. In order to address accruals in central question of the extent to which earnings are incorporated into share prices, we investigate whether analysis based on accrual data leads to similar results as analysis based on annual currentaccruals[5]. As the literature review demonstrates, most studies explain annual accruals without considering whether accruals contain useful information about future stock returns reversals. Most industry analysts are interested to revise earnings forecasts after earnings are published.

**Models Development**

Sloan (1996) is the first researcher that documents the accrual anomaly, he finds a negative relation between working capital accruals and future stock returns. He shows that firms with low/high level of accruals experience high/low stock returns in the future. Richardson et al. (2005) focus on the accruals (in total) which is including accruals in long-term and shows that strong relation between future stock returns and accruals. He defines accruals as a long-term growth in net value of operating assets. Earlier researchers e.g., Keller,1979; Hand, 1990As indicate that investors infatuate on accounting earnings and fail to differentiate between the

persistence of the accrual and cash flow component of earnings. Hribar and Collins (2002) show that when using balance sheet-based accruals method the magnitude and frequency of errors introduced may be substantial. Among the definitions of accruals (current section), the modified Jones model (1991) and the methodology extended by Teoh et al. (1998b) and documented by Wie and Xie (2008). Following Dechow et al., (1995), accruals are associated to changes in sales. In this study, discretionary current accruals are used to measure earnings management. For calculating the discretionary current accruals for a firm *i* in the year *t* the following formula can be used (see Teoh et al., 1998a):

$$ACC_t = \alpha_1 \frac{1}{TA_{t-1}} + \alpha_2 \frac{\Delta SA_t - \Delta AR_t}{TA_{t-1}} + \varepsilon_t (2)$$

Where:

$ACC_t$ : current accrual for firm *i* and six month *t*;

$\Delta SA_t$ : change in Sales (WS#01001) for the six-month period;

$\Delta AR_t$ : accounts receivables (WS#02051)

$TA_{t-1}$ : total asset from the previous six months.

Thus, discretionary total current accruals are computed as follows:

$$DACC_t = \varepsilon_t;$$

According to Kotari et al. (2005), past returns on assets (*ROA*) is an independent variable in the cross-sectional regression to estimate discretionary accruals. Thus, in this study, the *ROA*-adjusted discretionary is included as current accruals as follows:

$$ACC\_1_t = \alpha_1 \frac{1}{TA_{t-1}} + \alpha_2 \frac{\Delta SA_t - \Delta AR_t}{TA_{t-1}} + ROA_{t-1} + \varepsilon_t \quad (3)$$

Investors are not necessarily able to identify earnings manipulation; hence they cannot be immediately aware of the quality of earnings in determining stock prices (Louis et al., 2005). As stated in the introduction, an investor's inability to fully incorporate earnings quality into stock prices is for a variety of reasons. Managers do not disclose information required to determine the quality of earnings when they announce the earnings. Therefore, investors misprice earnings when the earnings is announced because accrual information is not fully disclosed. Mispricing in earning announcements may be only partially corrected when the information is reviewed at the end of year by the securities and Exchange Committee. In addition, whenever accruals information is disclosed, or the level of short-term trades is high, discretionary earnings are

discounted in the earnings announcement. This study tries to find the relation between return momentum and accruals in earnings at times when there is inadequate disclosure and when a low level of short term trades exists.

*H1: Managers use discretionary accruals to provide positive earnings surprises*

As discussed above, managers have motivations to employ accruals to create positive earnings surprises, or at least not to face earnings disappointment, during the year. Therefore this study extends the present literature and implies that over the year from 2009 to 2019, positive accruals for firms are expected, as well as positive earnings surprises for these firms. Some loser firms are distressed. Researchers suggest that managers by cutting dividends and persistent losses can use choose income-decreasing accruals. Therefore, they can find a better position to renegotiate contracts during financial distressed periods (De Angelo et al., 1994). Bad economic earnings over the one to six month period are assumed to be in the loser firm's classification 'distressed'. Indeed, such losers would have the incentive to continue the decline in earnings over the intermediate term of seven to twelve months and save accruals for the period after any contracts are renegotiated.

The data set used for sample selection combines year-end accounting results, thus providing a time series of data for each year for UK listed firm. The accounting data available through Thomson on Banker includes up to 100 financial statement items, from the income, balance sheet, and the cash flow statements. We collected accounting data from the UK firms, from 2009 onwards through Thomson, who use the Worldscope source. The market data used in the study are also obtained through Thomson, in this case from the Datastream source. All variables used in this study are collected from Worldscope and Datastream database.

Data And Sampling

*(i)Full Data*

The data sample is selected from the UK listed companies. The sample is suitable to check explanatory power and the specification of accruals models. We collect relevant financial data for the UK listed companies from Worldscope database and collect market data from Datstream dtabase via Thomson One Banker. Our raw sample contains all firms listed firms in the UK. Thus, after excluding all nonstandard reporting periods, there remain 200 listed firms with a complete set of observations for 10 years were considered. In the final steps, firms are

excluded which do not have data available for any one reporting year, following which the sample is reduced to 1919 firm year observation, and the remaining firms are then checked to ensure that there is a complete series of reports. This study looks at variables such as sales growth and economic variables to see whether they are correlated to returns momentum performance. Finally, the study explores whether returns momentum is explained by earnings management. The analysis is based on UK reported data from 2009 to 2019.

Stock returns (SR) are computed over all months from 1/2004 to 12/2009 using the return index for each half-year reporting period[5]. Previous researchers (Acker and Duck., 2007; Izadi et al., 2019) in the UK use return data from the London Share Price Database (LSPD)[6]. They use the return data from LSPD. With regard to this database, monthly return is computed as follows:

$$R_t = Ln\left[\frac{(P_t + D_t) - P_{t-1}}{P_{t-1}}\right]$$

Where:

$R_t$ : log- return in the month;

$P_t$ : last traded price in month;

$D_t$ :dividend going ex-dividend during month t (included only when x days falls in the date range of traded prices) the dividend is adjusted to a month-end basis*;*

$P_{t-1}$ : last traded price in month t-1adjusted to the same basis.

Furthermore, *SIZE* is the natural logarithm of the year-end market capitalisation (Worldscope#08001), is calculated by multiplying closing price by number of shares. Book-to-market (*BM*) is the proportion of common equity to market capitalisation (Worldscope#09704). Sales growth (*SG*) is measured as reported period change in sales deflated by total assets at the end of the current period (Worldscope#01001). The current accrual (*CA*) is the six-monthly change in net current operating assets, i.e. current assets (Worldscope#02201), excluding cash (Worldscope#02003), minus current liabilities (Worldscope#03101), excluding the current portion of long-term debt (Worldscope#03051) deflated by Total assets at

[5]SR may also be computed directly from the Return index of Datastream, but with less accuracy

[6] The London Share Price Database(LSPD)

the end of the current period (Worldscope#02999)[7]. The discretionary current accrual (*DACC*) is the residual from the cross-sectional regression of *ACC* on a constant scaled by the last year Total assets[8]. The earnings surprise variable is the standard unexpected earnings (*SUE*) calculated as change in earnings scaled by the standard deviation of the earnings, where earnings are before extraordinary items (Worldscope#*0*5202).

*(ii)Sample Description*

Table 1 demonstrates the descriptive statistics of variables which is used in the models for the UK firms. The average (median) value of accruals is -0.001with a standard deviation of 0.151, which is similar to the findings in Xie (2001). The average (mean) and standard deviation for stock returns are 0.135 and 0.411 similar to figures quoted in Izadi et al. (2016). As can be seen in Table 1, SIZE has an average of 0.103 and a standard deviation of 0.945.

[7]Even though CA is referred to Current Accrual, it is in fact effectively a net amount comprising expense accruals, revenue accruals, expense deferrals and revenue deferrals.

[8]Note that a positive accrual is income-increasing and a negative accrual is income-decreasing

**Table 1**. Descriptive statistics

| | | ***Mean*** | ***Std. Dev.*** | ***25th Percentiles*** | ***Median*** | ***75th Percentiles*** | ***Skewness*** | ***Kurtosis*** |
|---|---|---|---|---|---|---|---|---|
| *Stock return* | *SR* | 0.135 | 0.411 | -0.125 | 0.080 | 0.327 | 1.250 | 6.297 |
| *Firm size* | *SIZE* | 0.103 | 0.945 | -0.530 | 0.077 | 0.681 | 0.404 | 4.423 |
| *Book to market value* | *BM* | 0.622 | 1.149 | 0.249 | 0.422 | 0.747 | 15.178 | 320.630 |
| *Sales growth* | *SG* | 0.278 | 10.368 | 0.000 | 0.000 | 0.001 | 42.911 | 1863.726 |
| *Current accruals* | *ACC* | 0.061 | 0.151 | -0.024 | 0.004 | 0.032 | 14.891 | 519.393 |
| *Discretionary current accruals* | *DACC* | -0.001 | 0.151 | -0.032 | -0.001 | 0.029 | 15.057 | 506.562 |
| *Discretionary current accruals with ROA* | *DACC_ROA* | -0.003 | 0.150 | -0.032 | -0.001 | 0.029 | 15.364 | 514.153 |
| *Standard unexpected earnings* | *SUE* | 0.162 | 0.393 | 0.024 | 0.058 | 0.139 | 6.583 | 54.558 |

*Note:* The sample consists of1919 firm-period observations.

Summary statistics and correlation coefficients are computed for variables. The stock return from months one to six is calculated from the return index. The natural logarithm of the market value of equity (year-end market capital # WS # 8001) at the end of the period, and the ratio of the book-to-market (BM) from the end of period are calculated by dividing common equity (WS#3501) by year-end market capitalisation. This study follows Fama and French (1993) when calculating the book-to-market and size values.

The past six months' return and the sales are calculated by taking the differences between past sales and current sales and then dividing them by the lag of total assets, therefore growth in sales is covered from months one to six. In addition, unexpected earnings are considered for six months; as mentioned earlier, unexpected earnings are calculated by taking differences of income before extraordinary items and dividing by year-end market capital. Table 2 demonstrates the Pearson correlations and the significance levels (in italics letters) between the variables for the set of UK firms. A preliminary indication of the association between discretionary accruals and the stock returns and earnings for firms can be find at the correlations between variables presented Table 2. As mentioned earlier, managers use discretionary accruals to drive stock returns via accounting earnings. The stock return is correlated with standard unexpected earnings as the variable used to measure earnings surprises; a positive correlation between SUE and stock returns is expected. Table 2 reveals that the *SUE*positively and significantly associated with *SR* (the proxy for the managed component) at the 0.01 level (0.047, p-value <0.038). This result is consistent with the finding of Jegadeesh and Livant (2006) and Izadi et al. (2017). There is a positive correlation between sales growth and stock returns which is expected according to the literature reviews. Similarly, there is positive correlation between DACC and SUE (0.060, p-value <0.008). Also the correlation between DACC_ROA and SUE is significant (0.050, p-value <0.027). In this study, discretionary accruals are divided into dummy variables[9]. According to this table, the correlation coefficient demonstrates that discretionary accruals have a negative relationship with the lag of stock returns; the coefficient is -0.234and it is significant. However, the discretionary accruals have a negative relationwith stock return. In the present study, the standard unexpected earrings are divided into two dummy variables which are standard unexpected earnings high and low. The former is expected to have positive

[9]*DCA_H* is defined as high discretionary accruals and shows the positive accruals. *DAC_L* presents low discretionary accruals and it is negative.

earnings surprises and be significantly correlated with returns. Regardless, the positive correlation between standard unexpected earnings and stock returns demonstrates that future stock return can be explained by positive earnings surprises. *SIZE* has a positive correlation with *SR* (0.148, p-value <0.001) while it has a positive correlation with *SUE* (0.033, p-value 0.013). Correlations between *SIZE* and *SR* are also relatively high. This high correlation between accounting-based control variables is consistent with prior findings on earnings management (see Li, 2011; Izadi et al., 2015).

**Table 3.3**
Pearson correlation coefficients between variables

| | ***SR*** | ***Size*** | ***BM*** | ***SG*** | ***ACC*** | ***DACC*** | ***DACC_ ROA*** | ***SUE*** |
|---|---|---|---|---|---|---|---|---|
| ***SR*** | | | | | | | | |
| ***Size*** | 0.148 | | | | | | | |
| | *0.000* | | | | | | | |
| ***BM*** | -0.070 | -0.419 | | | | | | |
| | *0.002* | *0.000* | | | | | | |
| ***SG*** | -0.044 | 0.061 | -0.012 | | | | | |
| | *0.054* | *0.008* | *0.595* | | | | | |
| ***ACC*** | -0.041 | 0.059 | -0.003 | -0.320 | | | | |
| | *0.070* | *0.009* | *0.884* | *0.000* | | | | |
| ***DACC*** | -0.234 | 0.073 | -0.007 | -0.281 | 0.989 | | | |
| | *0.009* | *0.001* | *0.750* | *0.000* | *0.000* | | | |
| ***DACC_ROA*** | -0.326 | 0.046 | 0.000 | -0.271 | 0.986 | 0.997 | | |
| | *0.004* | *0.040* | *0.985* | *0.000* | *0.000* | *0.000* | | |
| ***SUE*** | 0.047 | 0.198 | 0.108 | 0.029 | 0.048 | 0.060 | 0.050 | |
| | 0.038 | 0.000 | 0.000 | 0.208 | 0.033 | 0.008 | 0.027 | |

Pearson correlation are reported. The sample consists of 1,119 firm-period observations. In addition, P-value of each variable is reported regarding the coefficient to show the level of significance. Stock Return (SR) is computed over all months from 2009 to 2019 using Datastream closing prices (Datastream#UP#S) and dividend (Datastream #DI), In addition, it is defined as the difference between the closing price (plus dividends) at the end of year reporting period and the natural logarithm of the price at the beginning of the reporting period (SR may also be computed directly from the DataStream Total Return Index, but with less accuracy). Note; their significance levels is shown in *italics*. The the lower of triangle contains *Pearson* coefficient. The reported correlation coefficients, linear (eg, Pearson), that are commonly used to measure linear and general relation between two variables. This paper focuses on Pearson (linear correlation).

Regression Models

A regression by firm with dummy variables (in this study high and low standard unexpected earnings is defined as dummy variables) and discretionary accruals is employed for annually returns, and also using various control variables. Therefore, the cumulative returns are fitted to the contemporaneous discretionary accruals and other variables.

The panel regression used is as follows:

$$R_t = \beta_0 + \beta_1 SIZE_t + \beta_2 BM_t + \beta_3 SG_t + \beta_4 DACC + \beta_5 DACC\_ROA + \beta_6 SUE_t + \varepsilon \quad (5)$$

*R*t: the stock return of the year;

*SIZE*t: the natural logarithm of the year of the market value of equity;

*BM*t: the book value of equity divided by the market value of equity;

*SGt*: Sales growth, i.e. sales divided by sales, minus one;

*DACC*t: discretionary current accrual of the year;

$\beta_5 DACC\_ROA$: discretionary current accrual of the year with *ROA*;

*SUE*t: standard unexpected earnings, i.e. the difference between last and current year earnings divid

To examine the effect of positive earnings surprises, dummy variables are included which are high standard unexpected earnings (*SUE_H*) for positive surprises and low standard unexpected earnings (*SUE_L*) for negative surprises.

Thus, the regression is modified again as follows:

$$R_t = \beta_0 + \beta_1 SIZE_t + \beta_2 BM_t + \beta_3 SG_t + \beta_4 DACC + \beta_5 DACC\_ROA + \beta_6 \boldsymbol{SUE\_H_t} + \beta_7 \boldsymbol{SUE\_L_t} + \varepsilon \quad (6)$$

According to the results explained in this study, the coefficient of past returns decreases after adding the other variables. This indicates that sales growth and earnings management have a relationship with past returns. However, discretionary accruals and past returns change the coefficient regarding past returns and this result indicates that their explanatory power is additional to past returns. There is a negative correlation between discretionary accruals and returns which confirms the hypothesis presented in this study, and shows that earnings management drives stock returns performance by following unexpected returns.[10]The results show there is a positive relation between stock returns and discretionary accruals; these result confirm the previous results of the main equation in this study by Dechow et al. (2003).

[10]After controlling the mean factor in accruals, it is considered that past discretionary accruals and contemporaneous accruals are negatively related to future returns (Sloan, 1996). Sloan finds a negative relationship between past accruals and future returns.

*(i)Analysis of the relation between returns and other independent variables base on analysis of Discretionary Accruals*

Based on the literature review of current study, and the definitions of variables, current accruals include short-term assets and liabilities supporting daily operations; in addition, accruals are divided into nondiscretionary and discretionary. Current accruals are calculated as follows. First, the change in cash and short term investments (WS#02001) is subtracted from total current assets (WS#06615), and then short term debt and current portion of long term debt (WS#03051) is subtracted from total current liabilities (WS#03101). Third, the second item is subtracted from the first. Finally, the result is deflated by the one period lag of total assets (WS # 02999).

This study begins with the estimation of Equations (5) and (6) by pooling the sample for the and final 2009 to 2019 and pooling cross-sectional and time-series data. According to Gujarati (2003), it is considered that slope coefficients and intercept are constant across time and firms, so the error term gets differences over time and firms[11]. So, the pooled regression model can distort the real picture of the relationship between the independent and dependent variables in the regression model. This study uses the Fixed and the Random Effects Model.

Table 3 demonstrates the main regression results (OLS) and contains the findings for the model developed on 1119 observations for UK listed firms on the baseline model, including stock return, discretionary accrual and the other variables shown in equations (5) and (6). Table 3 shows the regression results for both equations. As expected, the coefficient as *DACC* is positive and significant: the coefficient is 3.904and the t-statistic is 4.060, this result is in the line of the finding by Dechow et al. (2003). In equation (6)this coefficient is again positive and significant: the coefficient is 4.885and t-statistic is 4.690.Standard unexpected earnings are an important measure of surprise in reported earnings. In this study, to follow the effects of positive and negative surprises in earnings, two dummy variables are defined: as discussed earlier: positive discretionary accruals (*DACC_H*) and negative discretionary accruals (*DACC_L*) are defined as dummy variables in the regression model. Standard unexpected earnings have a significant, positive relationship with stock returns. The results for equation (5)show there is a strong positive relationship between *SUE* and *SR,* the coefficient is 0.012and significant (t-statistic is 0.500). In equation (6), the two dummy variables *SUE_H* and *SUE_L* are positive and significant; the

[11]Gujarati (2003) shows that the assumptions of the pooled sample that the slope coefficients and the intercept are constant across firms and time.

coefficients are 0.010and 0.420and their t-statistics are 0.922and 2.430, however only *SUE_L* significant. The explanatory power of standard unexpected earnings (*SUE*) is related to the other variables, exposing a question about what information investors could find in these standard unexpected earnings to drive stock returns in the short term. With regard to the implications of behavioural models, investors' overreaction to earnings would be reflected in the explanatory power of standard unexpected earnings, and would be less closely correlated to a business performance measure, or even to earnings management. As explained in the literature review, stock returns can be increased through management of discretionary accruals and such management is used to mask distressed business conditions. So, if discretionary accruals are used to defer income for future periods, discretionary accruals are negative. Thus, there are motivations which may drive the cross-sectional accrual-return relation. Linear regression would not accurately provide the earnings management information during the extreme fluctuations in the returns of firms.

Results for the control variables are consistent with findings in earlier studies and with our expectations; Li (2011) finds a positive relation between *SIZE* (as market capitalisation) and future stock returns that is consistent with this study. According to equation (5)the coefficient for SIZE is 0.051and the t-statistic is 3.920and significant. Again, in equation (6), the coefficient for *SIZE* is significant and the coefficient and t-statistic are 0.054and 4.110. Equation (5) shows that there is a negative relation between the stock return and book-to-market as a control variable; the coefficient is -0.014and the t-statistic is -0.690and significant. Also, in equation (6) the coefficient for BM is -0.011and t-statistic is -0.580, and significant.

*Table 3. Regression result of association between returns and independent variables*

| | ***Equation (5)*** | | ***Equation(6)*** | |
|---|---|---|---|---|
| | *Coeff.* | *t-Statistic* | *Coeff.* | *t-Statistic* |
| ***intercept*** | 0.156 | 10.110 | 0.157 | 10.170 |
| | | *<0.001* | | *<0.001* |
| Size | 0.051 | 3.920 | 0.054 | 4.110 |
| | | *<0.001* | | *<0.001* |
| BM | -0.014 | -0.690 | -0.011 | -0.580 |
| | | 0.491 | | 0.564 |
| SG | -0.004 | -3.960 | -0.004 | -3.910 |
| | | *<0.001* | | *<0.001* |
| ACC | -2.424 | -5.000 | -2.495 | -5.150 |
| | | *<0.001* | | *<0.001* |
| DACC | 3.904 | 4.060 | 4.885 | 4.690 |
| | | *<0.001* | | *<0.001* |
| DACC_ROA | -1.668 | -2.040 | -2.580 | -2.870 |
| | | 0.041 | | 0.004 |
| SUE | 0.012 | 0.500 | | |
| | | 0.617 | | |
| *SUE_**H*** | | 0.039 | 0.010 | 0.420 |
| | | | | 0.672 |
| *SIUE_**L*** | | | 0.922 | 2.430 |
| | | | | 0.015 |

The variables that are used in the regression between independent variables and returns are trimmed at the 1st and 99th percentiles, to make ensure that outliers do not drive the results.
The number of firm-period observation is 1,119.

According to this table, the coefficient of the random model is very similar to the main regression model, all predictor variables are significant, the sign is the same and the R-adjusted is close to the main regression model. Also, we use the Hausman's test and VIF results of multicollinearity test. Another assumption in OLS is that error terms is homoskedastic, and are independent (serially uncorrelated).

**Example of two firm's sustainability from the same industry**

According to the literature, it is expected that sales growth and unexpected earnings are positively related to returns (Jegadeesh and Titman, 2002). In addition, to show the sustainability in discretionary accruals, sales gross and stock market return two listed firms are chosen from the same industry (5000 Consumer Services). These two firms are Vodafone Group PLC and BT Group PLC. The Return on Assets (ROA) and Sales of firms Vodafone Group PLC were selected as they show the performances of both firms year 2010 to 2019. According to Table 4, the ROA percentage is decreasing during 10 years. For example, the ROA in 2010 was 6.08 but it decreased in 2019 to -5.47. Similarly, BT Group PLC for these years is dropped from 6.82% in 2010 to 6.11in 2019 respectively. Also, the sales have a decreasing stream during these 10 years. Figure 1. Shows that the ROA has a similar pattern in both companies. There is a big drop in both firms ROA in 2015. Figure 2, shows the sustainability of the ROA in BT Group PLC is more than Vodafone Group PLC.

We build up all the propositions based on the research questions. For example, the first question "What is the impact of personality on intellectual and emotional assets?" is shown in the literature review section and proposition 2. Also, there is a clear picture of each proposition in Figure 1. The conceptual framework is illustrated on page 14 of the first submitted version.

**Table 4**. Return on Assets (ROA) and Sales of firms Vodafone Group PLC and BT Group PLC for the year 2010 to 2019

| | Vodafone Group PLC | | BT Group PLC | |
|---|---|---|---|---|
| | ROA (%) | Sales (£m) | ROA (%) | Sales (£m) |
| 2010 | 6.08 | 44472 | 6.82 | 1028 |
| 2011 | 5.54 | 45884 | 9.04 | 1502 |
| 2012 | 5.35 | 46417 | 10.93 | 2002 |
| 2013 | 1.29 | 44445 | 11.23 | 2091 |
| 2014 | 5.02 | 38346 | 10.75 | 2018 |
| 2015 | 7.03 | 42227 | 10.44 | 2135 |
| 2016 | -2.74 | 40973 | 9.01 | 2588 |
| 2017 | -3.72 | 40038 | 5.78 | 1908 |
| 2018 | 2.89 | 41035 | 5.88 | 2032 |
| 2019 | -5.47 | 38496 | 6.11 | 2159 |

**Figure 1**. Return on Asset (ROA) for Vodafone and BT firms between years 2010 to 2019

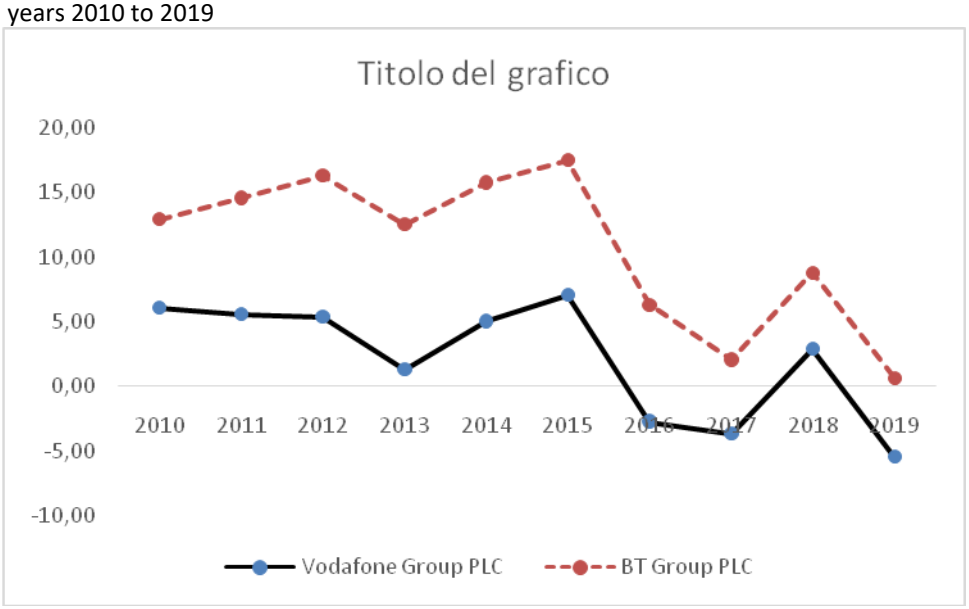
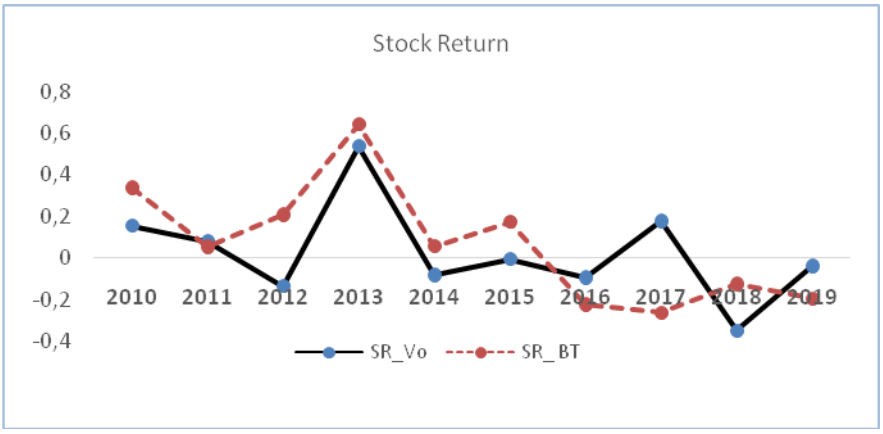



**Figure 2**. Stock return trend for Vodafone and BT firms between years 2010 to 2019



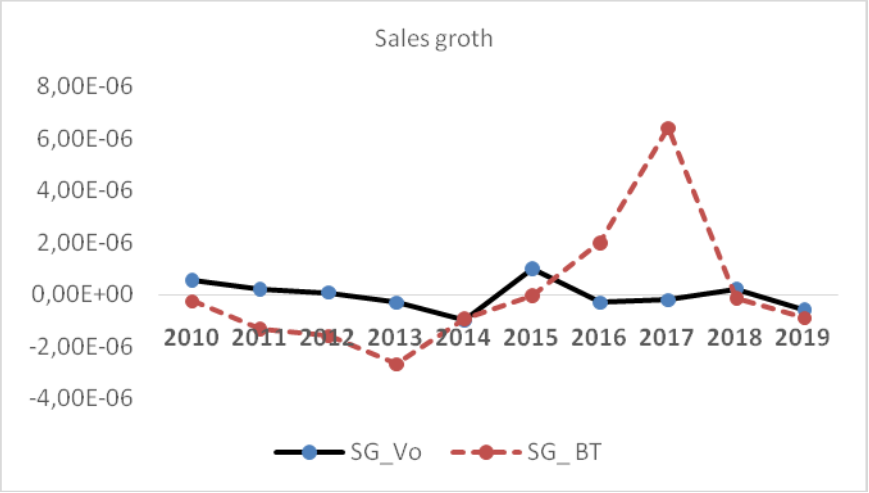

*Stock return is considered as following; where* $R_t$ *is log- return in the month;* $P_t$ *is last traded price in yearend and* $D_t$ *is dividend going ex-dividend during month t (included only when x days falls in the date*

$$R_t = Ln\left[\frac{(P_t + D_t) - P_{t-1}}{P_{t-1}}\right]$$

To define the *sustainable growth rate* for each particular business, the stock holders must know the *maximum growth rate* their firms can get without considering debt financing. Given that, the breakeven point is the "floor" for the company's sales growth. This is the absolute minimum in sales that firms need to make it in order to stay in the market. The decision-makers must think of the sustainable growth rate as the "ceiling" for the

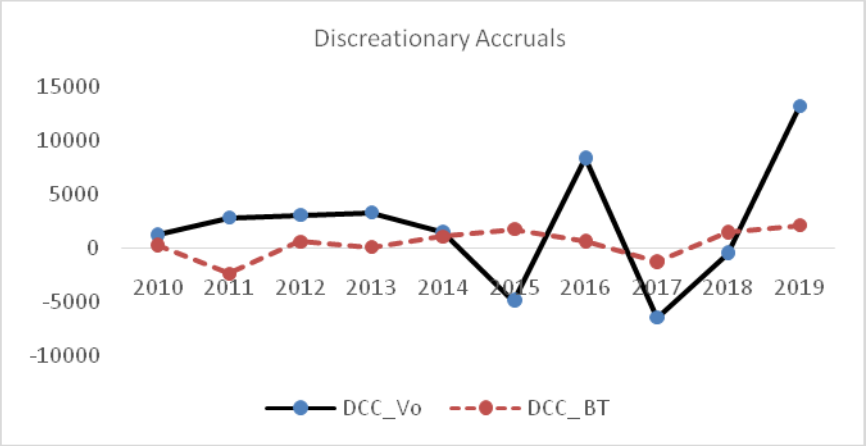
firm's sales growth. In Figure 3 Sales gross trend for Vodafone Group PLC is much more sustainable than BT Group PLC. Also, as expected, in Figure 4, the discretionary current accrual (DACC) is more sustainable than Vodafone Group PLC. Moreover, the discretionary current accrual (DACC) and stock return trend are sustainable for firms.

**Figure 3.**Sales gross trend for Vodafone and BT firms Between years 2010 to 2019




*Sales growth (SG) is measured as reported period change in sales deflated by total assets at the end of the current period (Worldscope#01001).*

**Figure 4.**Discretionary accruals trend for Vodafone Group PLC and BT Group PLC Between years 2010 to 2019




The discretionary current accrual (*DACC*) is the residual from the cross-sectional regression of *ACC* on a constant scaled by the last year Total assets

## Conclusions and suggestions for future research

The bottom line of financial statements have conventionally been the focus of investors, researchers and analysts; however rest items of financial statements have generally been overlooked. The rest of items of financial statements may provide information about the management of a firm's income and be associated with stock returns. This study finds that the relationship between accruals and future stock returns is reliable and negative. Also, the behaviour of accruals plays a very important role in the connection between stock returns and earnings surprises. In the empirical finance literature review, the association between surprises in earnings via standard unexpected earnings and stock returns has been documented as an aid to forming investment strategies.

In earlier research what is less well documented is that the relationship between accounting earnings and stock returns must include the behaviour of accruals and that the relationship is significant using annually data.

We found that future stock returns are negatively related to the reported accruals as first documented by Sloan (1996) and extended by Chan et al (2006). Also, our finding shows that companies with big amount of accruals display high level of past earnings. Earnings management is done to avoid decreases and losses in earnings in future periods, or because of pending corporate actions such as acquisitions. It is expected that firms manage accruals in order to have optimum performance during the period. It is also expected that firms tries manage earnings to meet changes in business conditions. Firms that do not manage earnings may not be able to continue their returns pattern. Dummy variables in the regression allow the effect of positive and negative independent variables to be demonstrated clearly. High standard unexpected earnings (*SUE_H*) and low standard unexpected earnings (*SUE_L*) variables are the two dummy variables employed. Low discretionary accruals are significantly and negatively correlated to contemporaneous returns. According to the first hypothesis, we expect firms to use accruals to provide positive earnings surprises. The result of the main regression in Table 3 confirms that surprises in earnings have a positive relation with stock returns; therefore we confirm the result of Chan et al (1996) that earnings surprises and returns are positively related. The finding demonstrates if the firms make positive earnings surprises then it drives the returns to the upside. The finding shows a positive relation between discretionary accruals and earnings surprises. It means positive discretionary accruals make positive earnings surprises as measured by *SUE* in this study. We find the earnings momentum for some and final periods are different and significant. Also, the finding provides evidence that the returns associated on discretionary accruals and earnings surprise have the same pattern. We conclude that firms use positive discretionary accruals to drive earnings surprises. Given that, managers may use negative discretionary accruals to minimize earnings in the period and maximize the annual earnings

to shock the stock return.

**Case study.**

**Lloyds TSB: sustainability report, sustainable brand, people and society**

Every organisation has responsibilities not just to their clients but also to their human resources (HR) and other different stakeholders groups. The engagement in CSR actions shows their interest for social well-being which goes beyond reaching a profit.

The case explores how Lloyds TSB (https://www.lloydsbank.com/) has a positive approach toward sustainability and any disabled employee. The case study highlights that responsible actions and positive working strategies focussed on helping people with disabilities offer benefits employers and human resources (HR). Lloyds TSB is a leader organisation in the banking sector (Howcroft, 2005; Akamavi et al., 2001).). The company stats that: "Since its foundation on 3 June 1765, Lloyds Bank has been serving the households, businesses and communities of Britain. And, in 2015 we're celebrating 250 years of helping the people of Britain with the things that matter most to them" (https://www.lloydsbank.com/banking-with-us/who-we-are.html).

This company aims to set an comprehensive working place in which all HR easily express their potentialities (https://www.lloydsbank-careers.com/). This idea is in line with the approach based on offering to all individuals involved in the organisation equal opportunities: removing barriers that do not allow disabled employees to work and fostering opportunities for them (https://www.lloydsbankfoundation.org.uk/our-impact/impact-reports).

Lloyds TSB is trying its best in following this trend with a programme of actions that makes the workplace in line with disabled people's needs. Many organisations are paying high attention to creating a sustainable brand and a competitive business environment that suits to all kind of individuals (Bose & Morgan, 1998; Pollitt, 2002; Stovel & Savage, 2006). To guarantee that all firms do their best in meeting their responsibilities to human resources, the government have set laws to protect employees against every kind of discrimination. For example, the Race Relations Act (1976) (see: www.legislation.gov.uk) defends people from iniquitous behaviour linked with race, while, the Sex Discrimination Act 1975 states that women and men have to be considered equally in the place of work. Disability Discrimination Act (1995) aims to fight prejudice faced by disabled people while they work. It says that organisations are building their sustainable brand while being responsible for solving problems that can affect employees with disabilities.

For this reason, Lloyds TSB has applied different kind of adjustments for solving matters for more than 3,000 members of the staff. The company tries to be optimistic about

disability and attempt to promote Lloyds TSB as a good work place for disabled HR. This goal is reached not only following different standards and legal obligations, but also focussing on specific employment requirements of each disabled human resource. It must be considered that there are several types of disability (connected with different models) that a company needs to face, as: medical model, charitable model and social model. Each of them have a huge impact on the approach a firm may take to issues of disability. The medical model states that companies have to help people that are affected by any kind of illness. While, the charitable model says that disabled employees need to be aided while working in their workplace. Lloyds TSB focuses instead on the social model: the company in fact states that it is the society not the disability that generates limits for individuals with disabilities. Thanks to its adjustment programme, Lloyds TSB has set a location in which disabled employees receive tools and assistance. Actually, Lloyds TSB supports numerous activities, for example, the charter of RNID's Louder than Words (see: louderthanwords.org.uk) (charter for companies aiming to attain good service crated for hearing impaired people). Moreover, the Lloyds TSB Foundations is created with the main scope of supporting disability charities (i.e. Disability Information & Support based in Blackpool) and offering grant to aid the charity's work. The organisation and its foundations state that:

*"We're an independent charitable trust funded by the profits of Lloyds Banking Group. We partner with small and local charities helping people overcome complex social issues such as mental health, homelessness and domestic abuse. Through long-term funding, developmental support and influencing policy and practice, we help those charities make life-changing impact. We work in partnership with the charities we fund and others who share our vision. We listen, understand and respond to charities, funding them for longer and providing developmental support to help them grow stronger and more sustainable. We influence policy and practice to help charities thrive in the future and to address the root causes and consequences of complex social issues".* (https://www.lloydsbankfoundation.org.uk/). Besides, they also aid 'Changing Faces' (www.changingfaces.org.uk), a charity that support children and adults affected by body disfigurements.

In addition, Lloyds TSB seems to take in great consideration what the Disability Rights Commission says about disabled people. In fact, it states that organisations can't ignore them as they are an amazing source of potential recruits. The Commission highlights that generally, disabled employees stay in jobs longer, are committed to work and loyal to the employer. Following this consideration, Lloyds TSB gives to every job applicant a chance in recruitment without paying attention to disability. The company gives interviews to disabled people who are in line with the job's criteria and allow face-to-face discussions. Then, Lloyds TSB provides disabled employees the same career opportunities of the other non-disabled

colleagues thanks to a Personal Development Programme set especially for disabled HR. During the programme, people are asked to consider disability and its effects in everyday life activities. This programme has aided many disabled and non-disabled employees and it also helped the organisation in maintaining valuable HR.

Moreover, it has aided to modify perception and manner in which Lloyds sets its branding strategies and tactics. Thanks to membership of Lloyds TSB's disabled employee network, ACCESS, HR contribute to solve all kind of problems that - especially disabled people - have to face daily. This shows that Lloyds TSB's approach to all kind of disabilities is based on engaging each employee not only the disabled ones. In this sense, the organisation has:

- created guidelines for staff members (linking them to a strong employer branding strategy) (Stovel & Savage, 2006; Dayson et al., 2008);

- print a complete booklet "Positive About Disability" and a "Disability Resource Toolkit";

- offered to managers course to make them able to support to all HR within the workplace;

- supported disabled athletes, the Paralympic Games.

It must be said that all efforts of Lloyds TSB in dealing with problems that affects disabled people can also be seen as a positive strategy that the company use for retaining staff within the organisation, for boosting the corporate image, for maintaining existing clients, for attracting new ones and reaching its selected objectives and targets. Besides, taking into account all kind of clients' requirements including disabled people aided Lloyds TSB to distinguish its tactics in the financial sector.

Besides, the approach has pushes the company to set different changes for consumers in line with its strong sustainable brand. In fact, the company succeeded in: improving its customer service for all clients (especially disabled people); providing leaflets in Braille; changing the design of all branches and cashpoints in order to meet wheelchair users' needs.

**Case questions**

1. After you have written down what Lloyds TSB does while putting into practice its approach to disability, analyse what this issue has to offer to the company.

2. After you have written down what the main features of the Lloyds TSB approach to disability are, including all of its benefits, analyse what this strategy has to offer to communities, the society, and to the labour market too.

3. After you have written down what approach (and model) to disability is, analyse other related activities that international companies successfully implement in this field.

**Key terms and definitions**

**Earnings management:** it is generally identified as unethical behaviour as it involves the use of manager's discretion of numbers, that may result in the distortion of financial information provided to stakeholders..

**Sustainability:** it involves answering to the needs of the present generation without affecting the possibility to take care of future generations. This topic is based on three essential pillars: economic, environmental, and social pillars. These three items are called: profits, planet, and people.

**Sustainability report:** it is a report published by an organisation about the economic, environmental and social effects generate by its strategies and tactics. A sustainability report is an important document that communicate all sustainability performance and corporate impacts in terms of people, profits and planet.

**Corporate reputation:** it represents the estimation in which an company is held, especially by stakeholders, the community, the public generally.

**Four diagnostic questions**

1. After you have written down what earnings management is, including all of its features, list the reasons why companies do and do not follow this approach.
2. After you have written down what sustainability is, including all of its benefits, analyse the relationship between what this approach has to offer and who might be interested in it.
3. After you have written down what reputational processes are, including all of benefits, list the reasons why companies do and do not put them into action.
4. After you have written down what sustainability report is, analyse it and list the reasons why managers do and do not decide to publish it.

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