



Future-oriented narrative reporting: determinants and use

Future-oriented
narrative
reporting

Khaled Hussainey
Stirling University, Stirling, UK, and
Basil Al-Najjar
Middlesex University, London, UK

123

Abstract

Purpose – The purpose of this paper is to examine the determinants of future-oriented information in UK annual report narrative sections. The paper also investigates the association between corporate dividend policy and levels of future-oriented information, as a proxy for information asymmetry.

Design/methodology/approach – A computer-based-content analysis is used to measure levels of future-oriented information. Tobit and logit regressions are then applied in order to examine the impact of firm characteristics, and corporate governance characteristics on future-oriented disclosure. In further tests, Tobit and logit regression models are used to investigate the association between corporate dividend policy and levels of future-oriented information.

Findings – The authors find that firm size is the main factor affecting the firms' levels of future-oriented information. This variable is statistically significant in five regression models. In addition, the authors find that profitability, outsider directorships, and insider ownerships affect the levels of future-oriented information. However, the significance of these variables depends on whether fixed effects or random effects models are used and whether year dummies are included or excluded in the analyses. Finally, the authors find a positive association between corporate dividend policy and information asymmetry (measured by the levels of future-oriented information).

Originality/value – This paper contributes to the existing disclosure studies in two crucial ways. First, it offers the first evidence that levels of future-oriented information are driven by some firm characteristics, and some corporate governance mechanisms. Second, it offers the first UK evidence of the association between corporate dividend policy and information asymmetry. The results show that dividends and information asymmetry are negatively associated.

Keywords United Kingdom, Narrative reporting, Annual reports, Future-oriented information, Content analysis, Dividend policy

Paper type Research paper

1. Introduction

Corporate narrative reporting is an essential section of the annual reports and accounts that are prepared by corporate directors. This section is then addressed to stakeholders to help them in assessing firms' future performance and prospects. Narrative reporting has received major attention from regulators. In May 2004, there was a call for mandating all UK-listed firms to prepare an operating and financial review (OFR) statement in their annual reports and accounts. However, in November 2005, the Chancellor of the Exchequer announced the government's intention to remove the statutory requirement to publish OFRs (ASB, 2008). This had implications on the ASB's reporting standard (RS) 1 "The operating and financial review", which has now been formally withdrawn. Consequently, the Board has converted RS 1 into a reporting statement of best practice on the OFR, which will have persuasive, rather than mandatory force (ASB, 2008).

The authors thank the Editor of *JAAR* (Kumba Jallow), Richard Slack, Philip Shrive and two anonymous referees for their constructive comments and helpful suggestions. Khaled Hussainey gratefully acknowledges the financial support from the Grant Reference no: SG091190.



Prior research examines the usefulness of corporate narrative reporting in the UK (see e.g. Hussainey *et al.*, 2003; Hussainey and Walker, 2009). Hussainey *et al.* (2003) developed a new automated method for scoring a large sample of corporate narrative reports. Their paper contributes to the existing literature by using a computer-intensive technique “QSR N6 software” to create disclosure scores. These disclosure scores are then linked with the investors’ ability to predict future earnings. They find that future-oriented information in annual report narratives provides value-relevant information to investors, and this information improves investors’ ability to better anticipate future earning variations. In addition, Hussainey and Walker (2009) find that corporate future-oriented information and dividend propensity are substitute forms for communicating value-relevant information to investors.

For the sake of robustness, the present paper extends the recent literature by examining determinants and use of future-oriented information. In particular, it investigates a fundamental question that has not been addressed in prior research: “What drives the future-oriented content of UK annual report narrative sections?” In further tests, it investigates another important question: “Is there any relationship between corporate dividend policy and information asymmetry in the UK?”

The work of Hussainey *et al.* (2003) and Hussainey and Walker (2009) are considered as key articles in the present paper for the following reasons. Whilst future-oriented information has always been found to be useful for investors in the UK stock market, the main drivers for voluntarily reporting this information in annual report narratives are still unknown. Therefore, this paper seeks to investigate the degree to which firm characteristics and corporate governance mechanisms affect UK firms’ decision to include future-oriented information in their annual report narrative sections. Furthermore, Hussainey and Walker (2009) provide evidence that future-oriented information and dividend payments are substitute forms of financial communication channels that high-growth UK firms use to signal value-relevant information to their investors. These results are consistent with signalling theory, but not consistent with pecking order theory (Deshmukh, 2005). In addition, the relationship between asymmetric information and dividends is inconclusive. US empirical evidence on this association is mixed (e.g. Deshmukh, 2003, 2005; Li and Zhao, 2008). Prior studies use the number of analysts following a firm as an indirect proxy for levels of information asymmetry. In this study a direct measure is employed for information asymmetry. We use the total number of future-oriented earnings-related statements in the annual report narrative sections as a proxy for information asymmetry. This proxy is then linked with dividend payout ratio to examine the relationship between dividend policy and asymmetric information in the UK.

Accordingly, this research contributes to the existing literature. Initially we provide empirical evidence as to whether firm characteristics and/or corporate governance mechanisms affect levels of future-oriented statements in UK annual report narratives. We then provide direct evidence on how corporate dividend policy is associated with corporate information asymmetry in a UK setting. To the best of our knowledge, this paper represents a significant contribution to corporate reporting literature, as our research questions have not been answered in prior empirical research.

The remainder of the paper is organised as follows. Section 2 reviews prior research and develops our hypotheses. Section 3 presents the data, descriptive analysis and the research design. Section 4 reports the correlation analysis and empirical results. Section 5 concludes and offers suggestions for future research.

2. Prior research and hypotheses development

The hypotheses are developed from two streams of prior research:

- (1) research on determinants of corporate disclosure; and
- (2) research on the link between dividend policy and asymmetric information.

Section 2.1 discusses the development of research hypotheses related to the first line of research, while section 2.2 discusses the development of a research hypothesis related to the second line of research.

2.1 Determinants of future-oriented information

Firm characteristics. Hussainey *et al.* (2003), Schleicher *et al.* (2007) and Hussainey and Walker (2009) provide evidence that future-oriented information in the annual report narratives contains value-relevant information to investors to better forecast future earnings changes. Their findings are consistent with signalling theory. However, the authors do not explain in their papers what drives UK firms to voluntarily disclose this class of information in their reports. To examine this issue, a set of firm-specific characteristics and corporate governance mechanisms should be used.

In a meta-analysis study, Ahmed and Courtis (1999) analyse the results of 23 articles on the relationship between corporate disclosure and firm characteristics since 1961. Their analysis shows that only four factors (firm size, exchange listing status, audit firm size and leverage) significantly affect disclosure levels. Our paper uses both firm size and leverage as potential drivers for disclosure levels. Audit firm size is excluded from the analysis because it is not electronically available for a large sample of firms. We also exclude listing status because our sample is based on all UK-listed companies. In addition to firm size and leverage, we also include profitability and risk as potential drivers of corporate voluntary disclosure. These variables are included because empirical studies provide evidence that these variables affect corporate levels of future-oriented information in the annual report narrative sections (see e.g. Schleicher *et al.*, 2007; Hussainey and Mouselli, 2010).

Firm size. Signalling theory suggests a positive association between levels of corporate disclosure and firm size. The theory proposes that large companies are more likely to attract financial analysts. Analysts normally demand greater levels of value-relevant information to advise their clients in making rationale investment decisions. In addition, large firms are more likely to have enough resources to cover the cost of producing additional information in corporate annual reports. However, small firms are more likely to suffer from competitive disadvantages if they increase their levels of voluntary disclosure. Therefore, we form the following hypothesis as follows:

- H1.* There is a positive relationship between corporate size and the levels of future-oriented information in the annual report narrative sections.

Leverage. Signalling theory suggests a positive relation between leverage and levels of corporate disclosure. For example, prior finance research suggests that highly leveraged firms have more monitoring costs (Jensen and Meckling, 1976). To reduce these costs, highly leveraged firms are more likely to report more voluntary information in their annual report narrative sections in order to convey value-relevant

information to satisfy the creditors' needs. Therefore, we form the following hypothesis as follows:

- H2.* There is a positive relationship between corporate leverage and the levels of future-oriented information in the annual report narrative sections.

Profitability. Signalling theory suggests that profit-making companies have an incentive to report more information to signal their favourable results to stakeholders. As a result, we expect that these companies will report more future-oriented information in their annual report narratives. Empirical research by Schleicher *et al.* (2007) provide evidence that future-oriented information disclosure in the annual report narrative sections is considered as a key source of information for loss-making companies, but not for profit-making companies. Consequently, one might expect a negative association between levels of future-oriented information in annual report narratives and a firm's profitability. Because of these mixed arguments, we form the following hypothesis as follows:

- H3.* There is a relationship between corporate profitability and the levels of future-oriented information in the annual report narrative sections.

Risk. Finally, prior accounting research argues that increasing levels of corporate disclosure should reduce a firm's risk (see e.g. Espinosa and Trombetta, 2007). This is because a rich disclosure environment should enhance the stock liquidity and decrease its risk, either by reducing transaction costs, or increasing the demand on the stock, and hence reducing the expected returns on the stock (Hussainey and Mouselli, 2010). In this context, Kothari *et al.* (2009) provide empirical evidence that firms who disclose more good news are more likely to decline their risks, whereas, high levels of risk are significantly influenced by bad news disclosure. As a result, a negative association between levels of future-oriented information and a firm's risk is expected. Therefore, we form the following hypothesis as follows:

- H4.* There is a negative relationship between corporate risk and the levels of future-oriented information in the annual report narrative sections.

Corporate governance characteristics. The second set of hypotheses is based on certain corporate governance mechanisms, including board composition and insider ownership.

Board composition. The association between corporate voluntary disclosure and board composition is not clear. In spite of extensive empirical research on this association, the results are always mixed. For example, Beasley (1996), Chen and Jaggi (2000), Patelli and Prencipe (2007) and Li *et al.* (2008) find a positive association between board composition and corporate voluntary disclosure. Other empirical studies find a negative association between the two variables (see e.g. Eng and Mak, 2003; Haniffa and Cooke, 2005). Ho and Wong (2001) and Brammer and Pavelin (2006) find no statistically significant association between the two variables. In a French context study, Lakhil (2005) examines the relationship between future-oriented information and board composition in France. She expects and finds that there is no association between outside directors and levels of future-oriented information. This is particularly true when taking into account the fact that "French-listed firms are most

controlled". As a result, the "proposition of outside directors on the board is likely to be relatively weak" (Lakhal, 2005, p. 68). Therefore, we include board composition in our models as a potential driver for corporate levels of future-oriented disclosure. Therefore, we form the following hypothesis as follows:

- H5. There is a relationship between the number of outside directors on the board and the levels of future-oriented information in the annual report narrative sections.

Insider ownership. In a UK study, Li *et al.* (2008) examine the association between voluntary disclosure and insider ownership; they find a negative association between the two variables. Their finding suggests that UK companies with closely held ownership have less information asymmetry between management and shareholders. This result is consistent with the findings of Cormier *et al.* (2005) and Brammer and Pavelin (2006). However, it is inconsistent with Patelli and Prencipe (2007) who find a positive association between the two variables. It is also worth noting that Eng and Mak (2003) find no significant relationship between voluntary disclosure and insider ownership. Based on Li *et al.*'s (2008) study, we form the following hypothesis as follows:

- H6. There is a negative relationship between closely held ownership and the levels of future-oriented information in the annual report narrative sections.

2.2 *The link between dividend policy and future-oriented information*

The association between dividend policy and levels of future-oriented disclosure has received significant attention in prior research. Hussainey and Walker (2009), for example, test the degree to which future-oriented disclosure in the annual report narratives and dividend propensity are substitute or complement mechanisms for communicating value-relevant information to investors. The authors find that the two variables are substitutes.

Signalling theory suggests that companies with higher levels of information asymmetry (i.e. lower levels of future-oriented disclosure) might pay higher levels of dividends to signal their future prospects to current and potential investors (Bhattacharya, 1979; John and Williams, 1985; Miller and Rock, 1985). Therefore, a positive association between dividend payment levels and levels of information asymmetry is hypothesised.

Conversely, pecking order theory suggests that companies with higher levels of information asymmetry might pay lower levels of dividends. The reason for this is because these firms are more likely to be underinvested in certain areas (Myers and Majluf, 1984). Deshmukh (2005, p. 1) argue that "the underinvestment arises when the firm has inadequate funds for investment purposes and does not want to bear the lemons-premium association with new capital issues". To control the underinvestment situation, these firms might lower their dividend levels. Therefore, a negative relationship between dividend propensity and information asymmetry is hypothesised.

Prior empirical studies in the USA, on the association between asymmetric information and dividends, such as Deshmukh (2003, 2005) and Li and Zhao (2008), offer mixed results. Consequently, the association between dividend and levels of future-oriented information (as a measure of information asymmetry) remains a

challenge and the source of much debate. Therefore, we form the following hypothesis as follows:

- H7.* There is a relationship between corporate dividend levels and the levels of future-oriented information in the annual report narrative sections.

It is worth noting that, in this study, the authors control for other determinants of dividend policy, namely, firm size: borrowing ratio: profitability: risk: liquidity: growth opportunities: insider ownership: non-executive directors (for more discussion about these variables, see Al-Najjar and Hussainey, 2009).

3. Data, descriptive statistics and research design

Sample selection and description

The sample selection is designed to identify future-oriented information in the annual reports narratives, their determinants and the link between this information and dividend policy for UK companies listed at the London Stock Exchange for financial year-ends between January 1996 and December 2002. The sample period goes from 1996 to 2002. We limit our analysis to UK companies that have at least one annual report in an electronic format on the Dialog database. Dialog only covers large cross-sectional annual reports for this period of time. We exclude financial companies because of their substantially different financial reporting environment. The total number of annual reports on Dialog for non-financial firms for this period of time is 8,098 firm-years. We then match this sample with an updated version of the ICCSR UK Environmental & Financial Dataset, which contain some corporate governance information for UK firms from 1996 till 2002[1]. It is worth noting that the period of time investigated correlates to that used by Hussainey and Walker (2009). The ICCSR database is used because it contains information on board size and board composition for a large number of UK firms. Firms with missing data on Datastream or Worldscope are excluded. The final sample consists of 357 non-financial firms (1,860 firm-year) for the period from 1996 to 2002 inclusive.

Table I provides an overview of the sample statistics. The table reports that the average future-oriented information in the annual report narrative sections is around

Variables	Observation	Mean	SD	Minimum	Maximum
Size	1984	13.47681	1.594504	7.249215	18.96301
BORR	1984	0.9953428	18.68155	-197.79	638.52
ROA	1897	6.749968	11.04603	-108.96	66.13
β	1983	0.8831064	8.192617	-304.14	199.21
ND	1977	0.4965756	0.1421584	0	0.8888889
CHS	1886	9.277605	2.442712	1.791759	16.02931
Disclosure	1984	6.644657	4.784961	0	31
DPO	1802	0.7028021	2.915616	0	66.39999
LIQ	1984	1.426869	1.497137	0.0865671	29.20516
MB	1953	7.951874	153.8685	-444.17	6,431.85

Notes: Size, Log total asset; BORR, borrowing ratio; ROA, return on assets; β , firm risk for the firm; ND, the number of outside directorships on boards; CHS, closely held shares.

***Significance at 1%; **significant at 5%; *significant at 10%

Table I.
Descriptive analysis

seven statements with a maximum of 31 statements. This indicates that UK firms in the sample provide users of annual reports with significant voluntary information and, in turn, reduce the information asymmetry to help these users in their decision-making process. Table I also shows a low average ROA ratio of 7 per cent. There is also a low average payout ratio of 0.70 and a high average beta of 0.88. Finally, firms tend to employ outside directors on the board, with the average being 49 per cent of the entire board size, and a maximum of 88.88 per cent.

Specification of empirical models

Determinants of future-oriented information. To empirically test hypotheses *H1-H6* we employ three types of model, starting with the fixed effects Tobit model to capture the firms' specific effects on the disclosure decision, then the random effects of the Tobit model, and finally the random effects of the Logit model. The reason for using the Tobit model is the fact that the disclosure index has either a positive or zero value which justified using it. Accordingly, the sample can be considered as a censored sample, and thus ordinary least squares estimates will be biased and inconsistent. Furthermore, the Logit model is applied to investigate the factors that affect a firm's decision to disclose or conceal future-oriented information in the annual report narrative sections. The following model represents our fixed effects Tobit model:

$$D_{it} = \alpha_i + \beta'X_{it} + \varepsilon_{it}$$

where D_{it} is the future-oriented disclosure measure; α is the intercept coefficient of firm i ; β' is the slope coefficients of regressors; X_{it} is vector of financial variables for firm i at time t , this vector is made up of the following variables: crossholding share, firm size, profitability of the firm (return on assets), non-executive directors, and firm's β ; ε_{it} is the residual error for firm i at year t .

The random Tobit model can be expressed as:

$$\begin{cases} D_{it} = \alpha + \beta'X_{it} + \varepsilon_{it} & \text{if the right-hand side} > 0 \\ = 0 & \text{otherwise} \end{cases}$$

In the Tobit models, we use the same variables as those used in the fixed effects model. Finally, we use the Logit model, which has a dependent variable of 1, if the number of future-oriented statements is > 0 and 0 otherwise. Again, the independent variables are the same as those used for random and fixed effects Tobit models.

The link between future-oriented information and dividend policy. In further analyses, to empirically test hypothesis *H7* we use random and fixed effects Tobit regression as well as the Logit models in order to examine the association between corporate dividends and future-oriented information in annual report narratives. In the analyses, we use dividend payout ratio as the dependent variable and levels of future-oriented information in annual report narratives, as the main independent variable. A set of firm characteristics and corporate governance variables are used as control variables. These control variables are chosen because they are more likely to affect corporate dividend policy as indicated in prior research. Following Al-Najjar and Hussainey (2009), the control variables include firm risk, liquidity, growth opportunity, gearing, profitability, firm size, insider ownership and outside directorship on the board.

Future-oriented information measure

Hussainey *et al.* (2003) automatically generate their disclosure scores for a large number of UK companies by using QSR N6 software to content analyse narrative sections of annual reports. Their measure of disclosure quality is the number of future-oriented statements, in corporate annual report narrative sections, that contain at least one future earnings-related topic. The same measure of disclosure is used in this research. We focus on future-oriented earnings information because Hussainey *et al.* (2003), Schleicher *et al.* (2007) and Hussainey and Walker (2009) find that this information increased the stock market's ability to anticipate future earnings change.

Similar to Hussainey *et al.* (2003), the disclosure score for the investigated sample is calculated using three steps. In the first step we aim to identify the future-oriented statements in the annual report narratives. We use a list of future-oriented keywords to content analyse the narrative sections of annual reports. We use the same list of keywords created by Hussainey *et al.* (2003, p. 277). The list consists of 35 keywords as follows: accelerate, anticipate, await, coming (financial) year(s), coming months, confidence (or confident), convince, (current) financial year, envisage, estimate, eventual, expect, forecast, forthcoming, hope, intend (or intention), likely (or unlikely), look forward (or look ahead), next, novel, optimistic, outlook, planned (or planning), predict, prospect, remain, renew, scope for (or scope to), shall, shortly, should, soon, will, well placed (or well positioned), year(s) ahead. Consistent with Hussainey *et al.* (2003), we also take into account the future year numbers in the list of future-oriented keywords. In the second step we aim to identify the relevant information to the stock market in assessing the firm's future earnings. For the purpose of the current paper, the same list created by Hussainey *et al.* (2003, p. 280) is used. Hussainey *et al.* (2003) content analyse a sample of 60 sell-side analyst reports to identify relevant earnings-related keywords. These include benefit, breakeven, budget, contribution, earnings, EPS, loss, margin, profit, profitability, return and trading. In the third and final step we use the QSR N6 software to count the number of sentences that include at least one future-oriented keyword and at least one earnings-related keyword.

Other variables definitions

Our measure of firm size is the natural logarithm of total assets. This measure includes tangible fixed assets, intangible assets investment, other assets, total stocks and work in process, total debtors and equivalent and cash and cash equivalents (Datastream Item 392). We collect return on assets from Datastream as a measure of a firm's profitability. Datastream defines return on assets as net income plus interest on debt after tax, divided by the last year's total assets. Borrowing ratio is the total loans divided by equity capital and reserves, minus total intangibles (Datastream Item 733). β is the measure of the business risk and it is collected from Datastream. Liquidity is the current assets to current liability ratio (Worldscope Item 08106). Growth opportunity measure is Datastream item PTBV, which is defined as the price divided by the book value, or net tangible assets per share for the appropriate financial year end, adjusted for capital changes. Non-executive directors (ND) measure is the percentage of board directors employed in non-executive roles (Datastream Item 243). Closely holding shares (insider power) is defined as the percentage of a firm's common stock held by insiders (Worldscope Item 08021).

4. Correlation analysis and empirical results

Table II presents the correlation analysis. It shows that there is a positive correlation between disclosure and firm size, β , and outside directors, with the highest correlation being with firm size. Thus, large firms are more able to provide future-oriented voluntary information in their annual report narratives. In addition, the table shows that there is a negative correlation between future-oriented disclosure levels and borrowing ratio, profitability and cross-holder shares. Furthermore, dividend payout ratio has a positive correlation with size, β , outside directors, cross-holder shares and disclosure. Additionally, dividend payout ratio is negatively correlated to leverage and profitability. It is worth noting that these correlations give an indication about the bivariate relationships only. However, the regression analysis should provide more insight into the significance of the investigated relationships. Finally, the table shows that the independent variables are not highly correlated and thus there is no significant multicollinearity problem in the regression models.

Table III presents the empirical findings involving random effects and fixed effects panel-data regression analyses. It reports one version of the model with year dummies and a second version without year dummies. The table also reports the empirical findings of the logistic regression analysis. Given that the results on the determinants of voluntary disclosure in prior research are mixed, Table III might explain the reasons for the mixed results, and provide a better explanation for the association between corporate disclosure, firm characteristics and corporate governance structure.

H1 predicts that there is a positive relationship between firm size and the levels of future-oriented information. Table III shows that firm size is significant in fixed and random effects models (with and without year dummies) as well as the logistic model. The coefficient estimates of firm size in the five modes reported in Table III are positive and statistically significant. These findings suggest that large UK firms are more likely to increase their levels of future-oriented information in the annual report narratives than small firms. The results suggest that the economic motivation for large firms to increase their levels of future-oriented information is to attract

Variables	Size	BORR	ROA	β	NEXDR	CHS	Disclosure	DPO	LIQ	MB
Size	1.0000									
BORR	-0.0037	1.0000								
ROA	-0.0753	-0.0172	1.0000							
β	0.1119	-0.0286	-0.1258	1.0000						
NEXDR	0.2400	-0.0053	-0.0666	-0.0146	1.0000					
CHS	-0.1107	0.0212	-0.0259	0.0494	-0.0479	1.0000				
Disclosure	0.3585	-0.0025	-0.0937	0.0666	0.0836	-0.0264	1.0000			
DPO	0.1071	-0.0023	-0.0215	0.0855	0.0733	0.0457	0.0883	1.0000		
LIQ	-0.2222	0.0099	-0.0516	0.1597	-0.0743	0.0735	-0.0958	-0.0065	1.0000	
MB	-0.0426	0.1801	0.0023	0.0421	0.0122	0.0230	-0.0170	-0.0029	0.0344	1.0000

Notes: Size, Log total asset; BORR, borrowing ratio; ROA, return on assets; β , firm risk for the firm; NEXDR, the number of outside directorships on boards; CHS, closely held shares.

Observation = 1,704 firm-years.

***Significance at 1%; **significant at 5%; *significant at 10%

Table II.
Correlation matrix

Independent variables	Fixed-effects models		Random-effects Tobit models		Random-effects logistic model
	Without year dummies	With year dummies	Without year dummies	With year dummies	
Intercept	-6.378942**	-0.0221179	-8.375315***	-7.765003***	0.4352021
Size	0.8740846***	0.3977313*	1.110618***	1.044464***	0.4151392***
BORR	-0.0012396	-0.0004371	-0.0008001	-0.0003232	-0.0007085
ROA	-0.0195327*	-0.0069005	-0.0170527*	-0.0077538	-0.0040131
β	0.1545213	0.18917	-0.0381649	-0.0432862	-0.0161433
NEXDR	0.1638046	-2.043972*	-0.7486529	-1.721843*	-0.2976772
CHS	0.1270611**	0.1403545**	0.0632107	0.0688869	-0.1413472
Observations	1,860	1,860	1,860	1,860	1,860
F-value	5.33***	5.50***			
Wald $\chi^2(8)$			132.48	157.97	14.16
Prob > χ^2			0.0000	0.0000	0.0279

Table III.

Determinants of future-oriented narrative reporting

Notes: Size, Log total asset; BORR, borrowing ratio; ROA, return on assets; β , firm risk for the firm; NEXDR, the number of outside directorships on boards; CHS, closely held shares.
***Significance at 1%; **significant at 5%; *significant at 10%

more financial analysts. Therefore, these firms are more likely to be subjected to greater demand by financial analysts (and other users) for more value-relevant information. In addition, large firms are more likely to have enough funds to cover the cost of this disclosure. Given these factors, one could expect that the costs of this additional information may be generally lower for larger firms than for smaller firms. Finally, the evidence suggests that larger firms would be aware of the potential benefits of increasing their disclosure levels (e.g. assisting investors in anticipating future earnings; reducing cost of capital, improving analyst forecasts' accuracy). Therefore, we accept *H1*.

H2 expects that there is a positive association between leverage and the levels of future-oriented information. The results in Table III indicate that the coefficient estimate on BORR is negative and statistically insignificant in the five regression models reported in Table III. These results suggest that leverage is not associated with the levels of future-oriented information. This is due to the fact that the annual report is published three months after the financial year end. The findings suggest that creditors are more likely to use other sources of information (e.g. press release) to constantly monitor the affairs of UK firms and help them assess the ability of these firms to pay their obligations on time. Thus, *H2* is rejected.

H3 anticipates that profitability might have an effect on the levels of future-oriented information. The findings reported in Table III indicate that the coefficient estimates on ROA are negative and statistically significant in two of the five regression models reported in Table III. The negative sign suggests that firms with low profitability are more likely to have an incentive to increase their levels of future-oriented information, in order to signal their expected performance to current and potential investors. However, this suggestion should be taken with care as different empirical models lead to different conclusions. Therefore, it is not safe to conclude that less profitable firms are more likely to produce higher levels of future-oriented information than profitable firms. Consequently, there is limited support for *H3*.

H4 expects that reporting future-oriented information in annual report narrative sections is associated with corporate risk. However, the coefficients on β are positive and negative (none is statistically significant) in the five regression models reported in Table III. These results indicate that risk does not affect levels of future-oriented information. Our findings are consistent with prior research (i.e. Linsley and Shrivess, 2006; Hassan *et al.*, 2009). However, it is important to note that β only captures a firm's systematic market risk. There are many other types of risk which can be used as a proxy for a firm's total risk in future research. Therefore, we suggest that using other measures of risk (e.g. earnings volatility) might produce a statistically significant association with levels of disclosure. The results suggest that regardless of systematic market risk levels, UK firms do provide future-oriented information in their annual report narrative sections; as this information is considered as value relevant for users' decision making (see e.g. Hussainey and Walker, 2009). Based on these findings, we reject *H4*.

H5 expects an association between board composition and levels of future-oriented information. However, we find that the coefficient estimates on NEXDR are positive and negative, and statistically significant in two out of the five regression models, as presented in Table III. The negative sign indicates that the large number of non-executive directors on the board might reduce the conflict of interest between managers and shareholders and therefore there is no need for managers to provide more information in their annual reports. However, this explanation should be treated with caution, as different empirical model specifications result in statistically significant/insignificant associations. For this reason there is limited support for *H5*.

H6 predicts that insider ownership has an effect on levels of future-oriented information in annual report narratives. However, we find that the coefficient estimates on the CHS variables are positive and statistically significant at the 5 per cent level. This was noted when we employ the fixed effects Tobit regression analyses (with or without year dummies). However, other models yielded statistically insignificant results. These findings suggest that UK companies with closely held ownership have less information asymmetry between management and shareholders. This lower level of asymmetric information is supported by higher levels of future-oriented information in annual report narrative sections. However, this interpretation should be taken with caution as only fixed Tobit regression models yield this positive association. Therefore, there is limited support for *H6*.

Finally, *H7* expects that there is an association between levels of future-oriented information and corporate dividend policy. Table IV reports the results of the panel-data with fixed, random effects, regression analyses, as well as the logistic regression analysis. It shows one version of the model with year dummies and another version without year dummies. Table IV shows that there is a positive association between levels of future-oriented information in the annual report narrative sections and corporate dividend policy in all regression models. This finding is consistent with pecking order theory. In particular, the theory suggests that firms with lower asymmetric information levels (i.e. higher levels of future-oriented information) are more likely to pay higher dividends. This finding is consistent with prior empirical research reported by Deshmukh (2005) on a sample of US companies. The result suggests that firms that pay dividends are more likely to increase their levels of future-oriented information in their annual report narrative section. In this case firms can use either dividends, or disclosure, to signal value-relevant information for stock market participants.

Independent variables	Fixed-effects models		Random-effects Tobit models		Random-effects logistic model
	Without year dummies	With year dummies	Without year dummies	With year dummies	
Intercept	3.934007***	3.980554***	2.412632***	2.23459**	1.831927
Future disclosure	0.0131378*	0.0129369*	0.0148202*	0.0152126*	0.1936827***
Size	-0.1850791***	-0.189934**	-0.0788344	-0.0673784	0.5902575**
BORR	0.000354	0.0001121	0.0002692	0.0000381	0.0223444
ROA	-0.0104139***	-0.0106118***	-0.0087241**	-0.0094453***	0.1358564***
β	0.0941989	0.1140728	0.1233792	0.1393037	-1.352552***
LIQ	-0.037615	-0.0352308	-0.0377479	-0.0361549	-0.3852685
MTBV	0.0000231	0.0000211	0.0000239	0.0000165	-0.0006447
CHS	-0.0684596***	-0.0680216***	-0.0582569***	-0.058235***	-0.0222109
NEXDR	-0.2827165	-0.2889346	-0.1753319	-0.1036647	-4.547272**
Observations	1,704	1,704	1,704	1,704	1,704
F-value	3.53***	2.63***			
Wald χ^2 (8)			23.74	31.55	58.92
Prob > χ^2			0.0047	0.0074	0.0000

Notes: Future disclosure, number of future-oriented sentences in the annual report narratives; Size, log total asset; BORR, borrowing ratio; ROA, return on assets; β , firm risk for the firm; LIQ, liquidity ratio; MTBV, market to book value; CHS, closely held shares; NEXDR, the number of outside directorships on boards.

***Significance at 1%; **significant at 5%; *significant at 10%

Table IV.
Corporate dividend policy
and future-oriented
narrative reporting

Previous literature shows that dividend policy is considered as one of the effective corporate governance mechanisms to be used by managers in order to mitigate agency conflicts of interest within the firm (Bathala and Rao, 1995). In addition, increasing levels of future-oriented information in the annual report narratives is considered as a mean to reduce information asymmetry between managers and current and potential investors. Reducing asymmetric information should also help to reduce conflict of interest between managers and shareholders and hence reduce agency costs. To summarise, dividends and future-oriented disclosure can be considered as substitute mechanisms used by UK-listed companies to reduce agency costs. Based on these results, hypothesis *H7* is accepted.

The signs of the coefficient estimates on the control variables are in line with prior dividend policy literature (Al-Najjar and Hussainey, 2009). In particular, Table IV shows mixed results for firm size and profitability (with positive and negative significant results). Risk is negatively related to dividend policy, suggesting that risky firms are less likely to pay dividends. Corporate governance factors (e.g. insider ownership and non-executive directors) produce the expected negative sign. Therefore, a higher percentage of non-executive directors on the board, and more insider owners are associated with lower dividends levels.

To conclude, the findings suggest that a firm's size is the main driver for reporting future-oriented information in annual report narratives. This variable is statistically significant in five regression models the authors undertook. Profitability, outsider directorships, and insider ownerships are also determinants of future-oriented disclosure. However, the significance of these variables depends on whether we use

fixed effects or random effects models, and whether we include or exclude year dummies in the analyses. A positive association between corporate dividend policy, and levels of corporate narrative reporting (as a proxy for information asymmetry), is found. This finding indicates that levels of future-oriented information in the annual report narratives can be used as a mechanism for reducing agency problems. Table V summarises the outcomes of testing our research hypotheses.

5. Conclusions

In this study, we use panel-Tobit and Logit regression models to examine the determinants of corporate future-oriented information in the annual report narrative sections for a sample of UK-listed companies. We find that firm size is the main determinant of future-oriented information for UK firms listed at the London Stock Exchange. We also note that corporate profitability, the number of non-executive directors on the board, and insider ownerships are also determinants of future-oriented disclosure. However, the significance of these variables depends on whether we use fixed effects or random effects models and whether we include or exclude year dummies in the analyses.

We examine the association between dividend policy and asymmetric information (measured as levels of future-oriented information in annual report narratives). As expected, we find a positive association between the two variables. The findings indicate that firms with higher levels of future-oriented information exhibit lower levels of information asymmetry and thus are more willing to pay dividends. This result is in line with pecking order theory, but inconsistent with signalling theory.

Hypotheses	Expected sign based on prior empirical research	Sign based on the findings of the current research	Accepted (✓) or Rejected (x)
<i>H1</i> Dep = Disclosure INDEP = SIZE	+	+	✓
<i>H2</i> Dep = Disclosure INDEP = BORR	+	-	x
<i>H3</i> Dep = Disclosure INDEP = ROA	+/-	-	✓/x
<i>H4</i> Dep = Disclosure INDEP = β	-	+/-	x
<i>H5</i> Dep = Disclosure INDEP = NEXDR	+/-	+/-	✓/x
<i>H6</i> Dep = Disclosure INDEP = CHS	-	+/-	✓/x
<i>H7</i> Dep = Dividend INDEP = Disclosure	+/-	+	✓

Notes: + Positive association; -negative association

Table V.
A summary of the
outcomes of the
hypotheses testing

Our research has potential implications. It helps to inform regulators about the characteristics of firms that voluntarily report future-oriented information in their annual reports narratives, and the expected benefits of such information to users of the annual reports and the disclosing firm.

We provide evidence that different firm characteristics and corporate governance mechanisms affected levels of future-oriented earnings information published in annual report narratives. As a result, we suggest that users of annual reports should consider these variables when deciding to use the annual report as the main source of information for decision-making process. For example, if future-oriented information in the annual report narratives is driven by a company's size, users of accounting information should consider other sources of information (e.g. company websites) to find relevant information for making their decision.

Accounting regulators should advise all companies (large, medium and small) to provide value-relevant information in the narrative sections of their annual reports. One of the main requirements of the OFR statement is to produce information about the future. Prior research provides evidence that this information offers value-relevant information to investors. Therefore, the present study indicates that only large UK companies comply with the new OFR requirement. Consequently, investors (and other users) might find it difficult to use information in the annual reports of small- and medium-sized companies in order to make investment decisions.

The findings of our paper reveal managerial implications. We find that dividends policy is positively associated with levels of future-oriented information. Therefore, for effective corporate governance systems, managers can either increase dividends levels and/or increase levels of future-oriented information in their annual report narratives. This should assist in reducing the conflict of interest between managers and investors and reduce agency costs.

Our research also has implications for academic accounting researchers who examine the determinants of corporate disclosure. The results of the study imply that different results could be attributable to the use of different regression models. Therefore, researchers should consider carefully the suitability of the chosen regression model before analysing their data and interpreting their results.

Finally, it is worth noting that our findings should be interpreted in light of limiting our sample to the year 2002. It should be noted that new reporting rules for narrative disclosure (e.g. OFR) have been issued. Therefore, future studies are needed to examine the same research questions for years beyond 2002. In addition, further studies may address the effect of other corporate governance variables (such as audit committee characteristics) on levels of future-oriented information. Finally, the current study uses data from UK non-financial firms. Further studies are needed to examine the extent to which the current results are applicable for financial companies or other countries.

Note

1. We wish to thank the International Centre for Corporate Social Responsibility (ICCSR), Nottingham Business School Nottingham University (UK) for allowing us to use DataStream items 242 and 243 for our research projects.

References

- Accounting Standards Board (ASB) (2008), *Reporting Statement (RS) 1, The Operating and Financial Review*, ASB Publications, London, available at: www.frc.org.uk/asb/technical/operating.cfm (accessed 3 June 2011).

- Ahmed, K. and Curtis, J.K. (1999), "Associations between corporate characteristics and disclosure levels in annual reports: a meta-analysis", *The British Accounting Review*, Vol. 31 No. 1, pp. 35-61.
- Al-Najjar, B. and Hussainey, K. (2009), "The association between dividend payout and outside directorships", *Journal of Applied Accounting Research*, Vol. 10 No. 1, pp. 4-19.
- Bathala, C.T. and Rao, R.P. (1995), "The determinants of board composition: an agency theory perspective", *Managerial and Decision Economics*, Vol. 16 No. 1, pp. 59-69.
- Beasley, M. (1996), "An empirical analysis of the relation between the board of director composition and financial statement fraud", *The Accounting Review*, Vol. 71 No. 4, pp. 443-65.
- Bhattacharya, S. (1979), "Imperfect information, dividend policy, and 'the bird in the hand' fallacy", *Bell Journal of Economics*, Vol. 10 No. 1, pp. 259-70.
- Brammer, S. and Pavelin, S. (2006), "Voluntary environmental disclosures by large UK companies", *Journal of Business Finance and Accounting*, Vol. 33 Nos 7/8, pp. 1168-88.
- Chen, C. and Jaggi, B. (2000), "Association between independent non-executive directors, family control and financial disclosures in Hong Kong", *Journal of Accounting and Public Policy*, Vol. 19 Nos 4-5, pp. 285-310.
- Cormier, D., Magnan, M. and van Velthoven, B. (2005), "Environmental disclosure quality in large German companies: economic incentives, public pressures or institutional conditions?", *European Accounting Review*, Vol. 14 No. 1, pp. 3-39.
- Deshmukh, S. (2003), "Dividend changes and asymmetric information: a hazard model", *Financial Review*, Vol. 38 No. 3, pp. 351-68.
- Deshmukh, S. (2005), "The effect of asymmetric information on dividend policy", *Quarterly Journal of Business and Economics*, Vol. 44 Nos 1 and 2, pp. 107-27.
- Eng, L. and Mak, Y. (2003), "Corporate governance and voluntary disclosure", *Journal of Accounting and Public Policy*, Vol. 22 No. 4, pp. 325-45.
- Espinosa, M.N. and Trombetta, M. (2007), "Disclosure interactions and the cost of equity capital: evidence from the Spanish continuous market", *Journal of Business Finance and Accounting*, Vol. 34 Nos 9-10, pp. 1371-92.
- Haniffa, R. and Cooke, T. (2005), "The impact of culture and governance on corporate social reporting", *Journal of Accounting and Public Policy*, Vol. 24 No. 5, pp. 391-430.
- Hassan, O., Romilly, P., Giorgioni, G. and Power, D. (2009), "The value relevance of disclosure: evidence from the emerging capital market of Egypt", *The International Journal of Accounting*, Vol. 44 No. 1, pp. 79-102.
- Ho, S. and Wong, K. (2001), "A study of the relationship between corporate governance structures and the extent of voluntary disclosure", *Journal of International Accounting, Auditing and Taxation*, Vol. 10 No. 2, pp. 139-56.
- Hussainey, K. and Mouselli, S. (2010), "Disclosure quality and stock returns in the UK", *Journal of Applied Accounting Research*, Vol. 11 No. 2, pp. 154-74.
- Hussainey, K. and Walker, M. (2009), "The effects of voluntary disclosure and dividend propensity on prices leading earnings", *Accounting and Business Research*, Vol. 39 No. 1, pp. 37-55.
- Hussainey, K., Schleicher, T. and Walker, M. (2003), "Undertaking large-scale disclosure studies when AIMR-FAF ratings are not available: the case of prices leading earnings", *Accounting and Business Research*, Vol. 33 No. 4, pp. 275-94.
- Jensen, M.C. and Meckling, W.H. (1976), "Theory of the firm: management behaviour, agency costs and ownership structure", *Journal of Financial Economics*, Vol. 3 No. 3, pp. 305-60.

- John, K. and Williams, J. (1985), "Dividends, dilution, and taxes: a signaling equilibrium", *Journal of Finance*, Vol. 40 No. 4, pp. 1053-70.
- Kothari, S.P., Li, X. and Short, J.E. (2009), "The effect of disclosures by management, analysts, and business press on cost of capital, return volatility, and analyst forecasts: a study using content analysis", *The Accounting Review*, Vol. 84 No. 5, pp. 1639-70.
- Lakhal, F. (2005), "Voluntary earnings disclosures and corporate governance: evidence from France", *Review of Accounting and Finance*, Vol. 4 No. 3, pp. 64-85.
- Li, J., Pike, R. and Haniffa, R. (2008), "Intellectual capital disclosure and corporate governance structure in UK firms", *Accounting and Business Research*, Vol. 38 No. 2, pp. 137-59.
- Li, K. and Zhao, X. (2008), "Asymmetric information and dividend policy", *Financial Management*, Vol. 37 No. 4, pp. 673-94.
- Linsley, P. and Shives, P. (2006), "Risk reporting: a study of risk disclosure in the annual reports of UK companies", *The British Accounting review*, Vol. 38 No. 4, pp. 387-404.
- Miller, M. and Rock, K. (1985), "Dividend policy under asymmetric information", *Journal of Finance*, Vol. 40 No. 4, pp. 1031-51.
- Myers, S.C. and Majluf, N.S. (1984), "Corporate financing and investment decisions when firms have information that investors do not have", *Journal of Financial Economics*, Vol. 13 No. 2, pp. 187-221.
- Patelli, L. and Prencipe, A. (2007), "The relationship between voluntary disclosure and independent directors in the presence of a dominant shareholder", *European Accounting Review*, Vol. 16 No. 1, pp. 5-33.
- Schleicher, T., Hussainey, K. and Walker, M. (2007), "Loss firms' annual report narratives and share price anticipation of earnings", *The British Accounting Review*, Vol. 39 No. 2, pp. 153-71.

Corresponding author

Khaled Hussainey can be contacted at: Khaled.Hussainey@stir.ac.uk