

2015

# INFORMATIVENESS OF UNAUDITED FORWARD-LOOKING FINANCIAL DISCLOSURE: EVIDENCE FROM UK NARRATIVE REPORTING

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<http://hdl.handle.net/10026.1/5143>

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<http://dx.doi.org/10.24382/4959>

Plymouth University

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**ACCOUNTING  
& FINANCE**  
WITH  
PLYMOUTH  
UNIVERSITY



**INFORMATIVENESS OF UNAUDITED  
FORWARD-LOOKING FINANCIAL DISCLOSURE:  
EVIDENCE FROM UK NARRATIVE REPORTING**

By

**AHMED ABDELAZIZ ABDELALLAH HASSANEIN**

A thesis in Accounting submitted to the Plymouth University in  
partial fulfilment for the degree of

**DOCTOR OF PHILOSOPHY**

Graduate School of Management

**September 2015**

I dedicate my thesis to

*My country, Egypt, hoping for a promising future*

*Soul of my father, for extraordinary sacrifices*

*My mother, my siblings and parents in law, for their endless love and encouragement*

*My wife, Lama, for love, understanding, sacrifice and support*

*My daughter, Taliaa, for always making me cheerful*

*My supervisor, Professor Khaled Hussainey, for kindness and co-operation*

## DECLARATION

At no time during the registration for the degree of Doctor of Philosophy, the author has been registered for any other University award without prior agreement of the Graduate Committee.

The work submitted for this research degree at the Plymouth University has not formed part of any other degrees either at Plymouth University or other establishment.

I am aware of the Plymouth University policy on plagiarism, and I certify that this thesis is my own work.

Relevant seminars and conferences were regularly attended at which my work was often presented; several papers were prepared for presentation and publication.

A paper based on this study was published in the journal of “International Review of Financial Analysis (IRFA)”. The title of this paper is: “**Is Forward-Looking Financial Disclosure Really Informative? Evidence from UK Narrative Statements**”

The conferences attended are as follows:

The 11<sup>th</sup> workshop on European Financial Reporting (EUFIN), ESSEC Business School and SKEMA Business School, Paris, France, 3 – 4 September, 2015

The 38<sup>th</sup> European Accounting Association (EAA) annual congress, University of Strathclyde, Glasgow, United Kingdom, 28 – 30 April, 2015.

The British Accounting and Finance Association (BAFA) annual conference, Manchester University, Manchester, United Kingdom, 23 – 25 March, 2015.

The 12<sup>th</sup> Workshop on Accounting and Finance in Emerging Economies (AFEE), Bournemouth University, Bournemouth, United Kingdom, 18 September 2014.

The 12<sup>th</sup> Annual International Conference on Accounting, Athens Institute for Education and Research, Athens, Greece, 26 – 29 May 2014.

The Post-Graduate Society conference, University of Plymouth, Plymouth, United Kingdom, November, 2013.

The 9<sup>th</sup> annual SGRS Postgraduate Research Conference, University of Stirling, Scotland, United Kingdom, May, 2013.

The British Accounting and Finance (BAFA) Scottish Area Group Conference, University of Strathclyde, Glasgow, United Kingdom, August, 2012.

Word count of main body of thesis: 66,467 words

Signed: Ahmed Hassanein

Date: 10<sup>th</sup> of September 2015

## ACKNOWLEDGEMENT

First of all, Praise to Allah for giving me strength, health and patience to be able to finish my thesis. No compromise without Allah. I would like to thank Allah, who has empowered me and enabled me to complete my thesis successfully.

I have started my PhD studies in August 2012 at University of Stirling under the supervision of Professor Khaled Hussainey and Professor Lisa Evans. Then, I moved to Plymouth University in October, 2013 to continue my doctoral research under the supervision of Professor Khaled Hussainey and Dr. Basel Awartani.

This thesis would not have been possible without guidance and help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and the completion of this study.

I wish to offer my sincere thanks to my director of studies, Professor Khaled Hussainey, for his continuous guidance, advice and his rich discussion and comments. I am really thankful for his valuable support, encouragement, and patience during the period of supervision. Really, I am very fortunate to have been supervised by Professor Hussainey.

Also, special thanks to my supervisors, Professor Lisa Evans (Stirling University) for her assistance, guidance, and helpful comments and suggestions, and Dr. Basel Awartani (Plymouth University) for his great support.

I would like to express my sincerest gratitude to my external examiner, Professor Collins Ntim (University of Huddersfield) and my internal examiner, Dr. Rumbi Mukonoweshuro (University of Plymouth) for their time, efforts, and invaluable comments and suggestions on my thesis, as well as, for their positive output.

I, also, would like to express my appreciation to all participants of the workshops and conferences at which I have presented my work during the period of my PhD study. I would like to thank Dr. Ven Tauringana, and the organiser of the 12<sup>th</sup> Workshop on Accounting and Finance (Bournemouth University, September, 2014) for their helpful comments and suggestions

I acknowledge, also, the helpful comments received from the participants at the British Accounting and Finance (BAFA) Scottish Area Group Conference (University of Strathclyde, August, 2012), the 9<sup>th</sup> annual SGRS Postgraduate Research Conference, (University of Stirling, May, 2013), the Post Graduate Society conference (University of Plymouth, November, 2013), the 12<sup>th</sup> Annual International Conference on Accounting of the Athens Institute for Education and Research (Greece, May, 2014), the British Accounting and Finance Association (BAFA) annual conference (Manchester University, March, 2015), and the 38<sup>th</sup> European Accounting Association (EAA) annual congress (University of Strathclyde, April, 2015).

I appreciatively acknowledge the financial support of the Ministry of Higher Education and Mansoura University in Egypt for funding my doctoral study. I am really grateful to the Cultural and Educational Counsellor, Cultural Attaché, and all the administrative staff at the Egyptian Educational and Cultural Bureau in London for their great financial support and educational supervision during the period of my scholarship

I, also, take this opportunity to give my special appreciation to all administrative and academic staff at Plymouth University School of Management, and Management School of University of Stirling for their administrative support. They have provided me with a healthy environment that helped me to achieve my ambition.

Many thanks have to go to my colleagues in the Accounting and Finance Division at Plymouth University and University of Stirling. They have played a major role in my development on a scientific and a personal level during the period of my study. I, also, delegate acknowledgements to all my friends in the UK and in my beloved country, Egypt, for their continuous encouragement and contributions to my ideas.

Finally, my deepest gratefulness and obligations should go to my parents, my siblings and their families, and my parents in law and their family, for their infinite love, sacrifice and support. Most of what I have achieved in my life so far is because of their prayers, supplications, and endless encouragements. I am, also, very grateful to my wife, Lama, and my daughter, Taliaa. They kept me cheerful at all times with their smiles, love, and moral support. I love them sincerely.

## ABSTRACT

Forward-looking financial disclosure (FLFD) is potentially uninformative if it does not change from the previous year, especially after a significant change in firm performance. This study uses a sample of UK narrative statements of the annual reports over the period from 2005 to 2011. It employed the automated content analysis technique to measure change in FLFD over years to answer three research questions. First, to what extent does change in firms' earnings performance drive managers to change FLFD over years? Second, what are the other drivers of the change of FLFD from year to year? Third, do investors use information revealed by the change in FLFD?

The study finds a positive association between change in FLFD and change in firm earnings performance. However, it finds weak evidence that firms with larger changes in their earnings performance are likely to change their FLFD more than those with smaller performance changes. In addition, when we distinguish between well-performing and poorly performing firms, it finds that the change in FLFD is more positively associated with poorly performing firms compared to well-performing firms.

Furthermore, it finds that change in FLFD is positively (negatively) associated with firm size, (competitive environment), (litigious environment), and (percentage of managerial ownership). In addition, the role of the auditor in overseeing narrative reporting is not appearing for all sample firms or for well-performing firms, however, it is observable only in poorly performing firms.

Finally, the study uses firm value three months after the release of the annual report to examine investors' responses to the changes in FLFD. It finds that the value of a firm decreases as long as it changes its FLFD from the previous year. However, when we distinguish between well and poorly performing firms, it finds that the change in FLFD has no effect on the value of well-performing firms, while, it negatively affects poorly performing firms.

The results suggest that FLFD in UK narratives includes some content about firm performance. However, it neither affects the value of well-performing firms nor enhances investors' valuation of poorly performing firms.

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## LIST OF ABBREVIATIONS

ADR	American Depositary Receipt
AIMR	Association for Investment Management Research
ASB	Accounting Standard Board
CAPM	The Capital Asset Pricing Model
CEO	Chief Executive Officer
CIFAR	Centre for International Financial Analysis and Research
CLR	Company Law Review
CSR	Corporate Social Responsibility
DY	Dividend Yield
e.g.	exempli gratia (for example)
EBI	Earnings before interest.
EBIT	Earnings before interest and tax.
EBITDA	Earnings before interest and tax and depreciation and amortization.
EMH	The Efficient Market Hypothesis
EPS	Earnings per share
FAF	Financial Analysts Federation
FASB	Financial Accounting Standard Board
FLFD	Forward-Looking Financial disclosure
FS	Firm Sales
FTSE	Financial Times Stock Exchange
GAAP	Generally Accepted Accounting principles
GB	Great Britain
Herf	Herfindahl index
I/B/E/S	Institutional Brokers' Estimate System
IAS1	International Accounting Standard 1

IASB	International Accounting Standard Board
ICAEW	The Institute of Chartered Accountants of England and Wales
ICB	Industry Classification Benchmark
ICB	Industry Classification Benchmark
IFRS	International Financial Reporting Standards
IS	Industry Sales
KPIs	Key Performance Indicators
Ln	Natural logarithm
MD&A	Management Discussion and Analysis
MO	Managerial Ownership
N6	Nudist Software Version 6
OFR	Operating and Financial Review
OLS	Ordinary Least Squares
PLC	Public Limited Company
R&D	Research and Developments
RED	Reporting Exposure Draft
ROA	Return on Assets
ROCE	Return on capital employed
ROE	Return on equity
RS1	Reporting Standard 1
SEC	Securities and Exchange Commission
T&D	Transparency and Disclosure
TQ	Tobin's Q
UK	United Kingdom
US	United States
VIF	Variance Inflation Factor



### CHAPTER 1 : INTRODUCTION

#### 1.1 OVERVIEW

Financial statements are not likely to satisfy different users' needs for information (Merkley 2014). They focus only on quantitative and short term results of the business (Beattie, McInnes, & Fearnley, 2004). Therefore, the types of information that firms provide in their annual reports to the users are being changed. Instead of simply providing quantitative financial information, companies began to disclose more detailed qualitative information with forward-looking orientation to accommodate their investors' needs. One form of information that is qualitative in nature is narrative reporting<sup>1</sup>.

Narrative reporting allows firms' managers to present a soft talk discussion and analysis about their firms' performance. Therefore, it complements the financial statements, and provides a channel for managers to convey textual information about their firms to market participants (Merkley 2014). Nonetheless, the market participants analyse narrative statements when making their decisions. They help participants bridge the gap between the financial statements amounts and the economic reality of firms' performance (Feldman, Govindaraj, Livnat, & Segal, 2010; Merkley 2014). Thus, it provides a useful context for understanding the financial figures in the financial statements (Li, 2010b).

The Operating and Financial Review (OFR) is considered a key narrative disclosure medium required by the Accounting Standard Board (ASB) for financial reporting in the

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<sup>1</sup> Throughout the current study, the terms narrative reporting, narrative disclosure, narrative statements, and narratives are used interchangeably to discuss this type of information in company annual report. However, the contents of narrative reporting are qualitative, it is, where appropriate, associated with supporting figures. Therefore, narrative reporting contains both qualitative and quantitative information. This will be discussed throughout chapter 2.

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United Kingdom (UK). It is introduced to encourage managers of companies to provide narrative reporting within which directors could discuss and analyse the main factors underlying their companies' performance and financial position (ASB, 2005; ASB, 2006). Furthermore, the ASB recommends that analysis of the business in the OFR statements should have a forward-looking orientation (ASB, 2005; ASB, 2006). This type of information would help investors to assess a firm past and current financial performance and to predict its future earnings (Hussainey, Schleicher & Walker, 2003).

Hence, the value relevance of narrative reporting arises from its ability to provide analysis and discussion of a firm performance from the eyes of its board of directors. Consequently, this narrative analysis and discussion are more likely to change in response to changes in firm performance. If narrative reporting does not reflect changes in firm performance, it is mainly boilerplate reporting (i.e., standard disclosures with little firm-specific content). Recently, the International Accounting Standard Board (IASB) has worried about how informative narrative reporting is and has advised firms to avoid providing boilerplate and immaterial disclosures that make the more important information difficult to find (IFRS, 2010).

A natural question is whether narrative reporting statements have informational content or simply boilerplate disclosures. Narrative reporting might not be as informative as intended for several reasons. First, managers have flexibility in choosing the breadth and depth of information that is disclosed<sup>2</sup>. Hence, after taking into account the cost of preparing long narrative document, managers may simply use the previous year's narrative statements as templates for current and future years (Brown & Tucker, 2011).

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<sup>2</sup> Disclosure *breadth* means the extent of disclosure of different topics and how firms spread the disclosure across different topics. While, disclosure *depth* concerns the question of what information is to be disclosed in each topic (Anis, Fraser, & Hussainey, 2012).

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Second, the soft talk qualitative nature of narrative reporting makes it difficult to be audited and, therefore, many include substantial boilerplate disclosures, generic language, and immaterial details (SEC, 2003; Bloomfield, 2008; Li, 2010a, Li. 2008)<sup>3</sup>.

Nevertheless, narrative reporting will not be informative and serves its function unless firms' managers are willing to change their narrative discussion and analysis in response to change in their firms' performance (Brown & Tucker, 2011; Merkley, 2014). This is because as long as a firm changes its narrative reporting relative to prior year, it will include relatively new information. Hence, relevant information is disclosed to investors.

This study uses change in forward-looking financial disclosure (FLFD) in OFR statements from the previous year to examine the informativeness of these statements in the UK narratives.

The remainder of this chapter is organized as follows. Section 1.2 highlights the motivations and the research gaps of the current study. Section 1.3 presents the research questions, research objectives, and research hypotheses. Section 1.4 details the research methodology. Section 1.5 presents the key findings and the contribution of the study. Finally, the structure of the current study is discussed in section 1.6.

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<sup>3</sup> Pava and Epstein (1993) examine narrative statements of a group of companies and find that most companies accurately describe historical events, and very few provide useful and accurate forecasts in their narratives.

### 1.2 RESEARCH MOTIVATIONS AND GAPS IN RESEARCH

The motivations for the current study arise from either the nature of the narrative reporting and FLFD in the UK context, or/and from the gaps in the literature. This will be discussed in details in the following section.

The first motivation for the current study arises from the nature of narrative reporting in the UK context. The UK provides a unique context within which we can examine the informativeness of narrative reporting. It has a unique narrative reporting section entitled “OFR”. The OFR is a key narrative reporting statement required by the ASB in the UK. These narrative statements are introduced to encourage companies to provide narrative explanation within which directors could discuss the main factors underlying the company’s performance and its financial position. In addition, it is considered as a tool for managers to provide their perspectives of the firm to the current and potential investors. This in turn would help to reduce the information asymmetry problem and allow investors to know more about the company from the eyes of the board of directors.

However, recently the International Accounting Standard Board (IASB) has worried about how informative narrative reporting is, and has advised firms to avoid providing boilerplate disclosures. It is argued that “management should avoid generic disclosures that do not relate to the practices and circumstances of the entity and immaterial disclosures that make the more important information difficult to find” (IFRS, 2010, P. 12). This raises a concern about how informative is narrative reporting in the UK.

Furthermore, narrative reporting provides a room of flexibility for managers in how and what information to disclose. This room of flexibility may allow managers to use their

disclosure discretion to mislead investors (Marquardt & Wiedman, 2005). Li (2008) concludes that managers can use their discretion in preparing narrative reporting to strategically obfuscate the financial results of their firms. Likewise, Athanasakou and Hussainey (2014) argue that managers use future oriented information when they have incentives to mislead and provide untruthful disclosures. Therefore, this motivates the researcher to examine whether narrative reporting in the UK context is informative or simply boilerplate disclosures.

The second motivation comes from the nature of forward-looking information in the UK narratives. Forward-looking information in UK narratives is a very different in nature from that in the US. The forward-looking information in the US mainly takes the form of quantitative forecasts which are easily to be verifiable (Wang & Hussainey, 2013). However, forward-looking statements in the UK narratives are qualitative in nature. In addition, these statements are not immediately verifiable or auditable (Athanasakou & Hussainey, 2014; Wang & Hussainey, 2013). Furthermore, prior research (e.g., Hussainey et al., 2003) find a significant variation between the UK firms in terms of forward-looking reporting practices. This nature of forward-looking disclosure in the UK narratives may encourage managers of firms to use the previous year's forward-looking narratives as a template from year to year without making significant changes in order to save the preparation costs of narrative reporting document. This may raise a concern that these statements include substantial boilerplate disclosures and immaterial details about firm current performance.

The third motivation for the current study stems from the lack of the timeliness of the publication date of the annual report and, consequently, its narrative reporting. It is concluded that forward-looking information is useful to investors in anticipating future

earnings information and evaluating the ability of management to successfully run the business in the future (Hussainey et al., 2003). However, this type of information may not be useful for real time decision-making because of the relative lack of timeliness of the annual report. This may be because this type of information is likely to be forestalled by other disclosure media such as analysts' reports or conference calls. Consequently, the usefulness of financial-forward-looking disclosure in the UK narratives is still an open empirical issue and, therefore, needs more investigation.

The fourth motivation for the current study arises from the measurement methodology of narrative disclosure employed in prior research. As previously stated, forward-looking information in UK narratives is qualitative nature and is not verifiable or auditable. This nature might encourage managers to use last year's narratives as templates for future years, which raises a concern that these statements include substantial boilerplate disclosures. This suggests that using measure that better captures new information that is free of boilerplate statements is preferable. Therefore, unlike prior research on forward-looking disclosure in the UK narratives (e.g., Schleicher & Walker, 1999; Hussainey et al., 2003; Schleicher, Hussainey & Walker, 2007; Wang & Hussainey, 2013; Althanasakou & Hussainey 2014), the current study uses the change in the level of FLFD from the most recent year rather than their respective levels. Adopting the change measure can better capture new information that is free of boilerplate statements and reflects change in the business environment (Muslu, Radhakrishnan, Subramanyam and Lim, 2011). In addition, this method mitigates the problem of endogeneity (Li, 2010b) and provides more robust results (Feldman et al., 2010); it also alleviates the measurement noise due to repetitive statements (Muslu et al., 2011). To the best of our knowledge, there are no prior research measures the change in the level of forward-looking information in the UK narratives.

The fifth motivation of the current study comes from lack of prior research that examines 1) the influence of performance on narrative reporting, and 2) the extent to which firms change their disclosure in response to changes in performance. Significant amount of prior research typically emphasises on how performance influences the disclosure of quantitative financial information (e.g. Lev & Penman, 1990; Skinner, 1994; Kasznik & Lev, 1995; Harris, 1998; Healy & Palepu, 2001; Botosan & Stanford 2005; Berger & Hann, 2007). However, research that examines the association between narrative reporting and firm performance is relatively limited (Merkley, 2014). This may be because this type of disclosure is difficult to measure and quantify.

In addition, Merkley (2014) suggests that for narrative reporting to perform its function, managers must be willing to change it in response to change in firm financial performance. Prior research examines the influence of performance on narrative disclosure (Wang & Hussainey, 2013; Merkley, 2014). However, to what extent change in firm performance influences managers of a firm to change FLFD is largely unexamined. Furthermore, to the best of our knowledge, there is no prior research that examines the extent to which FLFD in the UK narratives is changed after the change in firm performance.

The sixth motivation for the current study comes from the lack of research that examines the effect of FLFD on the value of a firm. Prior empirical research assesses the investors' response to the publication of FLFD, by their impact on future performance (e.g., Clarkson, Kao, & Richardson, 1994; Li, 2010a), accuracy of analyst forecasts (e.g., Lang & Lundholm, 1996; Barron, Kile, & O'Keefe, 1999; Bozzolan, Trombetta, & Beretta, 2009; Vanstraelen, Zarzeski, & Robb, 2003; Walker & Tsalta, 2001), and future earnings (e.g., Schleicher & Walker, 1999; Hussainey et al., 2003;

Schleicher et al., 2007; Wang & Hussainey, 2013; Muslu, et al., 2011). To the best of our knowledge, there is no prior empirical research that directly investigates the relationship between the publication of FLFD in UK narratives and firm value. Furthermore, research that investigates investors' response to firm's OFR statements is limited (Wang & Hussainey, 2013).

The final motivation for the current study comes from the estimation method in the empirical tests. Bernard (1987) explains that market-based accounting research generally adopted Ordinary Least Squares (OLS) regression ignoring the problem of cross-sectional dependency, which may bias the standard error of the empirical model. This in turn leads to incorrect inferences.

Petersen (2009) states that when the same units (e.g., firms) are followed over a given period of time, the time series dependence or auto-correlation and the cross-sectional dependence or heteroscedasticity are more likely to exist. Specifically, he states that failure to deal with auto-correlation and heteroscedasticity leads to bias in the estimation of the standard errors and consequently incorrect inferences.

Gow, Ormazabal and Taylor (2010) review and evaluate the estimation methods that are frequently used in accounting literature to correct the time series dependence and cross-sectional dependence. They review and evaluate 121 accounting studies that use panel data in their estimation analyses. Their evaluations reveal that 25% of the accounting studies do not address such dependence (both time series and cross-sectional) while 75% attempt to address the dependence using variety of approaches. The major problem with these approaches is that they may correct dependence in one direction and ignore it in the other direction. They, finally, explain that accounting research ignores either one

or both types of dependence or relies on methods that have not been formally evaluated (e.g., Z2 statistics and New-West).

Peterson (2009) and Gow et al. (2010) find that in the presence of auto-correlation and heteroscedasticity in the data sets, the standard errors that are clustered by firms are unbiased and produce correctly sized confidence intervals. In addition, Petersen (2009) finds that the presence of time effect in the data set can be addressed using fixed effect (e.g. including time dummies). Overall, he suggests that the efficiency of the estimation method can be improved by adding fixed effects to the estimation method.

Essentially, the current study estimates the empirical models using OLS regression with robust standard error clustered by firms to account for any residual dependence created by firm effects (auto-correlation). In addition, the year-fixed effect is added in the empirical models to mitigate the time effects (heteroscedasticity). This estimation method accounts for the residual dependency problems frequently neglected in market-based accounting research (Gow et al., 2010).

### 1.3 RESEARCH OBJECTIVES, RESEARCH QUESTIONS AND RESEARCH HYPOTHESES

#### 1.3.1 Research objectives

This study uses a year-over-year change score in forward-looking financial disclosure (FLFD) to empirically examine the informativeness of this type of information in the UK OFR statements. If FLFD level is changed (updated) in response to change in firm performance, it will include some informational content about firm performance and, thus, offers valuable and relevant information for investors. In addition, investors' response to the new information released as a result of the change in FLFD helps in assessing the usefulness of FLFD in the UK narratives to investors.

Particularly, the current study addresses the following research objectives:

First, it examines the extent to which change in firms' performance influences managers of firms to change FLFD. This objective is achieved theoretically and empirically in chapter 4.

Second, it identifies the firm characteristics that may drive (influence) managers of firms to change their FLFD from year to year. This objective is achieved theoretically and empirically in chapter 4.

Third, it investigates the investors' response to change in FLFD. Particularly, it examines the association between the change in FLFD and the future value of a firm. This aim is achieved theoretically and empirically in in chapter 5.

### 1.3.2 Research questions

The following summarises the research questions addressed by the current study.

First, whether and to what extent do firms' managers change FLFD of their firms in response to changes in firms' current performance?

This question can be divided into the following sub-questions:

Q1a. Do firms' managers change FLFD of their firms in response to changes in firms' current performance? If they do at all,

Q1b. Do firms with larger change in their current performance change their FLFD more than firms with smaller performance change?

Q1c. Do poorly performing firms change their FLFD more than well-performing firms?

Second, what are the firm characteristics that may influence managers to change FLFD of their firms from the previous year?

This question can be divided into the following sub-questions

Q2a. Does firm size influence firms' managers to change FLFD from the previous year?

Q2b. Does competitive environment influence firms' managers to change FLFD from the previous year?

Q2c. Does litigious environment influence firms' managers to change FLFD from the previous year?

Q2d. Does the percentage of managerial ownership influence firms' managers to change FLFD from the previous year?

Q2e. Does auditor type influence firms' managers to change FLFD from the previous year?

Third, do investors response to information revealed by the change in FLFD?

The current study uses the future value of a firm to measure the investors' responses to changes in FLFD. Therefore, this research question could be re-stated as follows:

Q3a: Does association exist between the change in FLFD and a firm value?

Q3b. Does change in FLFD affect the value of well-performing firms and poorly performing firms differently?

### 1.3.3 Research Hypotheses

The research hypotheses are classified into three main groups based on research questions and objectives. The first group of hypotheses is related to the association between the change in firm current performance and the change in FLFD. The second group is related to the firm characteristics that may influence firms' managers to change FLFD of their firms from the previous year. The final one is related to the association between the change in FLFD and the value of the firm. Details of these groups are given below:

**First:** The association between change in firm current performance and change in FLFD.

H1a: A positive association exists between the change in firm performance and the change in FLFD in UK narratives.

H1b: Firms with larger changes in their performance are more likely to change their FLFD than those with smaller performance changes in UK narratives.

**Second:** Firm characteristics that may encourage managers to change FLFD.

## CHAPTER 1: INTRODUCTION

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H2a: A positive association exists between firm size and the change in FLFD in UK narratives.

H2b: A negative association exists between competitive environment and the change in FLFD in UK narratives.

H2c: An association exists between litigious environment and the change in FLFD in UK narratives.

H2d: A positive association exists between the percentage of managerial ownership and the change in FLFD in UK narratives

H2e: A positive association exists between auditor type and the change in FLFD in UK narratives

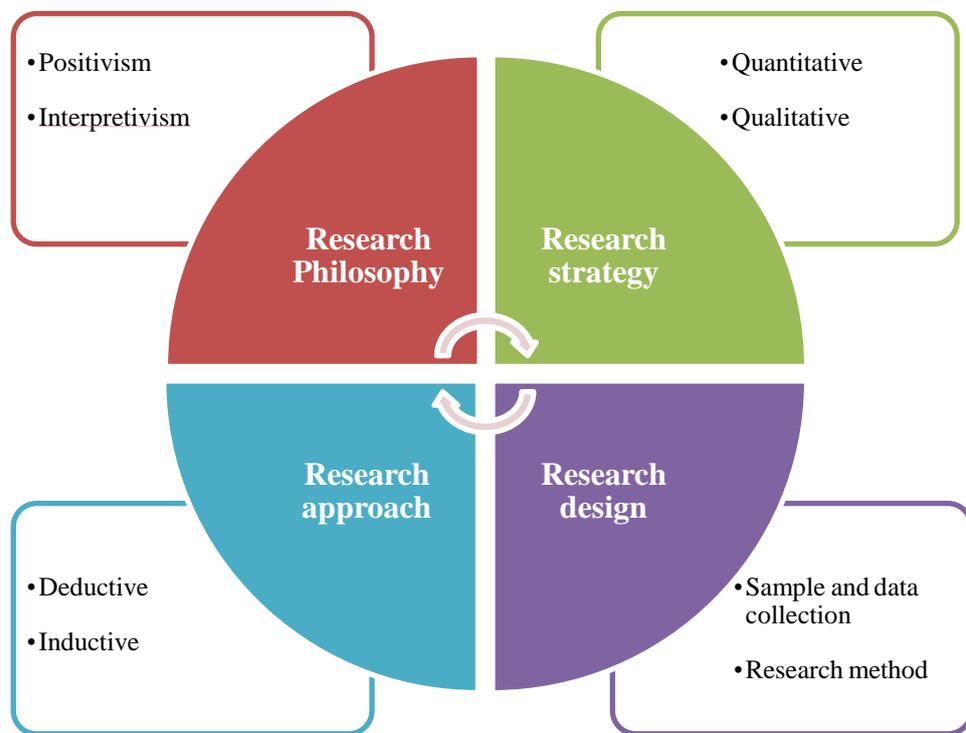
Third: The association between the change in FLFD and the value of the firm.

H3: An association exists between the change in FLFD and firm value.

### 1.4 RESEARCH METHODOLOGY

Verifying a suitable methodology should be consistent with both the research objectives and questions. In order to achieve the objectives and to answer the research questions, this section states the study's research philosophy, strategy, approach and design (as presented in Figure 1.1).

**Figure 1.1: Summary of research philosophy, strategy, approach, and design**



Source: The author

#### 1.4.1 Research philosophy

The research philosophy can go from the “interpretivism” on one extreme to the “positivism” on the other extreme (Collis & Hussey 2003). The interpretivism philosophy emphasises the differences between conducting research among people and objects of the natural sciences and, therefore, requires a social scientist to grasp the

subjective meaning of social action (Bryman, 2004; Saunders, Lewis, & Thornhill, 2009).

A part from the interpretivism, the research philosophy employed in the current study is the positivism. The positivism philosophy seeks to adopt a scientific detachment, free from the distorting potential of opinion and bias and consequently pursuit objectivity (Parsa, 2001). Therefore, under the positivism philosophy, the researcher is likely to use existing theory to develop hypotheses which would be tested and confirmed or rejected (Saunders et al., 2009).

### **1.4.2 Research strategies**

Two main distinctive research strategies are widely employed in social science: “quantitative” and “qualitative” strategies. The quantitative strategy emphasises on the quantification in the data collection, and using mathematical models that link between cause and effect relationship, and test the hypotheses of the chosen theories. On the other hand, the qualitative strategy emphasises on words and interpretation to discover the required knowledge rather than quantification in the collection and analysis of data.

The quantitative strategy is most suited with the positivism philosophy (Crotty, 1998). Furthermore, the nature of the research objectives and research questions suggests the use of quantitative strategy. This strategy allows the quantification in the collection and analysis of data to test and interpret the association between variables. It is more likely to answer the research questions and, therefore, generalizing the results.

### **1.4.3 Research approach**

There are two main research approaches: “deductive” and “inductive” approaches. The deductive approach is starting from a theory (theories), after that, the hypotheses are

developed based on this theory (these theories), and then a research strategy is designed to test the hypotheses depending on the collected data (Saunders et al., 2009). Unlike the deductive approach, under the inductive approach the data related to the phenomenon is collected and analysed, then a theory is built up as a result of the conclusion from data analysis (Bryman & Bell, 2003).

The deductive approach is more appropriate for the current study. Under this approach, research questions are established, then various hypotheses are developed based on the existing theory (theories) and finally statistical techniques are used to test the developed hypotheses which lead to either accepting or rejecting the relationship between variables according to the chosen theory (theories).

### **1.4.4 Research design**

The study uses a sample of the UK FTSE all-shares non-financial firms over the period from 2005 to 2011. Datastream is used to obtain a list of FTSE all-shares firms listed in the London Stock Exchange. All financial firms are excluded; in addition, firms that do not have complete series of annual reports over the sample period are excluded. More details about these issues are provided in chapter 3 (section 3.3), chapter 4 (section 4.6.4), and chapter 5 (section 5.7.4). The annual reports are collected from companies' official websites, the Thomson one banker database, and the Northcote website ([www.northcote.co.uk](http://www.northcote.co.uk)). All financial data is collected from Datastream. The auditor type data is manually collected from the companies' annual reports.

Based on prior disclosure research, the level of FLFD is captured using the automated content analysis technique (e.g., Hussainey et al., 2003; Li, 2010a; Muslu et al., 2011).

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The current study measures the change in firm's FLFD by calculating the change in the level of FLFD from the previous year to current year.

Change in firm current performance is measured by the difference between firm return on equity ratio in year  $t$  and year  $t-1$ . In terms of firm characteristics, firm size is measured as the natural logarithm of the market value of equity at the end of the current year. The Herfindahl index or simply *Herf* is used as a proxy for competitive environment. The industry classification is used to identify firms that are exposed to high litigious risk. The managerial ownership is the percentage of total shares in issue of 5% or more held by employees, or by those with a substantial position in a company that provides significant voting power at an annual general meeting. The size of the audit firm is used as a measure of the auditor type.

To investigate investors' response to changes in FLFD, firm value three months after the annual report date is used as a proxy for investors' response. The value of the firm is measured using the natural logarithm of the firm Tobin's Q ratio three months after the date of annual report.

To test the hypotheses and examine the association between the main variables, the current study estimates using OLS regression with robust standard error clustered by firm to mitigate the residual dependence problems caused by time effect (heteroscedasticity) and firm effect (auto-correlation).

More details about the research design are discussed throughout chapters (3, 4 & 5).

### 1.5 RESEARCH CONTRIBUTIONS

This study offers three distinct contributions to the narrative reporting literature in general and forward-looking disclosure in particular.

First, it contributes to the body of knowledge on methodological developments in both the measurement of FLFD and the estimation method in empirical tests. Unlike prior research on forward-looking disclosure in the UK narratives (e.g., Schleicher & Walker, 1999; Hussainey et al., 2003; Schleicher et al., 2007; Wang & Hussainey, 2013; Althanasakou & Hussainey 2014), the study uses the change in FLFD rather than their respective levels. Adopting change measure in narrative reporting can better capture new information that is free of boilerplate statements and reflects changes in the business environment (Muslu et al., 2011). In addition, this method mitigates the problem of endogeneity (Li, 2010b) and provides more robust results (Feldman et al., 2010); it also alleviates the measurement noise due to repetitive statements (Muslu et al., 2011).

Furthermore, the study uses the OLS regression with robust standard error clustered by firms in order to mitigate the residual dependence problems caused by time effect (heteroscedasticity) and firm effect (auto-correlation). This estimation method accounts for the residual dependency problem frequently neglected in market-based accounting research (Gow et al., 2010).

Second, to the best of our knowledge, this is the first UK evidence on the extent to which firms change their FLFD in response to change in performance. The study finds an association between the change in firms' earnings performance and the change in FLFD. However, it offers evidence that firms with larger changes in earnings

performance are more likely to change their FLFD than those with smaller performance changes. Furthermore, the change in FLFD is more positively associated with poorly performing firms compared to well-performing firms. Given that IASB concerns about the informativeness of narrative reporting, this study provides fresh evidence that FLFD in the UK narrative statements includes some content about firm performance.

The study, also, provides the first UK evidence on identifying the firm characteristics that might influence managers of firms to change FLFD of their firms over years. It finds that change in FLFD is influenced positively (negatively) by firm size, (competitive environment), (litigious environment), and (percentage of managerial ownership). In addition, the role of the auditor in overseeing narrative reporting is not appearing for the all sample firms or for well-performing firms, however, it is observable only when firms are poorly performing. This result helps in understanding the incentives of managers to provide informative narrative reporting.

Third, the prior empirical research assesses the usefulness of forward-looking statements in the UK narratives by examining their impact on future earnings (Schleicher & Walker, 1999; Hussainey et al., 2003; Schleicher et al., 2007; Wang & Hussainey, 2013). This study extends the literature on the informativeness of FLFD by examining the effect of the change in these statements on the firm value. The results suggest that the value of a firm decreases as long as it changes its FLFD from the previous year. However, when we distinguish between well and poorly performing firms, it finds that the change in FLFD has no effect on the value of well-performing firms, while, it negatively affects poorly performing firms. These results add to our understanding on the usefulness of forward-looking information in the UK narrative reporting.

### 1.6 STRUCTURE OF THE STUDY

This section outlines the structure of the thesis, which contains six chapters, as shown in Figure 1.2. This structure indicates that there are three main chapters (chapters 3, 4 & 5). Each one of these chapters contains, where relevant, a review of the relevant theories, literature, and the development of hypothesis/hypotheses, in addition, it presents the research design, and results. The current study is organised as follows:

Chapter Two discusses different disclosure aspects in the corporate reporting and explains the importance of annual report as a way of communicating information. After that, it explains the nature, and arguments for and against narrative reporting in the annual report. Then, it focuses on narrative reporting in the annual reports of the UK firms, particularly the OFR statements. Finally, it takes sharper focus (more concentration) on forward-looking information in the UK narratives.

Chapter Three explains the methodology of measuring change in FLFD from the previous year. It starts by discussing the arguments for adopting change methodology in measuring narrative reporting. Then, it explains the sample selection process and the collection of the annual reports. After that, it provides the detailed explanation of the steps used in measuring change in FLFD, and discusses the reliability and validity tests. Finally, it reports the descriptive analysis that explains the change in FLFD over years and across industries.

Chapter Four investigates the factors that might influence managers of firms to change FLFD over years. Hence, it provides answers to the research questions: Q1a, Q1b, Q1c, Q2a, Q2b, Q2c, Q2d and Q2e. The chapter starts by providing the theoretical framework; it discusses relevant theories, the literature, and the development of

## **CHAPTER 1: INTRODUCTION**

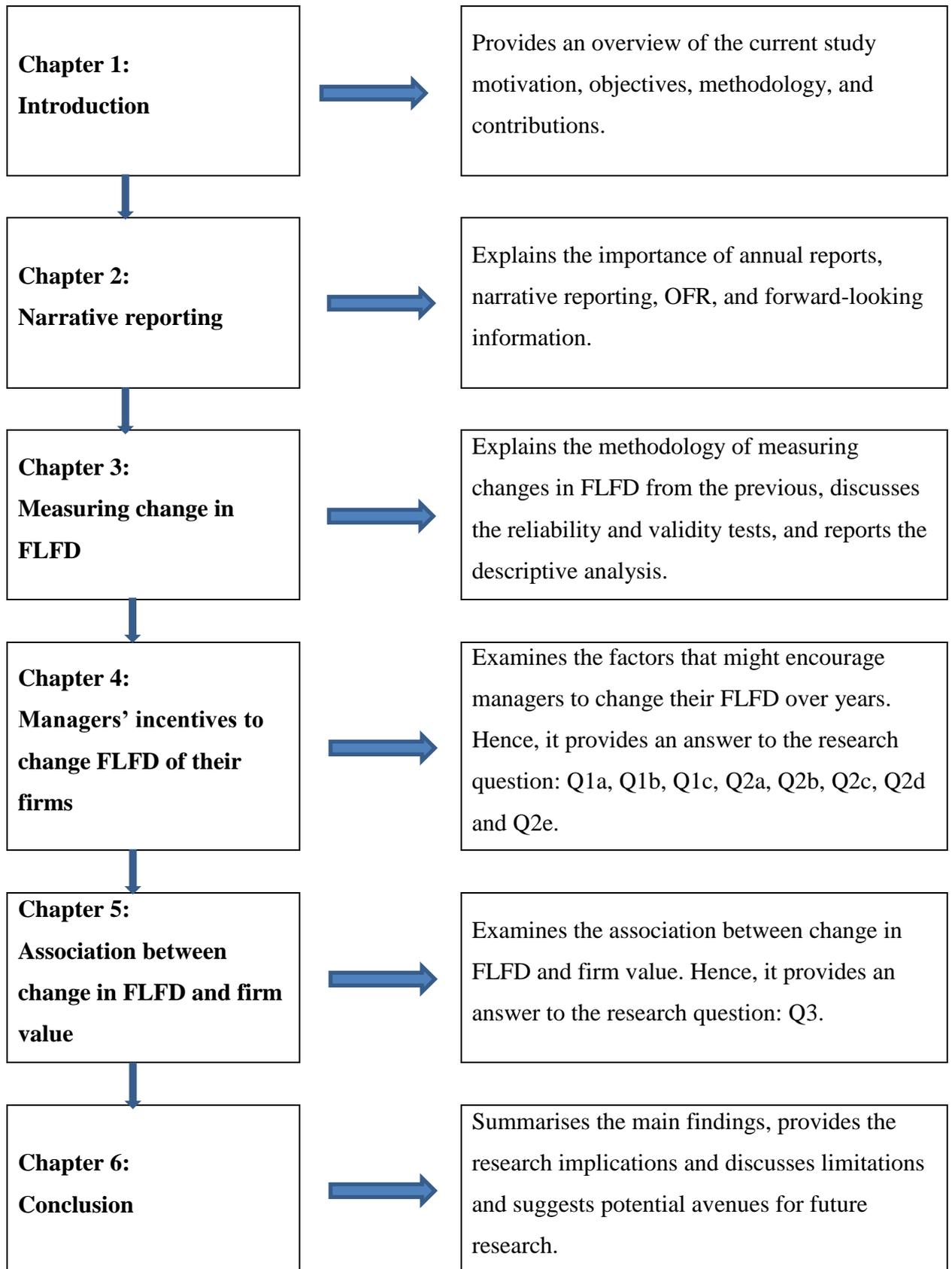
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hypotheses. Then, it details the research design; it draws on the variables' definitions and measurements, and sample selection and data collection. Finally, it reports the results of the current study; it presents the descriptive statistics, the correlation analysis, the multivariate results, and introduces further analysis.

Chapter Five examines the association between change in FLFD and firm value. Hence, it provides an answer to the research question: Q3. The chapter starts by providing the theoretical framework; it discusses relevant theories, the literature, and the development of hypothesis. Then, it details the research design; it draws on the variables' definitions and measurements, and sample selection and data collection. Finally, it reports the results of the current study; it presents the descriptive statistics, the correlation analysis, the multivariate results and introduces further analysis and robustness test.

Chapter Six provides the concluding remarks of the current study. It starts by providing summary of the research objectives and key findings. Then, it discusses the implications of the results. Finally, the limitations of the current study and suggestions for future research are highlighted.

**Figure 1.2: The structure of the study**



**Source: The author**

### **CHAPTER 2 : NARRATIVE REPORTING**

#### **2.1 OVERVIEW**

Lev (1989) states that financial statements lost their value relevance, therefore, beside the traditional financial information, annual report contains large amounts of narrative information. This chapter generally seeks to provide a description (and where appropriate, an evaluation) of narrative reporting. It presents discussion about the nature of narrative reporting then focuses on the narrative reporting within the context of the UK. Finally, it takes a sharper focus on forward-looking information in the UK narratives.

Particularly, the chapter is organized as follows. Section 2.2 discusses different communication tools and different disclosure aspects in the corporate reporting. Then, it explains the importance of annual reports as a way of communicating information. Section 2.3 discusses the nature of narrative reporting and explains the arguments for and against narrative reporting. Section 2.4 focuses mainly on narrative reporting in the UK; it discusses the nature, development and content of the OFR as a main narrative disclosure medium required by the ASB in the UK. Section 2.5 takes a sharper focus on forward-looking information included in the UK OFR statements. It discusses the nature and argument for and against forward-looking information. Then, it explains the usefulness of forward-looking information. Finally, the chapter discusses different measures of forward-looking disclosure. The concluding remarks of this chapter are provided in section 2.6.

### 2.2 CORPORATE REPORTING

The separation between ownership and control creates an agency problem<sup>4</sup>, particularly an information asymmetry problem, where market participants believe that managers tend to behave to their own benefits (Jensen & Meckling, 1976). Accordingly, any mechanism intended to overcome this information asymmetry problem is profound to the success of the financial market (Ronen & Yaari, 2002). One of the most effective mechanisms in mitigating such problem is keeping investors informed through disclosure. Disclosure, in general, is critical for the functioning of capital market (Healy & Palepu, 2001). It is defined as “any deliberate release of information, whether quantitative or qualitative, mandatory or voluntary, or via formal or informal channels” (Gibbins, Richardson, & Waterhouse, 1990, p. 122).

The disclosure of financial information is crucial; however, it provides only one part of the overall firm performance. Since, it focuses only on the short-term results of businesses, giving little emphasis to their long-term value potential (Beattie et al., 2004). The International Accounting Standard Board (IASB) argues that “*if financial statements are not sufficient to meet the objectives of financial reporting, then the IASB should consider requiring the disclosure of other information to help the financial reports meet their objective (...) this will be achieved only if companies provide clear and meaningful information*” (IASB, 2005, p. 11).

Therefore, there is a need for other types of information beyond the traditional financial statements that emphasis on back-looking and quantified financial disclosure (Lev &

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<sup>4</sup> The agency problems arise when investors do not intend to play an active role in the management of their firms and delegate the responsibility to the agents of the firm. The self-interested managers have an incentive to make decisions that expropriate investors’ interests by over-consuming perquisites, paying directors excessive compensation or making investment decisions that are harmful to the interests of outside investor (Jensen & Meckling, 1976).

## CHAPTER 2: NARRATIVE REPORTING

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Zarowin, 1999; FASB, 2001b; Lev, 2001; ICAEW, 2003; Beattie et al., 2004). These types of information may provide more transparency regarding the companies' business life (Espinosa, Tapia, & Trombetta, 2008).

The disclosure requirements and practices are growing. The types of information that firms provide to the public are being changed. Instead of simply providing the breakdown of line items, companies begin to provide more detailed disclosures to accommodate users' needs. Therefore, the firm's corporate reporting has been changed. Besides financial reporting, there are many different disclosure areas of reporting such as corporate governance, corporate social responsibility, directors' remuneration reporting, and narrative reporting. Below is an overview on each of these different disclosure areas of reporting:

*Financial reporting:* This type of reporting is the core of corporate reporting. It consists mainly of the financial statements<sup>5</sup> and the accompanying notes to these financial statements. The preparation of financial statements has to be done in accordance with the accounting standards (e.g., IFRS; US-GAAP).

*Corporate governance reporting:* The term corporate governance refers to the process through which firms are controlled. The corporate governance reporting covers information such as the structure of board of directors, the internal control system, reporting on firm's going concern, and the external auditors.

*Corporate Social Responsibility (CSR) reporting:* This represents the communication on how firms understand and manage their impact on people, customers, suppliers, environment, and society in order to deliver enhanced value to all stakeholders.

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<sup>5</sup> According to the International Financial Reporting Standards (IFRS), financial statements include the following: statement of financial position, statement of comprehensive income, statement of change in equity, and cash flow statement.

## CHAPTER 2: NARRATIVE REPORTING

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*Directors remuneration reporting:* This reports the firm's directors' rewards and compensation packages, both in the short term and the long term, for delivering their company's strategic objectives. It includes information about the actual amounts of payments made by the company to its directors and how these amounts of payments are calculated.

*Narrative reporting:* This is stenography for the critical textual and non-financial discussion that is reported alongside financial information. It aims to present a review of the company's operating and financial performance, position and prospects for the future. This narrative discussion would help investors to have a broader, more meaningful understanding of a company's business, its market position, strategy, performance, and future prospects. Typical mediums of narrative reporting are chairman's statement in the UK or president letter to shareholders in the US, Chief Executive Officer's statement, Management Discussion and Analysis (MD&A) and Operating and Financial Review (OFR).

Obviously, all corporate reporting areas of disclosure include narrative statements. For instance, the notes accompanying to financial statements are narrative statements. The other corporate reporting areas, namely: corporate governance, corporate social responsibility, directors' remuneration reporting and narrative reporting include narrative statements. However, Beattie, Dhanani, and Jones (2008) argue that narrative statements could be divided into two categories; descriptive and storytelling narratives. The descriptive narratives aim to present specific data. This type of descriptive narratives includes the following: notes accompanying to financial statements, corporate governance, corporate social responsibility, directors' remuneration reporting. While, the storytelling narratives provide discussion and analysis concerning firm's

## CHAPTER 2: NARRATIVE REPORTING

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performance and financial position. This type of information refers to the narrative reporting such as OFR and MD&A.

However, the corporate reports of a firm can take many forms such as annual reports, interim reports, press releases, conference calls, and internet reporting, the firm's annual report is regarded as the only source of corporate reporting that is independently verified (ACCA, 2013). This is because it contains the audited financial statements of a firm.

The main purpose of the annual reports is to provide useful information to different users. Users of the annual reports can be divided into two groups; *primary and secondary groups*. The primary group of users includes shareholders or investors, creditors and analysts. The secondary group includes standard setters, government, employees, customers, suppliers, labour unions, and academic researchers.

The importance of the annual report can be seen from two different perspectives; management and user perspectives. Table 2.1 summarises the importance of the annual reports from management and user perspectives.

<b>Management perspective</b>	<b>Annual report intends to:</b> Provide information for making an informed investment decision. Report on financial position, operating results and cash flows. Report on managers' stewardship. Maintain public relations. Meet legal and regulatory requirements. Provide information for an informed shareholder voting decision.
<b>User (e.g., investor) perspective</b>	<b>Annual report intends to:</b> Asses risk and return. Provide general reference.

## CHAPTER 2: NARRATIVE REPORTING

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	Provide information for meetings with management. Verify information from other sources. Make performances forecast. Reach current/potential customers. Analyse and track industry sector.
This Table reports the importance of the annual reports from management and user perspectives	

The need for information is affected by the users' objectives and their relation with the business involved. This may have a significant impact on the type of information required by each group, and the extent of information that can be made available to users. Therefore, in order to meet the different objectives, users need different types of information for their decision making process. Thus, management should make a balance between qualitative and quantitative information provided in the annual report in order to meet the needs of different users.

The annual report provides variety of types of information to its users. It is regarded as a medium for communicating both quantitative and qualitative information to shareholders, investors and other users (Al-Shammari, 2008). It may contain mandatory and voluntary information, financial and non-financial, qualitative and quantitative information, back-looking and forward-looking information.

Some prior research emphasise the usefulness of information disclosed in the annual reports. For instance, it is argued that information disclosed in the annual reports could enhance the ability of the firm to raise capital at a lower cost of capital (Healy & Palepu, 2001). In addition, qualitative information published in the annual reports helps in improving share price anticipation of future earnings (Hussainey et al., 2003; Wang & Hussainey, 2013).

This study focuses on narrative reporting in the annual report. However, the annual report has criticised because of its lack of timeliness of information, the decision to

## CHAPTER 2: NARRATIVE REPORTING

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focus on narrative reporting in the annual report is justified based on the following reasons:

First, the annual report of a firm is an official document required to be published on an annual basis (Hussainey, 2004; Marston, 2008). Second, the annual reports are considered a primary and an influential source of information for investors and there is an increasing usage of these reports (Marston & Shrives, 1991; Lang & Lundholm, 1993; Beattie et al., 2008; Elshandidy, Fraser & Hussainey, 2013). Third, the annual report is considered the basis for other reports such as analyst report. There is significant positive correlation between annual report disclosure and the disclosure of other media of communication such as analysts' reports (Lang & Lundholm, 1993; Botosan, 1997; Botosan & Plumlee, 2002; Hussainey, 2004). This suggests that analysts prepare their reports based on annual reports of firms.

Fourth, narrative reporting is extensive in annual reports. Typical mediums of narrative reporting in the annual reports are chairman's statement in the UK firms or president letter to shareholders in the US firms, Chief Executive Officer's statement (CEO statement), Management Discussion and Analysis (MD&A), Operating and Financial Review (OFR) and Business Review. More details will be provided about narrative reporting in section 2.3.

Finally, following Hussainey et al. (2003), the use of the annual reports is due to technical reason in coding the reports. The annual reports are available on an electronic format for large number of the UK firms on their websites. Thus, the study can code these reports automatically using *QSR N6* software. In addition, the current study uses annual reports rather than interim reports to avoid seasonality and updates of originally reported interim data.

### **2.3 NARRATIVE REPORTING**

Narrative reporting has become an integral part of corporate reporting, and is considered to be a crucial element to achieve a desired level of quality of a firm corporate reporting (Beattie et al., 2004). This section discusses the nature of narrative reporting and explains the arguments for and against this type of disclosure.

#### **2.3.1 Nature of narrative reporting**

Financial statements are historical in nature and contain very little non-financial information. However, they provide information about firm performance and its financial position; it is argued that more qualitative information should be provided to improve the users understanding (Beattie et al., 2004). As a result, firms provide narrative reporting statements in their annual reports.

Narrative reporting is stenography for the critical textual and non-financial discussion that is reported alongside financial statements information. It aims to present a review of the company's operating and financial performance, position and prospects for the future. It allows management to present a description of corporate financial performance and related accounting output and through which managers can provide discussion and analysis surrounding firm economic environment (Clatworthy & Jones, 2003).

It complements financial statements and provides a channel for managers to convey textual information about their firms to market participants (Merkley, 2014). Furthermore, it offers the possibility to account for corporate qualitative information not recognized in financial statements, such as forward-looking information (Beattie et al., 2004). Nonetheless, market participants analyse narrative reporting statements when making their decisions. The narrative statements help participants to bridge the gap

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between financial statements amounts and the economic reality of firms' performance (Feldma et al., 2010; Merkley, 2014).

Typical mediums of narrative reporting are the UK firms' chairman's statement or the US firms president letter to shareholders, Chief Executive Officer's statement (CEO statement), Management Discussion and Analysis (MD&A) and Operating and Financial Review (OFR).

A chairman's statement or president letter provides an overview of the firm performance over the past year and covers strategy, and future prospects. CEO statement is naturally complement to chairman's statement. The MD&A is a key narrative reporting section required by the Securities and Exchange Commission (SEC) for annual and quarterly financial reporting. The MD&A provides an overview of the previous year operations explains how the firm performed the past year and provides projections for the coming year. The OFR is a narrative explanation required by Accounting Standard Board (ASB) for annual reporting. It provides the main trends and factors underlying the development, performance and position (the OFR will be discussed in details in section 2.4). The current study focuses mainly on the OFR statements as a main narrative reporting statements required by the ASB in the UK.

Narrative reporting can vary in both content and style. The content of narrative reporting refers to what information to disclose. In other wording, it concerns with breadth and depth of disclosed information. Disclosure breadth means the extent of the disclosure of different topics and how firms spread that disclosure across these topics, while, the disclosure depth concerns the question of what information is to be disclosed in each topic (Anis et al., 2012). For instance, if the company makes a discussion about its financial position, it could disclose information about its assets, liabilities and equity.

This reflects the disclosure breadth. The disclosure depth concerns with what information to be disclosed in each topic. For instance, in the discussion about firm's assets, whether the company will provide historical discussion about its assets or some future oriented information concerning the assets will be provided.

Contents, typically, have a shared meaning and are necessary to convey an idea to someone else (Pennebaker, 2011). If there is no focus on the content, narrative reporting becomes meaningless (Asay, Libby & Pennekamp, 2013). Research on the content of narrative reporting focuses on some characteristics such as tone of narrative disclosure (e.g., Kothari, Li, & Short 2009; Feldman et al., 2010; Li, 2010b; Demers & Vega 2011; Davis, Piger, & Sedor 2012; Huang, Teoh, & Zhang, 2014) and narrative disclosure quantity (e.g., Hussainey et al., 2003; Wang & Hussainey, 2013; Merkley, 2014; Athanasakou & Hussainey, 2014; Elshandidy, Fraser, & Hussainey, 2014).

On the other hand, the style of narrative reporting concerns with how information is disclosed. In other words, style concerns with the readability of narrative reporting (e.g., Li, 2008; Bonsall IV & Miller, 2014). However, it is argued that narrative reporting can still be largely understood regardless of the style of reporting (Asay et al., 2013). Prior research suggests that style of reporting can affect user decision. For instance, users might interpret certain style choices as signals of trustworthiness or credibility (Elliott, Hodge, & Sedor, 2012), optimism about the future (Bowen, Davis & Matsumoto 2005; Davis et al., 2012), or the relative importance of information (Elliott, 2006).

Empirically, prior research finds that bad news disclosures are likely to be longer and less readable than good news disclosures (e.g., Li, 2008; Asay et al., 2013; Rennekamp, 2012). Furthermore, the longer and less readable disclosures are associated with lower

trading and weaker market reactions (You & Zhang 2009; Miller, 2010; Rennekamp, 2012; Tan, Wang, & Zhou, 2013).

Another feature of narrative reporting is that it provides a room of discretion for managers. Although, the topics of narrative reporting are broadly prescribed; managers have considerable discretion regarding the amount and content of narrative disclosure. Brown and Tucker (2011) argue that MD&A must cover certain topics but managers have flexibility in choosing breadth and depth of what is disclosed in MD&A. Therefore, it could be argued that narrative reporting has a mandatory/discretionary nature.

### **2.3.2 Arguments for and against narrative reporting**

There are various arguments concerning the merits and demerits of the publication of narrative reporting. This section attempts to explain the arguments for and against the narrative reporting.

As previously indicated that the financial statements are unlikely to provide all information required by investors, the insufficiency of financial statements information may be an underlying reason why investors need narrative reporting. Narrative reporting may be used as a tool to communicate what cannot be delivered by financial statements numbers. Li (2010b) argues that narrative reporting can provide a very useful context for understanding financial amounts in the financial statements. Furthermore, Merkely (2014) argues that narrative reporting bridge the gap between financial reporting and economic reality of the firm. Abrahamson and Amir (1996) argue that financial statements are aimed at aiding investors in timing and valuing future cash flows and dividends, the information therein is purely historical. However, management possess

the information that can be helpful in explaining current performance and forecasting; such data cannot be expressed within the financial statements. Therefore, narrative reporting is required to alleviate the discrepancy between the objective of financial statements and the ability of the actual content of the statements to fulfil this function. Therefore, narratives provide the platform for discussion and analysis around numbers in the financial statements.

Another argument for the publication of narrative reporting is that these reports reduce the information asymmetry problem between managers and outsiders (Dhaliwal, Li, & Tsang, 2011). Narrative reporting provides a considerably important mean for managers to convey their perspectives of the firm to outside investors. Therefore, it is considered a crucial in reducing information asymmetry among the market participants, as well as, between managers and investors (Dhaliwal et al., 2011). Barberis, Shleifer, and Vishny (1998) explain two cases related to under and over reaction to earnings figure. In the case of under reaction, investors assume that the earnings figures may be permanent. Barberis et al. (1998) argue that the reason may be because investors depend on the earlier earnings that may be too low to justify the current earnings. In the case of overvaluation, investors erroneously assume that past good performance is reflective of future good performance. They, also, suggest that more explanation is required to justify the current earnings. Consequently, narrative reporting may be used to serve this purpose.

Furthermore, proponents of the publication of narrative reporting argue that it is regarded as an important source of information for different users. Clatworthy and Jones (2003) state that narrative reporting is an important source of information for different sophisticated users such as analysts and institutional investors. In addition, it is helpful

in making investment decisions (Lee & Tweedie, 1981). Arnold and Moizer (1984) find that narrative reporting statements in the annual reports are influential source of information to both financial analysts and institutional investors. The ASB (2005, para 14 & 2006, para 14) conceptualised that narrative reporting is intended to help investors in evaluating past results and future performance of the business in order to enable them to make rational investment decisions. Likewise, the IASB (2005, para 41) argue that narrative reporting are more likely to help users interpret financial statements and improve their ability to make economic decisions.

On the other hand, there are other arguments against the publication of narrative reporting. Opponents of narrative reporting argue that managers may successfully use narrative reporting to mislead investors (Kanto & Schadewitz, 2009). If you consider that narrative reporting provides a room for discretion for managers, managers may use their discretion in disclosure to mislead investors (Marquardt & Wiedman, 2005). Li (2008) concludes that managers can use their discretion in preparing narrative reporting to strategically obfuscate the financial results. He finds that the narrative statements of poorly performing firms are difficult to read and understand compared to those of well-performing firms.

Furthermore, some studies (e.g., Healy, Hutton & Palepu, 1999; Lev & Penman, 1990) suggest that narrative disclosures reflects agency but explained as either a case of impression management or management's willingness to subdue information asymmetry. Impression management is regarded as attempts "to control and manipulate the impression conveyed to users in accounting information" (Clatworthy & Jones, 2001, p. 311). As a result, managers are presumed to use narrative reporting as impression management vehicles to "strategically manipulate the perceptions and

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decisions of stakeholders” (Yuthas, Rogers & Dillard, 2002, p. 142). Therefore, narrative reporting may provide a disclosure medium for managers to engage in impression management practices.

Table 2.2 summarises the arguments for and against narrative reporting.

<b>Table 2.2</b>	
<b>Arguments for and against narrative reporting</b>	
<b>Arguments for narrative reporting</b>	<b>Arguments against narrative reporting</b>
Used to deliver what cannot be delivered by financial statements numbers.	May be used by management to mislead investors
Reduces the information asymmetry problem	Helps managers to engage in impression management practices.
Source of information for different users (e.g., analysts and institutional investors)	
This Table summarises the arguments for and against narrative reporting.	

### 2.4 OPERATING AND FINANCIAL REVIEW (OFR)

The current study focuses on narrative reporting in the United Kingdom (UK). The Operating and Financial Review, or simply *OFR*, is introduced by the Accounting Standard Board (ASB) as a narrative reporting medium for firms in the UK. This section discusses the nature, the developments, and the contents of the OFR.

#### 2.4.1 Nature of the OFR statements

Para 3 of the ASB (2006) defines the OFR as “A narrative explanation, provided in or accompanying the annual report, of the main trends and factors underlying the development, performance and position of an entity during the financial year covered by the financial statements, and those which are likely to affect the entity’s future development, performance, and position” (ASB, 2006, p. 8)

The OFR is introduced to encourage companies to provide textual disclosure within which directors could discuss the main factors underlying the company’s performance and financial position (ASB, 2005; ASB, 2006). It should provide analysis of the business through the eyes of the board of directors. It is stated that “The OFR shall set out an analysis of the business through the eyes of the board of directors” (ASB, 2006, Principle 4, p. 9). Thus, the OFR should reflect the directors’ view of the business. It is argued that “Directors should consider the potential future significance of issues in deciding whether or not to include an analysis of them in the OFR” (ASB, 2006, p. 18).

The OFR shall focus on matters that are relevant to the interest of different users (ASB, 2005; ASB, 2006). It is stated in the exposure draft of the Reporting Standard 1 (RS1) of the OFR that it requires directors to prepare an OFR addressed to investors. However, it is explicitly stated that the users of the OFR statements include investors, potential

investors, creditors, customers, suppliers, employees and society (ASB, 2005; ASB, 2006). Accordingly, the OFR statements should be relevant to all users who may need relevant information for their decision making.

### **2.4.2 The developments of the OFR statements**

The preparation of the OFR has been guided in number of ways since the concept was first developed in 1993. It has gone from voluntary, to mandatory, back to voluntary, and then firms are required to prepare a “Business Review”. As stated in the OFR Reporting Statement (2006, Introduction, para.1, 2, 3, 4, &5), the development of the OFR statements was as follows:

The ASB originally issued the “Statement OFR” in July 1993. The Statement build on the foundation of existing best practice by providing a framework within which directors could discuss the main factors underlying the company performance and its financial position<sup>6</sup>. Then, this statement was updated and a revised version issued in January 2003 to reflect later improvements in narrative reporting. At this stage there were no mandatory requirements on firms to prepare an OFR.

Following a recommendation from the Company Law Review (CLR) Steering Group (2001) and the government response on the “Modernising Company Law” (2002), the government decided to require quoted companies to prepare and publish OFR statements. In May 2004, the government issued proposal on the detailed implementation of this new requirement in a consultation document “Draft Regulation on the Operating and Financial Review and Directors’ report” The consultation document contained draft secondary legislation to implement new statutory OFR.

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<sup>6</sup> I have searched for the original “Statement OFR”. However, it is not available. Any information about this statement is based on what is written in the OFR standard and statement in 2005 and 2006, respectively.

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Following consultation, the final OFR regulations were passed into law in March 2005, the ASB started developing a reporting standard for OFR. The government gave the ASB a statutory power to make reporting standards for OFR.

In November 2004, the ASB issued the Reporting Exposure Draft (RED) 1 “The Operating and Financial Review”. After approval for issue by eight of the nine members of the ASB, the ASB issued the Reporting Standard 1 (RS1) “The Operating and Financial Review”. The RS1 is mandatory for all Great Britain (GB) quoted companies<sup>7</sup> and any other entities that wish to prepare an OFR for financial years beginning on or after 1<sup>st</sup> April 2005. The mandatory legal requirement for the content of the OFR is set out in the companies act 1985 (operating and financial review and directors’ report etc.) regulations 2005.

On 28 November 2005, and after less than one year of the issuing of the mandating RS1, the Chancellor of the Exchequer announced the intention of government to remove the mandatory requirement for quoted companies to publish an OFR, on the basis that government has a general policy not to impose regulatory requirements on UK businesses over and above the relevant directive requirements. In December 2005 the mandatory requirement for OFR was cancelled and came into force on 12<sup>th</sup> of January, 2006.

RS1 has been withdrawn as a result of the removal of the statutory requirement for the OFR. The ASB has converted RS1 into a Reporting Statement of best practice on the OFR which is considered voluntary rather than mandatory. The Reporting Statement of best practice on the OFR has been taken effect on January 2006 as voluntary best

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<sup>7</sup> A quoted company is defined as a GB company whose equity share capital:

- is included in the official list (under part 6 of the Financial Services and Markets Act 2000); or
- is officially listed in an European Economic Area state

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practice. It is argued that “The wording of the objectives of the 2005 OFR reporting standard and the 2006 OFR reporting statement were almost identical apart from that the latter being more persuasive relative to the former that had a clear mandatory requirement” (Wang & Hussainey, 2013, p. 27).

In 2006, the companies’ act 2006 was introduced later that year, which introduced requirements for companies reporting, in the shape of “Business Review” requirements. Business Review requirements were enhanced for quoted companies and restated in the Companies Act 2006; these requirements came into effect for reporting years beginning on or after 1<sup>st</sup> of October, 2007. The ASB believes that the Reporting Statement on Operating and Financial Review continues to provide best practice guidance for all UK companies that are required to prepare a business review (ASB, 2008). The Business Review requires companies to provide broadly the same information on narrative matters as the earlier OFR. All companies, other than small, are required to prepare a business review as part of the directors’ annual report<sup>8</sup>.

The ASB published a report in 2009 titled “A Review of Narrative Reporting by UK Listed Companies in 2008/2009”. This report surveyed the UK narratives on a review statement. The review concludes that “The companies that are reviewed are titling their narrative reporting statements using variety of titles, such as the “Business Review”, the “OFR”, the “Performance Review”, the “Chairman’s Review or Statement” and the “Chief Executive’s Review or Statement” (ASB, 2009, Summary of conclusion, para. 1.10).

Furthermore, Anis et al. (2012) review 580 narrative reporting statements of UK firms over the period from 2006 to 2009. They find that firms produce the same contents of

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<sup>8</sup> Business Review is part of the directors’ report. Firms provide the OFR contents under the title business review. However, the OFR statements are mandatory not voluntary as earlier OFR reporting statement.

the OFR under the title of “Business Review” or under the title “Chief Executive Review”. In addition, firms may report two separate sections “Operating Review” and “Financial Review” or produce either only an “Operating Review” or a “Financial Review”.

Hereafter, when we use the term OFR, we mean by it the OFR statements reported under any of the aforementioned titles.

### **2.4.3 Contents of the OFR statements**

Both principle 14 in the ASB (2005) and principle 13 of ASB (2006) suggest that the OFR should complement and supplement the financial statements of firms in order to enhance the overall corporate reporting. Further, they explain that in complementing the financial statements, the OFR should provide relevant financial and non-financial information about the firm and its performance that is not reported in the financial statements. In supplements the financial statements the OFR should explain the conditions and events that shaped the information contained in the financial statements.

However, the OFR should cover certain topics; the contents of OFR statements are discretionary. In other words, when preparing the OFR statements managers have flexibility in choosing breadth and depth of what is discussed. However, they have to follow certain principles that are outlined in the ASB (2005 & 2006) reporting statement. Therefore, it may be argued that the OFR statements have mandatory/discretionary nature.

According to ASB (2005 & 2006) principles, the OFR should cover, but not limited to, the following topics:

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*The nature, objectives and strategies of the business:* This should cover a description of the business and its external environment. It, also, discusses objectives of the business to generate value over the long term. In addition, it sets out the directors' strategies for achieving the objectives of the business.

*Current and future development and performance:* This should describe and provide the directors' analysis of the significant features of the development and performance of the business during the financial year covered by the financial statements. In addition, it analyses the main trends and factors underlying the development, performance and position of the business during the financial year and those that are likely to affect them in the future.

*Financial position:* This should cover analysis of the financial position of the entity. It should provide analysis of the factors that have impacted the financial position of the entity during the financial year. In addition, it analyses the future factors that that may affect the future financial position. Furthermore, it discusses the accounting policies that are critical to an understanding of firm's performance and financial position.

*Capital structure, cash flow, and liquidity:* This should include discussion on firm capital structure and its short and long term funding plans. It, also, discusses the cash inflows and cash outflows and provides analysis of the factors that have affected the cash flows during the financial year. In addition, it discusses the entity's current and prospective liquidity and the level of borrowings.

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*Key Performance Indicators (KPIs)*<sup>9</sup>: This should cover the definitions and calculation methods of the KPIs and their purposes. In addition it should include any changes that may alter to the KPIs. It should also include other performance indicators.

*Resources, principal risks and uncertainties*: This should include a description of the resources available to the entity. It includes, also, description and analysis of the principal risks and uncertainties facing the entity.

*Relationships*: This should cover information about significant relationships with stakeholders that are likely to directly or indirectly influence the performance of the business and its value.

The contents of the OFR are narratives but, where appropriate, with supporting figures. In addition, the discussions and analyses in the OFR should be sufficiently detailed, comprehensive and written in clear and readily understandable style. Furthermore, it should be balanced and neutral and deal with both good and bad aspects. Moreover, the OFR statements should be comparable overtime. Finally, the discussion and analysis in the OFR should have forward-looking orientation.<sup>10</sup>

The current study focuses mainly on the forward-looking information in the UK OFR statements. Section 2.5 provides detailed discussion on forward-looking information

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<sup>9</sup> According to Elzahar, Hussainey, Mazzi, and Tsalavoutas (2015), the Key Performance Indicators (KPIs) are considered to be crucial measures of firm's performance, and are disclosed by a firm's directors in order to help the investors and other stakeholders to analyze the firm's performance. These KPIs could be financial (e.g., operating profit, cash flow, and earnings per share), or non-financial (e.g., new product launches; emissions; total energy).

<sup>10</sup> All this information is based on the principles outlined in the ASB (2005 & 2006)

### **2.5 FORWARD-LOOKING INFORMATION**

All the requirements of the narrative reporting recommend that the analysis and discussion in narrative reporting should have a forward-looking orientation and, therefore, firms should provide this type of information.

For instance, the OFR reporting statement suggests that “The OFR should have a forward-looking orientation, identifying those trends and factors relevant to the members’ assessment of the current and future performance of the business and the progress towards the achievement of long-term business objectives” (ASB, 2006, p. 9).

Furthermore, the International Accounting Standard Board (IASB) suggests that “Management should include forward-looking information. Such information should focus on the extent to which the entity’s financial position, liquidity and performance may change in the future and why, and include management’s assessment of the entity’s prospects in the light of current period results. Management should provide forward-looking information through narrative explanations or through quantified data” (IASB, 2010, p. 10).

This section discusses the nature, the arguments for and against, as well as, the usefulness of forward-looking information. Then, it explains different measures of this type of disclosure.

#### **2.5.1 Nature of forward-looking information**

Hussainey (2004) states that the information disclosed in the annual reports could be classified into two types of information; “backward-looking information” and “forward-looking information“. The backward-looking information refers to the past financial

results and their related disclosures. Unlike the back-looking information, the forward-looking information focuses on the future.

Hussainey (2004, p. 38) defines forward-looking disclosure as “information on current plans and future forecasts that enable shareholders and other investors to assess a company’s future financial performance. Furthermore, it can be defined as “Information about the future. It includes information about the future, (e.g., information about prospects and plans), that may later be presented as historical information (e.g., results)” (IASB, 2010, p. 17).

Forward-looking disclosure involves, but not limited to, the managements’ projections on the anticipated operating results and financial forecasts such as the next year’s earnings, the expected revenues, and the anticipated cash flows. It also involves non-financial information such as risks and uncertainties that could significantly affect actual results and cause them to differ from projected results.

Obviously, this type of information is subjective and consequently its preparation requires the exercise of professional judgement. Some prior research (e.g., Hussainey et al., 2003; Li, 2010a; Muslu et al., 2011) identifies forward-looking statements in the annual report narratives using some keywords such as “forecast,” “expect,” “anticipate,” “estimate,” “predict” or other comparable terminology.

Consistently, the following extract from Vodafone group PLC (2007) can be used to define forward-looking statements.

*“Forward-looking statements are sometimes, but not always, identified by their use of a date in the future or such words as “anticipates”, “aims”, “could”, “may”, “should”, “expects”, “believes”, “intends”, “plans” or “targets”. By their nature, forward-*

*looking statements are inherently predictive, speculative and involve risk and uncertainty because they relate to events and depend on circumstances that will occur in the future” Vodafone group PLC, OFR statements, 2007.*

Prior studies look at the presentation of the forward-looking information. For instance, Hussainey and Walker (2008) classify forward-looking information into four types: 1) financial and non- financial, 2) qualitative and quantitative, 3) good news and bad news information, and 4) one year and multiple years’ forecasts information. They identify the forward-looking financial information as forward-looking information that is related to firm’s financial statements items (e.g., earnings, costs & cash flows) and the financial ratios (e.g., return on assets (ROA) & earnings per share (EPS)). On the other hand, the forward-looking non-financial information is the forward-looking information that is related to firm specific information items such as firm’s strategy and objectives, products, suppliers, and competitors. Furthermore, they identify the forward-looking quantitative information as forward-looking information that includes numbers (e.g., 0 to 9), symbols (e.g., £, \$, %) or units such as hundred(s) and million(s). on the other hand, any forward-looking information other than forward-looking quantitative information is referred to as forward-looking qualitative information. Moreover, they identify the good news forward-looking information as forward-looking information that includes positive message (e.g., high quality, superior and excellent). While, forward-looking information with negative message (e.g., disaster, loss and worse) is classified as bad news forward-looking disclosure. Finally, they define forward-looking disclosure as one year forecast if the sentence contains forward-looking information for one year following the current year (forecasts for 2005 made in the current year 2004). However, the sentence is multiple years’ forecast, if it includes multiple years’ forecasts

following the current year (e.g., forecasts for 2005 and 2006 made in the current year 2004).

However, the types of forward-looking information seem to be independent, they are mutually interrelated. In other words, the forward-looking qualitative information could be financial or non-financial forward-looking information. The good and bad news information may be qualitative, non-qualitative, financial, and non-financial or may be for one year or multiple years.

Prior research finds the following in terms of the types of forward-looking information. Bujaki and McConomy (2002) describe the nature of forward-looking information published in the chairman statements and the MD&A for 46 Canadian companies. They find that 19.2% of information included in the chairman statements and the MD&A is forward-looking. In addition, they observe that most of the forward-looking information is qualitative and non-financial. They also find that good news dominates bad news. Good news disclosures represent 97.5%, while, only 2.5% of forward-looking information is bad news.

This result is consistent with other prior research in the UK. For instance, Hussainey and Walker (2007) report that 58% of the forward-looking information in the analyst report are non-financial and qualitative. In addition, only 31% provides multiple years forecasts in their forward-looking information. Finally, the good news information represents 83% of the total forward-looking information which suggests that good news dominates the bad news. Consistently, Clatworthy and Jones (2003) suggest that UK companies prefer to report positive aspects of their performance (the good news information). Recently, Wang and Hussainey (2013) argue that forward-looking

information in the UK narrative reporting are not immediately verifiable or auditable and are dominated by good news.

The current study focuses only on one type of forward-looking disclosure, namely, forward-looking financial disclosure (FLFD). This type of forward-looking information is directly related to the financial statements amounts and firm financial ratios. Therefore, if managers follow the spirit of OFR statements, we may expect them to provide discussions and analyses with forward-looking orientation when there are significant changes in the financial performance of their firms compared to previous year. Consequently, this type of disclosure is suitable in investigating the association between forward-looking information and firm performance. Therefore, when we use the term forward-looking disclosure/information, we do it in this restrictive sense throughout this thesis.

### **2.5.2 Argument for and against forward-looking information**

There is some prior research that attempts to explain what motivates firms to disclose forward-looking information. For instance, Kieso and Weygandt (1995) argue that the disclosure of forward-looking information is required due to the following. First, the economic environment in which the company operates is too dynamic and changes rapidly overtime and consequently the users' needs for information are changing. Therefore, other types of information (e.g., forward-looking information) beside the historical information are required to satisfy users' need for information. Second, the publication of forward-looking information may be helpful to investors in their investment decision-making process. Third, the absence of forward-looking information may force investors to be more likely to base their forecasts on inaccurate information from other sources.

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Furthermore, Bujaki, Zeghal, and Bozec (1999) argue that the publication of forward-looking information in the annual report is useful for reducing the degree of information asymmetry between managers and investors, and this, consequently, helps in reducing the firm cost of external financing. This argument is consistent with the capital markets transactions hypothesis as a motivation for narrative reporting (Healy & Palepu, 2001).

On the other hand, there are some other arguments against the publication of forward-looking disclosure. First, future is not well known with certainty, there is some uncertainty associated with the future. Because of this uncertainty, it might be difficult to predict the future with accuracy. Therefore, forward-looking disclosure may not be accurate. It is argued that firms might leverage their performance towards the level of their forecasts (Kaszniak, 1999). Second, the publication of inaccurate forecasts increases the probability for lawsuits against the firm; this is consistent with the litigation cost hypothesis (Field, Lowery, & Shu, 2005). Accordingly, the litigation costs might reduce a manager's incentives to disclose forward-looking information in narrative reporting. Particularly, this is true when managers believe that the legal system cannot distinguish between forecast errors due to uncertainty and inaccurate forecast due to management bias. Third, consistent with the proprietary cost hypothesis (Healy & Palepu, 2001); the disclosure of forward-looking information might provide useful information to competitors of a firm and, hence, might affect its competitive position in the market. Consequently, managers may be more likely to avoid disclosing this type of information.

However of these arguments against the publication of forward-looking disclosure, there are some benefits the company could gain from the disclosure of this type of information.

### 2.5.3 Usefulness of forward-looking information

From the point of view of regulatory bodies, the ASB stated that the disclosure of forward-looking information helps users to assess future prospects of firms (ASB, 2005; ASB, 2006). Furthermore, other professional accounting bodies (e.g., ICAEW, 2003, 2004 & 2005) coincide with this benefit of the forward-looking information.

In addition, the Financial Accounting Standard Board (FASB) interprets the relevance of forward-looking information from the point of view that financial statements lack the ability to provide the relevant information to users, and, consequently, other types of information such as forward-looking information may serve this purpose. It explains that the accounting function in an organisation is charged with the responsibility of providing useful information to investors for their economic decision-making. Since the function of accounting is to aid decision-making, it is necessary for the information to possess a future oriented outlook. Regulated financial statements can only accommodate historical information, but, a narrative reporting has the ability to include this type of disclosures (FASB, 2001a & 2001b).

Theoretically, signalling theory may provide another perspective that might explain the usefulness of forward-looking disclosure. According to signalling theory, firms with poor performance (e.g. losses) may provide more forward-looking disclosure in order to signal their strengths to eliminate losses in the future. Prior studies (e.g., Schadewitz, Kanto, Kahra, & Blevins, 2002; Schleicher et al., 2007) argue that the managers of loss-making firms are more likely to provide forward-looking disclosure in order to attract investors. In this case of bad news (e.g., losses), managers realise that the share prices are bound to be impacted negatively. Consequently, in order to reduce this negative impact or even reverse the effect of bad news to share price returns, managers tend to

disclose more forward-looking information that assure investors on the future viability of the investment.

Empirically, prior research examines the usefulness of the disclosure of forward-looking information. It finds that the publication of forward-looking information is associated with 1) the prediction of future performance, 2) the accuracy of analyst forecasts, and 3) the share price anticipation of future earnings.

For instance, Clarkson et al. (1994) find that the publication of forward-looking information in the annual reports is informative with respect to future performance. In addition, they provide evidence that the change in forward-looking disclosure level in MD&A is positively associated with future firm performance. This evidence suggests that forward-looking disclosure in MD&A provides value relevant information. Furthermore, Li (2010a) examines whether forward-looking statements in MD&A are informative about future performance. He finds that forward-looking statements in MD&A are informative with respect to future firm performance.

Large body of prior research focuses on the association between forward-looking disclosure and financial analyst forecasts. Generally, Lang and Lundholm (1996) report that analysts rely on value relevant information in deriving their forecasts. Such findings support Lev and Zarowin's (1999) argument that the value relevance of historical information is decreasing. In terms of forward-looking disclosure, Barron et al. (1999) find that that higher level of forward-looking disclosure about capital expenditure and operations is associated with more accuracy of the analysts' forecasts.

Furthermore, Walker and Tsalta (2001) find a positive association between analysts' forecasts and the quality of forward-looking disclosure published in the UK annual

reports. Moreover, Vanstraelen et al. (2003) find that disclosure of forward-looking information increases analysts' accuracy of forecasts, whereas historical information does not affect the accuracy of analysts' forecasts. In addition, Bozzolan et al. (2009) argue that forward-looking information reflects the expected impact on firm performance and, hence, is considered to be effective in improving the accuracy of analyst forecasts.

A further group of research examines the effect of the disclosure of forward-looking information in annual reports on stock market. This research assesses the usefulness of forward-looking statements in narrative reporting by their impact on future earnings. For example, Muslu et al. (2011) examine whether disclosure of forward-looking information in MD&A helps investors to anticipate future earnings. They find that additional disclosure of forward-looking information in MD&A helps investors to anticipate future earnings, especially, when there is earnings guidance.

On the other hand, some prior research focuses on the association between disclosure of forward-looking information and future return in the UK narrative reporting. For instance, Schleicher and Walker (1999) and Hussainey et al. (2003) provide evidence that high levels of forward-looking disclosure in the narrative statements of the annual reports improve the ability of stock market to anticipate future earnings changes. Moreover, Schleicher et al. (2007) find that the ability of stock returns of loss firms to anticipate next period earnings change is significantly greater when the firm provides large number of profit predictions in the annual report narratives. Furthermore, Wang and Hussainey (2013) find that forward-looking information in the OFR statements of well-governed firms improves the stock market ability to anticipate future earnings. Recently, Athanasakou and Hussainey (2014) examine the credibility of forward

looking information in narrative sections of the annual reports. They find that investors rely on future oriented information to anticipate future earnings

### **2.5.4 Measures of forward-looking disclosure**

This section discusses different measures and proxies of voluntary disclosure in general and forward-looking information in particular. The classification of these measures is based on prior research (Hussainey, 2004; Hassan & Marston, 2010). The following measures will be discussed: 1) subjective rating, 2) self-constructed disclosure indices, 3) management forecasts, and 4) content analysis technique.

According to Hassan and Marston (2010), these measures of disclosure could be divided into two categories. First category includes measures that are not directly based on examining the original disclosure medium such as annual report (e.g., subjective rating). The second category measures disclosure by inspecting directly the original disclosure medium (e.g., self-constructed disclosure indices, management forecasts, and content analysis technique)

#### **2.5.4.1 Subjective rating<sup>11</sup>**

Under this method, a disclosure score is assigned for a particular company by investigating the perception of financial analyst, investor or other group of users about the firm disclosure practise (Beattie et al., 2004). The most well-known examples of subjective ratings are the Association for Investment Management Research – Financial Analysts Federation (AIMR-FAF) and the Institutional Brokers’ Estimate System (I/B/E/S).

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<sup>11</sup> However, to the best of knowledge, subjective rating is not used in prior research to measure forward-looking information; it is used to measure voluntary disclosure in general which may contain forward looking information.

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In terms of AIMR-FAF, it uses key analysts to develop ranking lists for the US companies in each industry. Particularly, it conducts annual survey and assigns subjective ranks for firm mandatory and voluntary disclosure relative to their industry peers (Hassan & Marston, 2010). Under this rating, the final disclosure score of a particular firm is the average aggregation of disclosure within three categories, namely annual reports, quarterly disclosure reports, and investor and analyst relations (Hassan & Marston, 2010).

Prior research use AIMR-FAF ratings as a measure of disclosure level (e.g., Botosan & Plumlee, 2002; Bushee & Noe, 2000; Byard & Shaw, 2003; Gelb & Zarowin, 2002; Healy et al., 1999; Lang & Lundholm, 1996; Lundholm & Myers, 2002). The AIMR-FAF stopped its disclosure ratings in 1997 after rating the reports of the fiscal year 1995. Countries such as the UK do not have similar ratings (Beattie et al., 2004).

With regard to I/B/E/S, it represents the analysts' forecasts of companies' future earnings (Frankel et al., 2006). This rating is heavily criticised because it entails a great deal of subjective rating (Frankel, McVay, & Soliman, 2006).

Apart from AIMR-FAF and I/B/E/S, there are other types of subjective ratings employed in prior research. As stated by Hussainey (2004), these types include the following: Financial Post ratings (Sutley, 1994), Australian Stock Exchange ratings (Brown, Taylor, & Walter, 1999), SEC ratings (Barron et al., 1999), Society of Management Accountants of Canada (SMAC) ratings (Richardson & Welker, 2001), Actualidad Economica Ratings (Blasco & Trombetta, 2003) and Centre for International Financial Analysis and Research (CIFAR) ratings (Hope, 2003). Hussainey (2004) resists that prior research that use these ratings do not state whether these ratings are

based on investigating firms' publications, or they just reflect analysts' and accountants' general opinions regarding the firm's disclosure policy.

Subjective ratings have been criticised in prior research for number of reasons. First, it is based on subjective judgement of the financial analysts (Healy & Palepu, 2001; Cheung, Jiang, & Tan, 2010) which might lead to bias in the firms' disclosure scores toward the firms followed by those financial analysts (Botosan, 1997). Second, subjective (vs. objective) ratings limit the reliability of disclosure score because it may lead to different scores among different analysts (Cheung et al., 2010). Third, Healy and Palepu (2001) argue that: 1) it is not clear how financial analysts select the firms to be included in the rating, and 2) these ratings are biased towards the largest firms in each industry.

It is argued that a solution to mitigate the problems of subjective rating is the use of self-constructed disclosure indices that are based on a list of disclosure items (Hussainey, 2004; Anis et al., 2012).

### ***2.5.4.2 Self-constructed disclosure indices***

One of the heavily used methods to assess, compare and explain differences in the amount of disclosure is the disclosure index. It is defined as "a research instrument to measure the extent of information reported in a particular disclosure vehicle(s) by a particular entity(s) according to a list of selected items of information" (Hassan & Marston, 2010, p. 18). The disclosure index is considered to be an objective (vs. subjective measure) of disclosure (Anis et al., 2012). It based on predetermined list of items that may be disclosed in firm reports (Marston & Shrivess, 1991). However, the selection of items to be included in the index may suffer from subjectivity.

Disclosure index might include mandatory information items or voluntary information items or both mandatory and voluntary information items. In addition, it may cover information reported in one or more of disclosure medium produced by the company itself such as annual reports, and interim reports, or others such as analyst reports. Furthermore, it may focus on the overall disclosure medium (e.g., annual report), or only one section of this medium (e.g., narrative reporting statements of the annual report). Moreover, it may focus on only one type of information such as forward-looking information, risk disclosure or corporate social responsibility disclosure.

Disclosure index has been used firstly by Cerf (1961). Since this date it has been used extensively in academic research. Prior research that uses disclosure index include, but not limited to, Hassan, Romilly, and Giorgioni (2009), Jiang, Habib, and Hu (2010), Ernstberger and Gruning (2010), Cheung et al. (2010). Review of prior research indicates variation in disclosure indices in many terms. First, they (disclosure indices) vary in terms of the degree of involvement by the researcher in constructing the index<sup>12</sup>. Second, they vary in the type of information used to construct the index. For example, disclosure indices might cover mandatory disclosure (e.g., Tai, Au-Yeung & Kwok, 1990; Wallace, Naser, & Mora, 1994; McChlery, Kouhy, Paisey, & Hussainey, 2011) or voluntary disclosure (e.g., Li, Pike, & Haniffa, 2008; Striukova, Unerman, & Guthrie, 2008; Ernstberger & Gruning, 2010; Cheung et al., 2010) or both mandatory and

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<sup>12</sup> According to Hassan and Marston (2010), the degree of researcher involvement in constructing the index varies from full involvement to non-involvement. Full involvement means that the researcher controls the entire process of constructing a disclosure index from selecting the items of information to be included in the index, to scoring these items. However, the constructed index should be based on list of criteria against which the disclosure is evaluated to reach to a disclosure score. For instance, Celik, Ecer and Karabacak (2006) construct their own disclosure score based on Financial Accounting Standards Board (FASB) requirements; Abraham and Cox (2007) use principles of risks in the UK. To construct their disclosure index; McChlery et al. (2011) use Statement of Recommended Practice (SORP) and the Operating and financial review to evaluate the quality of voluntary information disclosed on oil and gas reserves. While non-involvement means that the researcher depends on available disclosure indices from prior studies or professional organizations. For instance, Evans (2004) relies on Botosan's (1997) disclosure score; Leventis and Weetman (2004) use Meek, Roberts, and Gray's (1995) index; Lim, Matolcsy and Chow(2007) use Meek et al.'s (1995) disclosure score.

voluntary disclosures (e.g., Barako, Hancock, & Izan, 2006; Wang, Sewon, & Claiborne, 2008; Hassan et al., 2009; Jiang et al., 2010). Third, they vary from few items (Tai et al., 1990) to a hundred of items (Spero, 1979). Finally there is variation in terms of types of industries investigated and countries covered by the index. Some prior research developed a disclosure index to measure the level of forward-looking disclosure (e.g., Brown, 1997; Mathuva, 2012; Alkhatib, 2014).

However disclosure indices are widely used in the literature, they have some limitations. Opponents of disclosure index argue that literature that uses disclosure indices generally employs smaller sample size due to the labour intensive data collection process (Hassan and & Marston, 2010). In addition, the selection of type of information and number of items to be included in the index is subject to researcher judgement which in turn reduces the validity of such index (Artiach & Clarkson, 2011; Hassan et al., 2009). Furthermore, the construction of disclosure index does not take into account the incremental information content or frequency of each item included into the index (Hassan & Marston, 2010).

### ***2.5.4.3 Management forecasts***

Management forecast is typically a type of forward-looking information (Hassan & Marston, 2010; Hussainey, 2004). It can be provided voluntarily by management as point or range of estimates for earnings or revenue (Hussainey, 2004). It may also take the form of quantitative forecasts (e.g., point of estimate) or qualitative forecasts (e.g., statements for confirming future earnings) (Hutton & Stocken, 2009). These forecasts could be verified through comparing them with actual results. For instance, if management issued an earnings forecast, this earnings forecast could be verified by comparing it with actual earnings at the end of the year. Thus, they enable academics to

construct variables such as accuracy of management forecasts. Furthermore, because of the precise timing of these forecasts, it is used for testing the motivation and consequences of such disclosure (Healy & Palepu, 2001).

Some prior research (e.g., Rogers & Stocken, 2005) uses management forecast as proxy for disclosure quality. These management forecasts are widely used in disclosure literature as a measure of disclosure quality, particularly in US studies. This may be due to the availability of these forecasts in different database such as the First Call database and the Dow Jones News Retrieval Service (Hassan & Marston, 2010). According to Hussainey (2004), there is no database for management forecasts in United Kingdom (UK)<sup>13</sup>.

Prior research examines the truthfulness of management forecasts. For instance, Rogers and Stocken (2005) assess whether management bias their management forecasts. They find that management has a willingness to misrepresent their forecasts. In addition, their willingness of misrepresentation varies with the market ability to detect such misrepresentation. Consequently, Xu (2010) finds that managers of firms bias their forecasts for future in range forecasts but not for point forecasts. His results suggest that managements' bias of their forecasts is affected by managerial opportunism and fear of litigation. Moreover, Hassan and Marston (2010) argue that forecasts issued by management are subject to earnings management. This is in turn might affect the quality of management forecasts as a measure of disclosure.

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<sup>13</sup> Further, check for databases at Stirling University and Plymouth University to find out if management forecasts are available at their databases. The check reveals that there are no databases for these forecasts in the United Kingdom (UK).

### *2.5.4.4 Content analysis*

Content analysis can be defined as “a research technique for the objective, systematic and quantitative description of the manifest content of communication” (Berelson (1952, p. 18). It can be seen as a mean of categorising items of text, and can be used where such a qualitative data needs analysing (Holsti, 1969). It is used to make replicable and valid inferences from data to their context (Krippendorff, 1980). It is argued that the implementation of content analysis to study disclosure has the potential to allow the researcher to capture more dimensions of the disclosure phenomenon (Bozzolan et al., 2009). Consequently, it is helpful technique in analysing narrative documents and examining the trends and patterns in the documents over time (Hussainey, 2004).

Content analysis can be classified as partial or comprehensive content analysis (Hassan & Marston, 2010). Partial content analysis refers to content analysis that covers part of the document such as the operating and financial review statements of the annual report (e.g., Wang & Hussainey, 2013). On the other hand, the comprehensive content analysis covers the whole document such as all statements in the annual report (e.g., Athanasakou & Hussainey, 2014; Hussainey et al., 2003). Furthermore, by using the content analysis technique, the level of disclosure can be measured per category, number of words, and number of sentences (See, Hackston & Milne, 1996; Hussainey et al., 2003; Wang & Hussainey, 2013; Li, 2010a, Muslue et al., 2011).

The content analysis can be conducted either manually or automatically. Under manual content analysis, the analysis of the text is done via manual reading of the document. A number of prior research has employed the manual content analysis (e.g., Hackston & Milne, 1996; Francis, Hanna, & Philbrick, 1997; Beretta & Bozzolan, 2004; Linsley &

Shrives, 2006; Schleicher & Walker, 2010; and Bozzolan et al., 2009). However, manual content analysis is precise, it has some limitations. It is a labour-intensive data collection process (Hassan & Marston, 2010). This in turn restricts the sample size and makes results difficult to be generalized (Beattie & Thomson, 2007).

Hussainey et al. (2003) suggest that one of the ways to overcome the limitation of manual content analysis is the use of automated content analysis. The following are synonyms to automated content analysis: computerized content analysis, computer-based content, computer-intensive content analysis, machine readable content analysis and software based content analysis. The current study uses the term automated content analysis to refer to any of the aforementioned terms.

The automated content analysis can be defined as the use of computer software to code the text and create the content categories and analyse the occurrences of the categories in the text (Li, 2010a; Hussainey et al., 2003). Significant number of prior research has employed the automated content analysis technique (e.g., Smith & Taffler, 2000; Breton & Taffler, 2001; Hussainey et al., 2003; Schleicher et al., 2007; Hussainey & Walker, 2008; Kothari et al., 2009; Li, 2010a, Wang & Hussainey, 2013; Athanasakou & Hussainey, 2014; Elshandidy et al., 2013).

The automated content analysis has number of advantages. First, it is easy to use, save time and effort, and enables researchers to use a large sample of firms which makes result to be generalized and so inferences are more reliable (Abrahamson & Amir, 1996; Hassan & Marston 2010). It is argued that by using automated content analysis, comparability among firms is easy because the keywords and topics are unified across different firm years (Hussainey et al., 2003). Second, the use of large sample size as a result of employing such technique may significantly increase the power of the

empirical test which is vital for testing hypotheses such as those related to the stock market efficiency with respect to disclosure (Li, 2010b).

On the other hand, automated content analysis is not absolute advantage technique, it has some disadvantages. For example, if words or keywords are used in isolation of the meaning of the whole sentence this may lead to misleading results (Beattie & Thomson, 2007; Hassan & Marston, 2010). This problem could be solved by using sentence as unit of the analysis. Sentence is considered a more reliable unit of the analysis than the printed page or paragraph, because it provide complete, reliable and meaningful data for further analysis and it is considered more focused on specific aspect than whole page or paragraph (Hackston & Milne 1996; Milne & Adler 1999).

Forward-looking disclosure is extensively measured, in prior research, using automated content analysis either manually or computerized (e.g., Hussainey et al., 2003; Li, 2010a; Aljifri & Hussainey, 2007). Studies that adopt manual content analysis to measure forward-looking disclosure develop a list of forward-looking keywords and search for this list of keywords in the disclosure medium manually. Conversely, research that employed the automated content analysis develops a list of forward-looking keywords and writes a command file to be used by specific computer software (e.g., QSR programme) to search for the forward-looking disclosure.

The current study aims to measure the change in narrative reporting statements for sample from UK over time. Consequently, there is a need for relatively large panel of data. Therefore, this study, among all measures of disclosure, will employ the automated content analysis technique.

### 2.6 CONCLUDING REMARKS

This chapter discusses the underlying basis of narrative reporting. It explains different types of information included in the annual report. In addition, the importance of the annual report as a medium for communicating narrative reporting is justified from different ways. The chapter explains the concept of narrative reporting and discusses the arguments for and against narrative reporting. Then, it focuses on the narrative reporting practice with the UK, namely, the operating and Financial Review (OFR). Finally, this chapter takes sharper focus on forward-looking information. It discusses the nature, argument for and against this type of information. In addition, it explains the usefulness of this type of disclosure and discusses different measures for forward-looking disclosure.

Narrative reporting presents a review of the company's operations, performance, and its financial position. This narrative discussion would help investors to have a broader and more meaningful understanding of a company's business. Large amount of this narratives are included in the annual report.

The Operating and Financial Review, or simply OFR, is introduced by the Accounting Standard Board (ASB) as a narrative reporting medium for firms in the UK. It provides analysis of the business through the eyes of the board of directors and its contents have mandatory/discretionary nature.

The discussion and analysis in the OFR should have forward-looking orientation. The disclosure of forward-looking information would help investors in the prediction of future performance, the accuracy of analyst forecasts and the anticipation of the stock

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price. There are different measures employed in prior research to focus on this type of information.

The current study focuses on only on one type of forward-looking disclosure, namely, forward-looking financial disclosure (FLFD) disclosed in the firm OFR statements. Particularly, the current study focuses on the changes in the level of FLFD from the most recent year.

More details about the arguments for measuring change in FLFD and the steps followed to measure change in FLFD will be discussed in chapter 3.

**CHAPTER 3 : MEASURING CHANGE IN FORWARD-LOOKING  
FINANCIAL DISCLOSURE (FLFD)**

**3.1 OVERVIEW**

In essence, a document that is very similar to the previous year's version does not reveal considerable new information. Consequently, a change in narrative reporting statements from the previous year reveals relatively new information. This study adopts change methodology in measuring narrative reporting. Particularly, it measures the year-over-year change in the level of FLFD. Therefore, the main focus of this chapter is two folds. First, it provides arguments for the use of the change in narrative reporting in empirical accounting research. Second, it measures the year-over-year change in FLFD in the UK narrative reporting statements. The current study employed the automated content analysis technique. The study, however, manually codes a sample of the narrative reporting statements to ensure the reliability and validity of the automated content analysis.

Particularly, this chapter is outlined as follows. Section 3.2 discusses the arguments for adopting change methodology in measuring the change in narrative reporting and reviews the literature that adopts such methodology. Section 3.3 explains the sample selection process, the collection of the annual reports and the preparation of data for the coding process. Section 3.4 details the steps used in measuring the change in FLFD. Section 3.5 discusses the reliability and validity tests. Section 3.6 reports the descriptive analysis that explains the change in FLFD over time and across industries. Section 3.7 provides the concluding remarks.

### 3.2 CHANGE METHODOLOGY IN MEASURING NARRATIVE REPORTING

The study focuses on forward-looking financial disclosure (FLFD) in the UK narrative reporting statements, namely, the OFR statements of the annual report. The focus on the OFR statements is decided because these statements provide a narrative framework within which directors could discuss the main factors underlying the firm performance. The mandatory/discretionary nature of these statements may help to better understand managers' narrative disclosure behaviour.

Generally, narrative reporting is soft discussion and analysis about firm performance and its financial position and is known to be sticky in style and content<sup>14</sup> (Brown & Tucker, 2011). Feldman et al. (2010, p. 922) state that "Since managers usually use prior MD&A as a blueprint for producing a new and incremental MD&A, there could be considerable similarities in MD&As that are close in years".

In the OFR statements, managers should provide reasons for changing in firm performance, the liquidity needs that the firms may face, and the different capital resources that have been or planned to be used. This information would help investors to assess past and current financial performance of a firm, as well as, to predict its future performance (Wang & Hussainey, 2013). The value relevance of these statements arises from their ability to provide analysis of the business from the eyes of the board of directors. This discussion and analysis should be changed as long as the factors underlying such analysis are changing. Consequently, it may be argued that the OFR statements are unlikely to serve their purposes if they do not change from previous year especially after significant change in firm performance. This suggests that the change measure may be the better measure of FLFD in the UK OFR statements.

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<sup>14</sup> Sticky means that a firm may use the same style and topics of its narrative reporting documents for longer period of time.

Consistent with this argument, prior research (Brown & Tucker, 2011; Roulstone, 2011) argues that that the MD&A disclosure will not be potentially informative as intended if it does not change from the previous year especially after changes in the firm economic environment. Brown and Tucker (2011) measure the degree to which the narratives in the MD&A differ from the previous year. They find the stock price responses significantly to change in the MD&A. In other words, they find that the stock price is affected as long as the firm changes its narratives in the MD&A relative to previous year.

Furthermore, Merkley (2014) argues that for narrative reporting to perform its function, managers of firms must be willing to change the narrative disclosures of their firms based on their firms' changing financial performance. He suggests that managers will be more likely to change their research and developments (R&D) disclosure in response to changes in performance. He regresses the year-to-year changes in R&D disclosure on year-to-year changes in performance and control variables. He finds that managers of firms change R&D disclosure in response to changes in performance of their firms.

Forward-looking statements in the UK narrative reporting are different from those in the US. In the US, forward-looking information typically takes the form of management forecasts (Wang & Hussainey, 2013). These forecasts are quantitative in nature and are easily verifiable through comparing them with the actual results. On the other hand, the forward-looking information in the UK narratives is qualitative in nature and is not immediately verifiable or auditable (Athanasakou & Hussainey, 2014; Wang & Hussainey, 2013).

This nature of the UK forward-looking disclosure may provide an incentive for managers to use the previous year's forward-looking narratives as templates from year

to year without making changes in these narratives. Consistently, Brown and Tucker (2013) argue that the soft talk nature of some narrative discussion may induce managers to use them as templates over years. Consequently, narratives may include substantial boilerplate disclosures<sup>15</sup>. Therefore, the current study uses the change in the level of FLFD in the UK narrative reporting from year to year.

If a firm's FLFD is changed from the previous year according to changes in its economic environment, considerable new information will be revealed to reflect changes in its business environment. For instance, Muslu et al. (2011, p. 10) argue that "a firm that is planning to expand operations overseas or introduce new product lines will add narratives on how initial setup will proceed". In addition, they argue that "A firm that acquired another company will add narratives on how the acquisition will proceed" (Muslu et al., 2011, p. 10). As such, this additional statement has firm specific contents and free from boilerplate disclosures, and are more likely to indicate changes in the business economic environment. Furthermore, they argue that the use of changes in the disclosure level from the previous year mitigates the measurement noise due to repetitive boilerplate statements.

Empirically, Muslu et al. (2011) use the change in the level of forward-looking statements from the most recent year to examine the economic consequences of changes in the level of forward-looking information in MD&A narrative statements. They find that the additional forward-looking statements include relatively more future earnings information that is incorporated into the current stock price. In addition, they suggest that as long as the firm changes its forward-looking information, this is helpful for investors to anticipate future earnings.

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<sup>15</sup> Boilerplate disclosure is standard disclosures with little firm-specific content

Another reason to consider the change in FLFD is to mitigate the problem of endogeneity. One of the causes of the endogeneity problem arises from the simultaneity of variables. Simultaneity occurs when the causal relation between dependent and independent variables runs in both ways (Lopes & Alencar, 2010; Chenhall & Moers, 2007). This endogeneity problem causes the relationship between variables as an association not causality (Li, 2010b). As such, Li (2010b) argues that research in textual disclosure raises concern about endogeneity problem. Consequently, he calls for future research to devote more effort to mitigate this problem. Li (2010b), and Kravet and Muslu (2013) suggest that adopting change methodology in measuring narrative disclosure could mitigate this problem.

Additionally, adopting the change in measuring narrative reporting may be used to provide more robust results. Feldman et al. (2010) argue that the relevant variable to measure the change in a firm environment is not the level of disclosure but its change from the most recent year. They investigate the effect of optimistic and pessimistic news conveyed in MD&A on immediate and delayed stock returns. They find that the results obtained are likely to be more robust with level's change rather than the year's level. Recently, Elshandidy and Shrikes (2015) examine the extent to which environmental factors influence German firms in revealing aggregate risk disclosure. Their empirical analyses suggest that the power of environmental factors to explain variations in aggregate risk disclosure is higher when applying a change model.

To conclude, adopting the change methodology in measuring narrative reporting can better capture new information that is free of boilerplate statements and reflects changes in the business economic environment, as well as, this methodology alleviates the measurement noise due to the repetitive statements (Muslu et al., 2011; Brown &

Tucker, 2011). In addition, this method mitigates the problem of endogeneity (e.g., Li, 2010b) and provides more robust results (e.g., Feldman et al., 2010).

In terms of measuring the changes in narrative reporting, the literature proposes two measures using the automated content analysis technique: word and sentence based change measure. The word-based change measure depends on specific word(s) in the sentence as unit of the analysis. It calculates the level of disclosure based on this unit of analysis, and, then, the change in the level of disclosure from the previous year could be measured. For instance, Li (2006) counts the level of risk related-words in the annual report of a firm each year. He, then, uses the annual difference of the logarithm of this count as his measure of change in the level of risk disclosure.

Consistently, Nelson and Pritchard (2007) and Brown and Tucker (2011) examine the rate of change from the previous year in the frequency of specific words in the MD&A as a measure of the change in narrative reporting from the previous year. The higher the rate of change in two successive narrative documents, the higher the dissimilarities between the two documents.

On the other hand, other prior research (Kravet & Muslu, 2013; Muslu et al., 2011) uses sentence rather than word as the unit of the analysis. For instance, Kravet and Muslu, (2013) calculate change in risk disclosure as the difference between total numbers of risk-related sentences in period  $t$  and period  $t-1$  in 10-K filings. Consistently, Muslu et al. (2011) follow the same approach to measure changes in the level of forward-looking disclosure in the 10-K filings.

The current study uses sentence as the unit of the analysis. Accordingly, we parse OFR sections into statements.

### 3.3 SAMPLE SELECTION, DATA COLLECTION AND PREPARATION OF DATA

The study examines year-over-year change in FLFD in the OFR statements of the FTSE all-shares non-financial firms listed in the main market of the London Stock Exchange. The sample period covers annual reports for fiscal years from 2005 to 2011. It starts with 2005 because the reporting standard RS1 on the OFR was issued in 2005 and ends the analysis with 2011; the most recent annual reports available at the time of the analyses.

Datastream is used to obtain list of FTSE all-shares listed firms. Following prior research (e.g., Hussainey et al., 2003; Li, 2010a; Wang & Hussainey, 2013; Elshandidy et al., 2013; Athanasakou & Hussainey, 2014; Elzahar et al., 2015) financial firms are excluded<sup>16</sup>. This may be either because of their distinctive regulations and accounting practices (Linsley & Shrivies, 2006; Abraham & Cox, 2007), or because the structure of their financial statements are different from those of non-financial firms (Schleicher & Walker, 2010).

Furthermore, we exclude firms: 1) whose annual reports for the current or the previous years are missing, 2) whose annual reports cannot be converted to text file to be readable by QSR Nudist 6 (QSR N6)<sup>17</sup> software, and 3) that changed the month of the year-end during the sample period (2005 – 2011).

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<sup>16</sup> Financial firms include the following: banks, equity investment instruments, insurance, real estate, real estate investment and services, real estate investment trust, and non-equity investment instruments companies. The definitions of financial firms are based on the Industry Classification Benchmark (ICB).

<sup>17</sup> QSR Nudist version 6 (QSR N6) is an earlier version of NVIVO software which better suits the data we needed to analyse in the sense that it gives the option of using the sentence as coding unit rather the word resulting in avoiding the problem of double-counting, it also advances the context of textual analyses. QSR N6, also, eases importing and extracting the results in specific order by which merging disclosure scores with market data becomes more accurate.

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This screening leaves us with 346 firms (2422 firm-year observations) with complete time series of annual reports. Table 3.1 elaborates the sample selection process.

<b>Table 3.1</b>	
<b>Sample selection process</b>	
	<b>N</b>
FTSE- all shares	622
Less: Financial firms	126
Less: Firms with missing annual reports	75
Less: Firms with non-text convertible annual reports	59
Less: Firms that changed the reporting date	16
<b>Final Sample</b>	<b>346</b>
This Table reports the process of sample selection. N denotes the number of firms. The final sample consists of 346 firms over the 7 years period from 2005 to 2011. Thus, it comprises 2422 firm-year observations.	

Table 3.2 shows the distribution of the final sample amongst industries. The definitions of the industries are based on the Industry Classification Benchmark (ICB). The Table shows the number and the percentage of firms. The firm-year observations are presented in parentheses. The industrial firms represent the highest number of firms and percentage. The telecommunication firms, on the other hand, represent only 4 firms (24). This classification of the sample is consistent with other studies conducted in the UK (e.g., Wang & Husaainey, 2013; Elshandiday et al., 2013).

<b>Table 3.2</b>		
<b>Distribution of the sample amongst industries</b>		
<b>Industry</b>	<b>N</b>	<b>Percentage</b>
Industrial	120 (840)	34.68
Basic materials	28 (196)	8.09
Technology	35 (245)	10.12
Consumer goods	36 (252)	10.40
Consumer services	77 (539)	22.25
Health care	22 (154)	6.36
Oil and gas	17 (119)	4.91
Utilities	7 (49)	2.02
Telecommunication	4 (28)	1.16
<b>Total</b>	<b>346 (2422)</b>	<b>100%</b>
This Table provides the distribution of the sample among industries. The sample consists of 346 firms over 7-years period (2422 firm-year observation) distributed among 9 industries. The definition of the industry is based on Industry Classification Benchmark (ICB).		

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The annual reports are collected from the companies' official websites, the Thomson one banker database and the Northcote website ([www.northcote.co.uk](http://www.northcote.co.uk)). The annual reports are downloaded in PDF format. However, the QSR N6 software used in this study codes text files only. Therefore, each annual report is converted to a text format.

The annual reports are read carefully to identify the OFR statements. Then, the OFR statements are saved in a separate text file.

When identifying the OFR statements, we find that there is a rarely definitive section entitled OFR. Most firms in the sample produce the OFR statements under the title "OFR" (448); or report two separate sections "Operating Review" and "Financial Review" (908); or produce the same OFR contents under the title "Business Review" (749); or under the title "Chief Executive Review" (198). This adds up to 2,303 firm-year observations, representing 95% of the sample. The remaining 5% produce either only an "Operating Review" (73) or a "Financial Review" (46). Table 3.3 shows a summary of different titles that report the OFR contents.

<b>Table 3.3</b>		
<b>Different titles that report OFR contents</b>		
	<b>N</b>	<b>Percentage</b>
OFR	448	18.50%
Operating Review/ Financial Review	908	37.49%
Business Review	749	30.92%
Chief Executive Review	198	8.18%
Operating Review	73	3.01%
Financial Review	46	1.90%
<b>Total</b>	<b>2,422</b>	<b>100%</b>

This Table reports different titles for OFR contents. Firms produce OFR statements under the title OFR; or report two separate sections Operating Review and Financial Review; or produce the same OFR contents under the title Business Review; or under the title Chief Executive Review; or produce either only an Operating Review or a Financial Review.

This result is consistent with the ASB survey conducted in 2009. In addition, it is consistent with the survey conducted by Anis et al. (2012) on the UK firms over the period from 2006 to 2009.

The following extract identifies the boundaries of the OFR statements reported under the title “Business Review”: “*This **business review** is addressed to the members of the company. Its purpose is to help them assess how the directors have performed in their duty to promote the success of the company. It is framed by the principles and guidelines for **Operating and financial reviews** published by the UK Accounting Standards Board in 2006. It outlines the main operational and financial factors underpinning the development, performance and position of the Group as well as those likely to affect performance over the coming year, illustrating this with key performance indicators*” **Daily Mail and General Trust PLC, 2009.**

Following the approach adopted by the ASB (2009), all titles of narrative reporting (e.g., OFR, Business Review & Chief Executive review) are included in the analysis to avoid any selection bias.

To check the reliability of the data, the researcher identifies the OFR statements in a separate text file, and then the director of studies (first supervisor), who possesses a comprehensive knowledge in the field of narrative reporting, randomly checks a sample of these files before coding. No disagreement was identified in this regard.

The following section (3.3) explains in details the steps followed to measure the year-over-year change in firm’s FLFD in its OFR statements.

### 3.4 MEASURING CHANGE IN FLFD BETWEEN OFR STATEMENTS

The current study constructs the following steps, as shown in Figure 3.1, to measure the year-over-year change in the level of forward-looking financial disclosure (FLFD) between firm's OFR statements. Step (1) extracts the forward-looking sentences from OFR statements. Step (2) extracts financial-related sentences from OFR statements. Step (3) extracts forward-looking financial statements (FLFD). Step (4) measures the year-over-year change in FLFD between firm's OFR statements.

#### 3.4.1 Step 1: Extracting the forward-looking sentences from the OFR statements

In order to extract the forward-looking sentences from the OFR statements, a final list of forward-looking keywords<sup>18</sup> is constructed to capture the future oriented statements from the OFR statements. The following steps are followed to construct the final list of forward-looking keywords and extract the forward-looking sentences: (1) developing preliminary list of forward-looking keywords, (2) refining the preliminary list of the forward-looking keyword, and approving the final keywords list, and (3) writing the command file, running the command, and saving the output.

##### 3.4.1.1 *Developing preliminary list of forward-looking keywords*

In this step, a preliminary list of forward-looking keywords is created. This list is created based on: 1) Prior empirical research on forward-looking disclosure (Hussainey et al., 2003; Morgan, 2008; Li, 2010a; Muslu et al., 2011), 2) a randomly selected sample of 20 OFR statements from each year (140 OFR statements); all the 140 OFR statements are read and any new keywords related to the future are added to the preliminary list. The reading of the sample reveals 4 new keywords, "Investment,

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<sup>18</sup> The keyword list is a customised dictionary, which the computer software (QSR N6) uses to code the OFR statements.

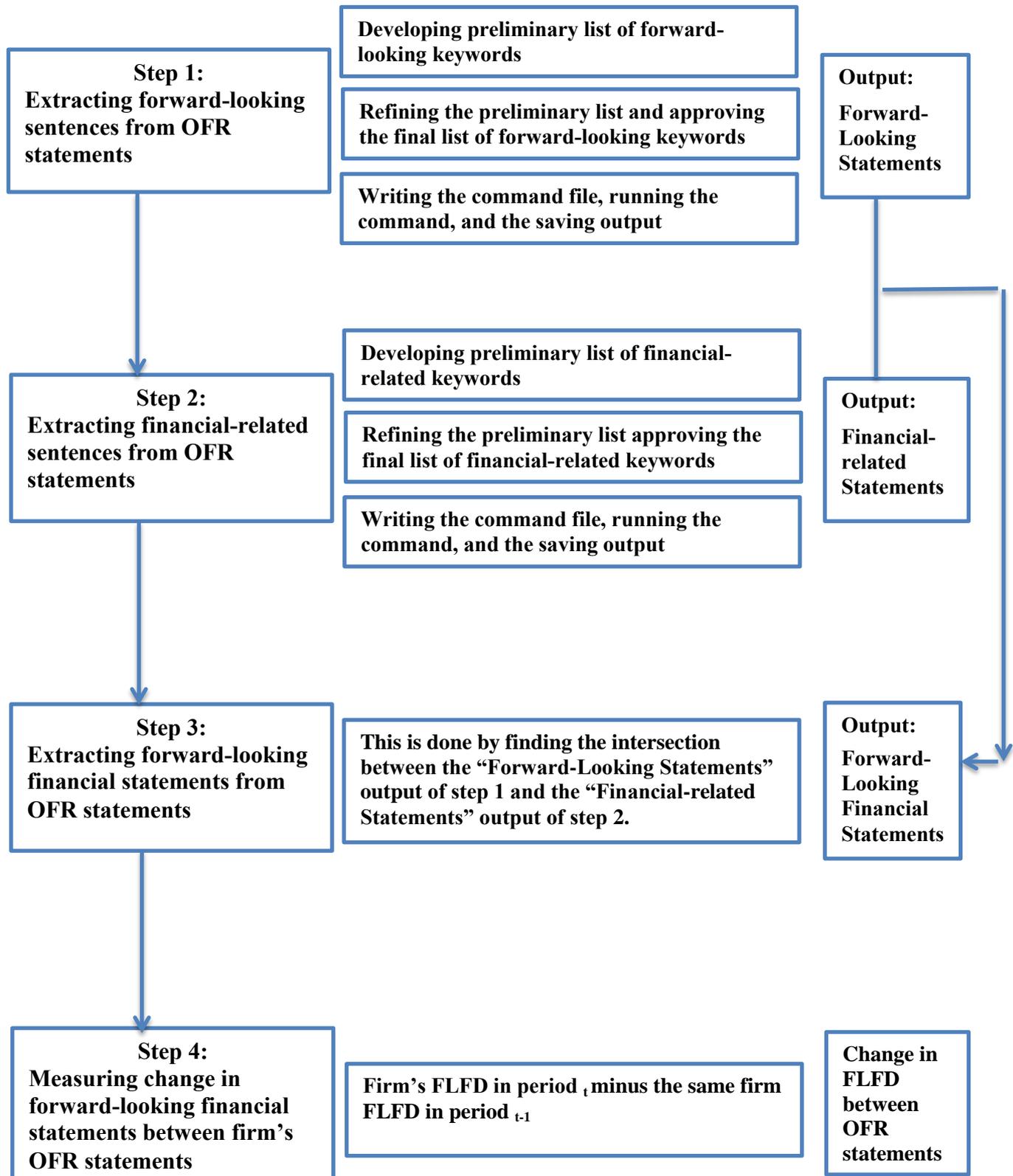
### CHAPTER 3: MEASURING CHANGE IN FLFD

Development, Research, and Successive”, which are used in forward-looking context in the OFR statements.

Table 3.4 details the preliminary list of the forward-looking keywords which consists of 70 keywords.

<b>Table 3.4 Preliminary list of forward-looking keyword</b>		
Accelerate	Foresee	Predict
Aim	Forthcoming	Project
Anticipate	Goal	Projection
Approximately	Guidance	Prospect
Assume	Hope	Remain
Await	Incoming	Renew
believe	Intend	Research
Can	Intention	Scope for
Coming	Investment	Scope to
Commit	Likely	Seek
Confidence	Look-ahead	Shall
Confident	Look-forward	Shortly
Contemplate	May	Should
Continue	Might	Soon
Convince	Next	Subsequent
Could	Novel	Successive
Current	Objective	Target
Development	Optimistic	Unlikely
Effort	Outlook	Upcoming
Envisage	Plan	Well-placed
Estimate	Planned	Well- positioned
Eventual	Planning	Year-ahead
Expect	Potential	
Following		
Forecast		
The order of the keywords is alphabetical		
The common keywords among all literature are: Will, Intend, Forecast, Expect, and Anticipate.		
This Table details the keywords in the preliminary list of forward-looking keywords list. The preliminary list consists of 70 keywords.		

Figure 3.1: Steps to measure year-over-year change in FLFD using the automated content analysis



### *3.4.1.2 Refining the preliminary list and approving the final list of forward-looking keywords*

In this step, the preliminary list of forward-looking keywords is refined to determine the final forward-looking keywords list. The refinement of the preliminary list is done through the following two steps:

1) Some keywords, such as shall, should, may, might, can, and could, are excluded from the preliminary list. This is because these keywords are regarded as not real forward-looking keywords and are associated with legal language and boilerplate disclosures (Li, 2010a; Muslu et al. 2011). Before excluding these keywords, a sample of 20 sentences per keyword of these keywords are randomly selected and read to check whether they represent real forward-looking keywords. After reading, it is concluded that in almost all of the sentences, these keywords are frequently associated with legal language and boilerplate disclosure and are not considered real future oriented keywords. Therefore, the keywords shall, should, may, might, can, and could are deleted from the preliminary list of forward-looking keywords. To clarify, consider the following extracts from the OFR statements of different companies:

*“He comes with substantial experience in the field of mineral law which should benefit us in meeting the challenges of the new legislative environment.”* **AQUARIUS PLATINUM LTD GROUP, OFR STATEMENTS, 2004.**

*“Significant breaches could result in large financial penalties, which could materially adversely impact the Group’s financial performance and prospects.”* **BTG PLC, OFR STATEMENTS, 2010.**

*“Moreover, failure by BTG or a BTG partner company to comply with regulations may result in a product being withdrawn from the market with a subsequent loss of revenues.”* **BTG PLC, OFR STATEMENTS, 2010.**

*“The process is designed to manage rather than to eliminate the risks inherent in achieving the Group’s business objectives and can therefore provide only reasonable and not absolute assurance against material misstatement or loss.”* **HUNTSWORTH PLC, OFR STATEMENTS, 2011.**

*“The availability of materials and sub-contracted labour for each site can affect both the construction programme and the cost of construction.”* **TELFORD HOMES PLC, OFR STATEMENTS, 2009.**

*“A change in political administration – or a change in the policy priorities of the current administration – might result in a reduction in education spending or reduced commitment to ICT within education spending.”* **RM PLC, OFR STATEMENTS, 2008.**

*“Global economic conditions might result in a reduction in budgets available for public spending generally and education spending specifically.”* **RM PLC, OFR STATEMENTS, 2008.**

*“In making such policy determinations, the Board shall take into account relevant facts and circumstances including, without limitation, the financial performance and capital requirements of Verizon Wireless.”* **VODAFONE GROUP PLC, OFR STATEMENTS, 2004.**

However, the above extracts includes keywords that may imply the future, they are not real future-oriented statements.

2) We check the forward-lookingness of the keywords. To this end, a random sample of 20 sentences per forward-looking keyword are selected and read carefully. The number of cases in which the sentence represents a future oriented statement is counted. Hussainey et al. (2003) suggest that the keyword is considered a forward-looking keyword if it refers to the future in at least 67% of the sentences. However, this benchmark allows computer software to correctly identify only 55.2% of forward-looking sentences actually included in the annual report narrative statements. In order to

improve the ability of the software to correctly capture the forward-looking statements, this benchmark is increased to 90%. Accordingly, a keyword is included in the final list of forward-looking keywords, if at least 90% of the sentences (18 sentences) including such keyword represent future oriented message. In other words, the keyword is included in the final list of forward-looking keywords, if this keyword represents the future in at least 90% of the cases. According to Krippendorff (1980), this approach is known as a meaning-oriented approach.

After refining the preliminary list based on the above highlighted two steps, the final list of forward-looking keywords is approved.

Table 3.5 details the final list of forward-looking keyword which consists of 33 forward-looking keywords.

<b>Table 3.5 Final list of forward-looking keywords</b>	
Aim	Next
Anticipate	Plan
Believe	Predict
Coming	Project
Estimate	Prospect
Eventual	Seek
Expect	Shortly
Following	Soon
Forecast	Subsequent
Forthcoming	Unlikely
Future	Upcoming
Hope	Well-placed
Incoming	Well-positioned
Intend	Will
Intention	Year-ahead
Likely	
Look-ahead	
Look-forward	
The order of the keywords is alphabetical	
In addition to this list of keywords, time indicators, conjugations, and reference to future year are added in the coding process. Details are given in section 3.4.1.3.	
This Table lists the final list of forward-looking keywords. This final list consists of 33 keywords and is approved after refining the preliminary list of keywords.	

### 3.4.1.3 Writing command file, running the command, and saving the output.

After approving the final list of forward-looking keywords, a special command file for each year is written based on the final list of keywords. The command file is a batch of orders to tell the software (QSR N6) how to code the text based on the final list of forward-looking keywords. Appendix (1) reports a command file to extract forward-looking sentences.

The command file is used to restrict the search for the keywords as follows:

1) The following adjectives: *next, coming, incoming, upcoming, forthcoming, following, and subsequent*, have to be connected with the following time indicators: *fiscal, month(s), quarter(s), year(s), period(s), and/or six months/twelve months*<sup>19</sup>. In another meaning, for example, the QSR N6 software will not search for the keyword “next”; instead the search will be for: *next fiscal, next month, next months, next twelve months, next six months, next quarter, next quarters, next year, next years, next period, next periods*. These time indicators help in correctly capturing forward-looking statements associated with these adjectives. For instance, consider the following two extracts:

*“So far, we have been very successful in executing this strategy, and Aggreko’s International Power Projects business is now many times bigger than its next largest competitor.”* **AGGREKO PLC, OFR STATEMENTS, 2009.**

*“With stocks anticipated to grow during 2008, we would expect to see some weakening of price over the course of the next year.”* **KBC ADVANCED PLC, OFR STATEMENTS, 2007.**

The first extract does not represent a future oriented statement, while, the second one

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<sup>19</sup> The time indicators are added based on prior research (e.g., Hussainey et al., 2003; Muslu et al., 2011), and after reading sample of 100 OFR statements.

represents a forward-looking statement. Therefore, time indicators are required to be connected with the adjectives (e.g., next year)

2) All sentences that contain: *expected; anticipated; forecasted; projected; and believed*, are excluded from the search when such words follow: *was; were; has; have; had; and had been*. These sentences are not forward-looking in nature (Hussainey et al., 2003, Li, 2010a; Muslu et al., 2011). For instance, consider the following extract:

*“The operational improvements increased the overall results for the period; however these were expected to be better but were impacted by the snow in early December.”*  
**MOSS BROS GROUP, OFR STATEMENTS, 2011.**

To solve this problem, keywords are used with more specific tense structure. For instance, instead of searching for “expect” as a keyword, different forms of this keyword are used. In other words, instead of searching for the word “expect”, the search is done for the following: “*expect*”, “*expects*”, “*is expecting*”, “*are expecting*”, “*is expected*”, and “*are expected*”. This method helps in reducing the likelihood of capturing statements that are not forward-looking in nature. For clarity, consider the following extract:

*“We continue to anticipate a cash inflow from operations during the course of the new financial year which is expected to lead to a reduction in net debt by 30 June 2010.”* **REDROW PLC, OFR STATEMENTS, 2009.**

3) The simple form of some verbs – *plan, project, hope, estimate, expect, aim, forecast, prospect, believe* – may lead to noun meaning of the verb which frequently has no future oriented meaning. For instance, consider the following extracts:

*“A detailed action plan has established to resolve areas of operating under*

*performance and this has resulted in number of management changes in this division.”*  
**INTERNATIONAL GREETINGS PLC, OFR STATEMENTS, 2002.**

*“A new pension scheme was introduced on 1 January 2003, the Andrews Sykes stakeholders pension plan, for which the majority of UK employees are eligible”.*  
**ANDREWS SYKES PLC, OFR SECTION, 2008.**

In order to avoid the likelihood of incorrectly capturing noun forms of some verbs, some conjugations are used, which reduce the likelihood of capturing noun forms of these verbs. For example, the following conjugations<sup>20</sup> are used (the verb “plan” is used as template for brevity): “*we plan*”, “*management plans*”, “*managers plan*”, “*manager plans*”, “*company plans*”, “*firm plans*”, “*is planning*”, “*are planning*”, “*is planned*”, “*are planned*”, “*normally plan*”, “*normally plans*”, “*currently plan*”, “*currently plans*”, “*also plan*”, “*also plans*”, and “*to plan*”. For instance, consider the following extracts:

*“The water market remains competitive but we plan to continue to develop Strathmore as a premium brand in the sector.”* **ANDREWS SYKES PLC, OFR STATEMENTS, 2008.**

*“In 2011 we plan to increase capital expenditure to around £60 million.”* **GREENE KING PLC OFR STATEMENTS, 2010**

*“We hope this is alongside continued support, via appropriate capital expenditure and other allowances, for businesses such as ours to be encouraged to maintain investment levels.”* **GREENE KING PLC OFR STATEMENTS, 2010**

*“We estimate that South-eastern will be at around 90% of bid revenue for the year ended 31 March 2011.”* **GREENE KING PLC OFR STATEMENTS, 2010**

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<sup>20</sup> The conjugations are added based on prior research (e.g., Muslu et al., 2011) and after reading sample of 100 OFR statements.

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4) References to future years are added in the search for forward-looking statements. For example, reference to years 2008/2009 is made when searching in the OFR statements of the annual report of 2007, and reference to years 2009/2010 is added when searching in the OFR statements of the annual report of 2008 and so on. For instance, consider the following extracts:

*“We expect 2010 to provide much better trading conditions for air conditioning products.”* **ANDREWS SYKES GROUP, OFR STATEMENTS, 2009**

*“I am certain that we have set the right foundations for future growth and with a strong management team in place I expect to see stronger Data and Managed Services revenue growth in 2011.”* **COLT, OFR STATEMENTS, 2010**

*“For 2009 and beyond, the overall reported tax rate is likely to continue to be volatile, being influenced by the possible further recognition of currently unrecognised deferred tax assets and the settlement of prior year tax disputes.”* **GKN, OFR STATEMENTS, 2007**

The above extracts provide a future orientation for the coming year/years.

To conclude, the QSR N6 software tags an OFR statement as a forward-looking statement, if the statement includes any of the following:

*Likely, future, will, eventual, well-positioned, well-placed, shortly, and soon.*

*Look-forward, looks-forward, looking-forward, look-ahead, looks-ahead, looking-ahead, year-ahead, years-ahead.*

*The following adjectives: next, coming, incoming, upcoming, forthcoming, following, and subsequent, followed by any of the following time indicators: fiscal, month(s), quarter(s), year(s), period(s), and/or six months/twelve months.*

*The following conjugations: we, management, managers, manager, company, firm, is, are, normally, to, also, currently, connected with the following verbs:*

*plan, project, hope, estimate, expect, aim, forecast, prospect, and believe.*

*References to future years, references to years 2009/2010 are made when searching in the OFR statements of the annual report of 2008.*

After writing the command, it is then run for each year in the sample. The output is saved in separate file titled “Forward-Looking Statements”. The Forward-looking Statements output represents list of all sentences containing at least one of the forward-looking keywords for each firm in the sample.

### **3.4.2 Step 2: Extracting the financial-related sentences from the OFR statements**

Financial-related sentences in the OFR statements provide explanations about the amount recorded in the firm financial statements. If managers follow the spirit of OFR statements, an explanation will be required if there is significant changes in the amounts recorded in the financial statements.

In order to capture the financial-related sentences from the OFR statements, a list of financial-related keywords is developed. The same steps followed for extracting the forward-looking sentences are used to extract the financial-related sentences. However, extracting financial-related sentences depends on a list of financial-related keywords. These steps include the following: (1) developing preliminary list of financial-related keywords, (2) refining the preliminary list of the financial-related keywords, and approving the final keywords list, and (3) writing the command file, running the command, and saving the output.

#### ***3.4.2.1 Developing preliminary list of financial-related keywords***

In this step, a preliminary list of financial-related keywords is created. This preliminary list is based on the following. 1) The items of the financial statements as explained by

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the International Accounting Standard 1 (IAS1), 2) prior empirical research on disclosure (Hussainy et al. 2003; Hussainey & walker 2008, and Beattie et al., 2004)<sup>21</sup>, and 3) randomly selected sample of 20 OFR statements from each year (140 OFR statements); all the 140 OFR statements are read carefully and any new financial-related keywords are added to the preliminary list.

Table 3.6 details the preliminary list of the keyword which consists of 62 financial-related keywords.

<b>Table 3.6 Preliminary list of financial-related keywords</b>		
Acid test ratio	EBI*	Payable
Amortisation	EBIT*	Price earnings ratio
Assets	EBITDA*	Profit
Capital	EPS*	Profit margin
Cash	Equity	Profitability
Cash flow	Expenses	Property , plant and equipment
Cash flow per share	Extraordinary items	Provisions
Cash inflow	Gain	Quick ratio
Cash outflow	Gearing	Receivable
Costs	Gross margin ratio	Return on assets
Credit given	Impairment	Return on capital employed
Credit obtained	Income	Return on equity
Current ratio	Interest cover	Return on investment
Debt	Inventories	Revenue
Depletion	Investment property	ROA*
Depreciation	Liabilities	ROCE*
Discontinued operations	Liquidity ratio	ROE*
Dividend	Loss	Sales
Dividend cover	Margin	Stock turnover
Dividends yield	Market to book value ratio	Tax
Earnings		
Earnings per share		
* EBI: earnings before interest. EBIT: earnings before interest and tax. EBITDA: earnings before interest and tax and depreciation and amortization. EPS: earnings per share. ROA: return on assets. ROCE: return on capital employed. ROE: return on equity.		
The order of the keywords is alphabetical.		
This Table details the preliminary list of financial-related keywords list. It consists of 62 keywords.		

<sup>21</sup> We did not depend only on the IAS1, because this standard provides only the minimum items that should be included in the firm's financial statements. Accordingly, we depend also on prior research and sample from the OFR statements in order to be able to identify comprehensive set of the financial-related keywords.

### *3.4.2.2 Refining the preliminary list, and approving the final list of the financial-related keywords*

In this step, the preliminary list of financial-related keywords is refined to identify the final financial-related keywords. To refine the preliminary list of financial-related keywords, a random sample of 20 sentences per financial-related keyword are selected and read carefully. The number of cases in which the sentence represents a financial-related statement is counted. Following the same benchmark of the forward-looking keywords, a keyword is included in the final list of financial-related keywords if at least 90% of the sentences including such keyword represent financial-related statement. There was no concern about any of the keywords in the preliminary list. Therefore, all keywords in the preliminary list are approved as final financial-related keywords.

Table 3.7 details the final financial-related keywords list categorised into four different groups. These groups represent the firm's financial statements items and its financial ratios. In other words, the groups include the following: (1) income statements items, (2) statement of financial position items, (3) cash flow statement items, and (4) financial ratios.

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<b>Table 3.7</b>			
<b>Final financial-related keywords list classified into four different categories</b>			
<b>Income statement items</b>	<b>Statement of financial position items</b>	<b>Cash flow items</b>	<b>Financial ratios</b>
Amortisation Costs Depletion Depreciation Discontinued operations Dividends Earnings EBI* EBIT* EBITDA* Expenses Extraordinary items Gain Impairment Income Loss Margin Profit Revenue Sales Tax	Assets Capital Debt Equity Inventories Investment property Liabilities Payable Property plant and equipment Provisions Receivable	Cash Cash flow Cash inflow Cash outflow	Acid test ratio Cash flow per share Credit given Credit obtained Current ratio Dividend cover Dividends yield Earnings per share EPS* Gearing Gross margin ratio Interest cover Liquidity ratio Market to book value ratio Price earnings ratio Profit margin Profitability Quick ratio Return on assets Return on capital employed Return on equity Return on investment ROA* ROCE* ROE* Stock turnover
* EBI: earnings before interest. EBIT: earnings before interest and tax. EBITDA: earnings before interest and tax and depreciation and amortization. EPS: earnings per share. ROA: return on assets. ROCE: return on capital employed. ROE: return on equity.			
This Table details the final list of financial-related words and their classification according to whether the keyword represents an income statement item, statement of financial position item, cash flow item, or a financial ratio.			

### 3.4.2.3 *Writing the command file, running the command, and saving the output*

After approving the final list of the financial-related keywords, a special command file for each year is written based on the final list of keywords. Appendix (2) reports a command file to extract financial-related sentences.

The special command tags an OFR statement as a financial-related statement, if the OFR statement includes any of the financial-related keywords listed in Table 3.7.

After writing the command, it is then run for each year in the sample. The output is saved in separate file titled “Financial-Related Statements”. The Financial-Related Statements output represent list of all sentences containing at least one of the financial-related keywords for each firm in the sample.

The following extracts represent sample of the “Financial-Related Statements” from the OFR statements:

*“Revenue, operating profit and margin, earnings per share (EPS) and operating cash flow indicate the volume of work we have done, its profitability and the efficiency with which we have turned operating profits into cash; work in hand measures our secured workload as a percentage of the budgeted revenue for the next year; staff numbers and staff turnover are measures of capacity and show us how effective we have been in recruiting and retaining our key resource.”* **ATKINS (WS) PLC, OFR STATEMENTS, 2008**

*“Gearing reduced from 43% to 32% and interest cover improved. Interest cover, based on net interest payable excluding the net interest cost on pension liabilities improved to 6.3 times (2009: 6.1 times). Total external and inter division revenue was 17% down on 2007.”* **4IMPRINT GROUP PLC, OFR STATEMENTS, 2008**

*“In North America; total revenue in US dollars at \$170.57m was 17% ahead of prior year, the result of continued expansion of catalogue mailings, internet presence and*

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*existing customer marketing programmes.*” **4IMPRINT GROUP PLC, OFR STATEMENTS, 2008**

*“The tax charge was £0.40m, an effective rate of 15% (2008: 30%). The reduction in the rate is due to tax losses generated and utilised in the year in the Group’s principal trading territories - UK and USA.”* **4IMPRINT GROUP PLC, OFR STATEMENTS, 2009**

*“When a trade receivable is uncollectable it is written off against the provision for impairment of trade receivables account.”* **AGGREKO PLC, OFR STATEMENTS, 2009**

*“A weaker dollar, higher commodity prices than at 31 December 2008 as well as a stronger trading performance in the later stages of 2009 compared with the prior year have contributed to a \$929 million increase to inventories and current receivables.”* **ANGLO AMERICAN PLC, OFR STATEMENTS, 2009**

*“AMEC is subject to litigation from time to time in the ordinary course of business and makes provision for the expected costs based on appropriate professional advice.”* **AMEC PLC, OFR STATEMENTS, 2010**

*“The closure provision was increased following an updated pound in 2009 to 106.8 cents, reflecting higher energy prices, increased labour assessment during 2010 by external consultants, with the provision increasing and maintenance and fuel costs as well as the impact of the stronger Chilean due to factors including increases in the scale of scale of the operation, updated cost peso.”* **ANTOFAGASTA PLC, OFR STATEMENTS, 2010**

*“The Group gearing ratio (net debt as a percentage of total Net working capital) was tightly controlled and only increased marginally although revenue rose by 7% in the year.”* **PORVAIR PLC, OFR STATEMENTS, 2011**

*“Dividends paid to shareholders totalled £8.2 million.”* **THE VITEC GROUP PLC, OFR STATEMENTS, 2011**

The main unit of discussion in each of the above extracts is one or more of the financial

statements items or the related financial ratios.

### **3.4.3 Step 3: Extracting the forward-looking financial statements (FLFD) from the OFR statements**

In step 1, the QSR N6 software extracts the forward-looking statements from the OFR statements and the output of this step is saved in a separate file entitled “Forward-Looking Statements”. Whilst, in step 2, the software extracts the financial-related statements from the OFR statements and the output of this step is saved in a separate file entitled “Financial-Related Statements”.

Step 3 aims to extract the forward-looking financial disclosure (FLFD) from the OFR statements. FLFD provides explanations for the amounts of financial statements with forward-looking orientation. It represents all statements that include at least one of the forward-looking keywords and at least one of the financial-related keywords

Using the QSR N6 software, we search the OFR statements for sentences that include at least one of the forward-looking keywords and at least one of the financial-related keyword for each year separately. This is done by finding the intersection between the “Forward-looking Statements” output of step 1 and the “Financial-related Statements” output of step 2. The output of this step is saved in separate file entitled “Forward-Looking financial Statements (FLFD)”. This output represents the level of FLFD in a firm’s OFR statements each year.

Table 3.8 shows the output from the three steps for a random sample of 21 firms in 2010, the definition of each column in the Table is as follows. Column (1) represents the firm name. Column (2) presents the output of step 1; the level of the forward-looking statements in firm’s OFR statements. Column (3) shows the output of step 2; the level

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of financial-related sentences in firm's OFR statements. Finally, column (4) represents the level of FLFD firm's OFR statements.

For instance, IMI Company has 45 and 113 forward-looking and financial-related statements, respectively. However, only 12 statements are considered FLFD. Each statement of the 12 statements of FLFD includes at least one of the forward-looking keywords and at least one of the financial-related keywords.

(1)	(2)	(3)	(4)
Company name	Forward-looking statements	Financial-Related statements	Forward-looking financial statements
IMI PLC	45	113	12
IMPERIAL TOBACCO PLC	63	159	18
JOHNSTON PRESS PLC	35	126	13
MORGAN SINDALL PLC	111	385	42
NATIONAL EXPRESS PLC	102	202	41
NORTHGATE PLC	23	122	9
NEXT PLC	56	105	24
PENNON GROUP PLC	80	202	20
PERSIMMON PLC	56	123	34
PREMIER FARNELL	70	185	23
RANK GROUP PLC	54	196	17
REA HOLDINGS PLC	143	169	39
RIO TINTO PLC	176	316	34
SABMILLER PLC	67	316	20
SIG PLC	84	268	36
SPEEDY HIRE PLC	141	111	29
TESCO PLC	57	157	16
UBM PLC	68	225	23
VODAFONE GROUP PLC	59	328	39
WPP PLC	236	329	28
YELL GROUP PLC	63	173	33

This Table reports the forward-looking, the financial-related, and FLFD statements for a sample of firms in the reporting year 2010.

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The following extracts represent sample of the forward-looking financial disclosure (FLFD) in the firms' OFR statements:

*"An all-inclusive processing and transportation tariff has been agreed with the Banff Group which will substantially reduce operating costs and allow the extension of field life up to the end of 2015".* **PREMIER OIL PLC, OFR STATEMENTS, 2005**

*"In future periods, it is expected that the effective tax rate, adjusted for associates' tax, will remain at or above the current levels."* **ANGLO AMERICAN PLC, OFR STATEMENTS, 2005**

*"The Board intends to enhance future dividends by expected to amount to £10m in 2007/08".* **HMV GROUP PLC, OFR STATEMENTS, 2006**

*"The Board believes that this strategy will enable Porvair to grow its revenues and operating profits".* **PORVAIR PLC, OFR STATEMENTS, 2007**

*"The Board will review the trading performance and level of debt at the conclusion of future periods and evaluate whether a dividend is appropriate at that time".* **AVON RUBBER PLC, OFR STATEMENTS, 2008**

*"North America Overall, unit sales grew by 25% during the year and we believe this momentum will be, at least, maintained during the coming year".* **600 GROUP, OFR STATEMENTS, 2008**

*"The final dividend will be paid on 28 May 2009 to shareholders on the register at 1 May 2009."* **AEGIS GROUP, OFR STATEMENTS, 2008**

*"Looking forward, we expect to be able to continue to balance cash inflows and outflows even if conditions are equally challenging."* **BP PLC, OFR STATEMENTS, 2009**

*"All our new stores take time to mature and we expect to see stronger sales from them in future years."* **CARPETRIGHT PLC, OFR STATEMENTS, 2009**

### **CHAPTER 3: MEASURING CHANGE IN FLFD**

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*“For 2010 and beyond, the overall reported tax rate is likely to continue to be volatile, primarily due to movements in provisions for uncertain tax positions and the recognition/ derecognition of deferred tax assets.”* **GKN PLC, OFR STATEMENTS, 2009**

*“This capital expenditure will be funded from our strong cash flow and will begin delivering benefits from 2011, ultimately delivering efficiency benefits to the bottom line of at least £10 million per annum by 2014.”* **GREENE KING PLC, OFR STATEMENTS, 2009**

*“It is with this in mind that we have announced our intention to effect a return of value of approximately Â£150 million in 2011 (to be effected by way of a B share scheme), and a further amount, depending on circumstances in the next 2 to 3 years, that will move Net Debt to EBITDA to around 1 times.”* **AGGREKO PLC, OFR STATEMENTS, 2010**

*“Net debt/EBITDA was down to 5.1 x, in line with our targeted level, and this will continue to move slightly as proceeds are further invested ahead of the earnings stream they generate.”* **GREENE KING PLC, OFR STATEMENTS, 2010**

*“A contribution to this reduction was a net tax repayment of £1.8 million during 2010 with a further receipt of £5.8 million which will benefit 2011, although this amount remains subject to final agreement with HMRC.”* **JOHNSON MATTHEY PLC, OFR STATEMENTS, 2010**

*“In 2012 we expect to deliver continued dividend growth.”* **GLAXOSMITHKLINE PLC, OFR STATEMENTS, 2011**

*“We expect Pearson to achieve growth in sales and operating profits in 2012.”* **PEARSON PLC, OFR STATEMENTS, 2011**

Each extract, from the above, provides a discussion about an item or more of a firm financial statements or/and one or more of its financial ratio(s) with a forward-looking orientation.

### 3.4.4 Step 4: measuring year-over-year change in FLFD

Until now the level of firm's FLFD in its OFR statements is identified or measured. The final step is measuring the firm's year-over-year changes in its FLFD. Simply, the change in the firm's FLFD,  $\Delta FLFD$ , from period  $t-1$  to period  $t$  is equal to firm's FLFD in period  $t$  minus FLFD in period  $t-1$ .

In the empirical analysis, the study is not concerned with the direction of the change in FLFD. However, it is concerned with the existence and magnitude of such change in FLFD. The absolute values preserve the magnitude of change. Therefore, the year-over-year absolute change in FLFD,  $|\Delta FLFD|$ , is used. For simplicity, we refer to the variable,  $|\Delta FLFD|$ , as absolute change score or change score.

The change score,  $|\Delta FLFD|$ , measures the extent to which FLFD in two successive OFR documents are different. A higher score indicates more changes from the previous year and vice versa. Following prior research (e.g., Kravet & Muslu, 2013) we do not scale this variable; instead, we control for the overall length of the narrative reporting document in the empirical model.

Table 3.9 shows an example of the level of FLFD, change in FLFD ( $\Delta FLFD$ ) and absolute change in FLFD ( $|\Delta FLFD|$ ) for two firms over the period from 2005 to 2011. Firm name and the years of disclosure are given in columns (1) and (2), respectively. Firm FLFD,  $\Delta FLFD$ , and  $|\Delta FLFD|$  are reported in columns (3), (4) and (5), respectively.

For illustration, the change in the level of FLFD of Aggreko company in column (4) reveals that the FLFD is increased from 8 in 2005 to 24 in 2006, then FLFD decreases to 22 in 2007 and remains at this level in 2008 then increases by 1 statements in 2009 and continue to increase by 4 statements in 2010 and finally drops by 10 statements in

### CHAPTER 3: MEASURING CHANGE IN FLFD

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2011. Column (5) shows the magnitude of these changes. The largest change in FLFD is happened from 2005 to 2006 (16 statements), also there is large change in the level of FLFD from 2010 to 2011 (10 statements).

(1)	(2)	(3)	(4)	(5)
Company name	Years	FLFD	$\Delta$ FLFD	$ \Delta$ FLFD
AGGREKO PLC	2005	8		
AGGREKO PLC	2006	24	16	16
AGGREKO PLC	2007	22	-2	2
AGGREKO PLC	2008	22	0	0
AGGREKO PLC	2009	23	1	1
AGGREKO PLC	2010	27	4	4
AGGREKO PLC	2011	17	-10	10
ASHTEAD PLC	2005	20		
ASHTEAD PLC	2006	18	-2	2
ASHTEAD PLC	2007	34	16	16
ASHTEAD PLC	2008	24	-10	10
ASHTEAD PLC	2009	22	-2	2
ASHTEAD PLC	2010	28	-6	6
ASHTEAD PLC	2011	13	-15	15

This Table provides example from two firms over the period from 2005 to 2011. It shows the level of forward-looking financial statements in firm's OFR statements in column 3. Column 4 presents the change in the level of FLFD which is equal to the level of firm's FLFD in period t minus the level of firm's FLFD in period t-1. Column 5 shows the absolute change of column 4.

### 3.5 ENSURING RELIABILITY AND VALIDITY OF CHANGE SCORE

The measure of disclosure should be reliable and valid in order to obtain valid inference from employing it in the research (Hassan & Marston, 2010; Weber, 1990). Reliability refers to the ability of different coders to code the same text in the same way (Weber, 1990). Whilst, validity concerns the extent to which the measuring instrument measures what is intended to measure (Carmines & Zeller, 1991). This section discusses the reliability and validity tests of the change measure.

#### 3.5.1 Reliability tests

Reliability could be defined as the ability of different coders to code the same text in the same way (Weber, 1990). Prior research suggests that content analysis might not be reliable as intended if it is conducted only once or only by one person (Neuendorf, 2002; Hussainey et al., 2003). In addition, it is argued that the reliability of computerized content analysis is based on the reliability of the coding schemes, the lists of keywords, designed by the researcher (Sydserff & Weetman, 2002). The reliability of the change score is checked on three stages as follows:

The first stage checks the accuracy of the lists of keywords<sup>22</sup>. In this stage, we examine the extent to which the final lists of forward-looking (financial-related) keywords captures the forward-looking (financial-related) sentences from the OFR statements. In other words, the reliability in this stage is used to test: 1) the extent to which final-forward-looking keywords list captures the forward-looking sentences from the OFR statements, and 2) the extent to which final financial-related keywords list captures the financial-related sentences from the OFR statements. In this stage we assume that the

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<sup>22</sup> However, reliability tests are performed to check the accuracy of the final lists of keywords in each stage; this is considered a double check test for the output from each step.

accuracy of the output is based mainly on the accuracy of the keywords. If, for example, the forward-looking statements actually reflect real future oriented statements, then the keywords are accurate.

To this end, with respect to forward-looking statements, a sample of 20 statements from each year is randomly selected from the output of step 1 (140 statements). The 140 statements are read carefully to identify the extent to which these statements reflect future. There were no concerns about any of the statements which indicate that the forward-looking keywords are successful in capturing the future oriented statements from the OFR statements.

In terms of financial-related keywords, a sample of 20 statements from each year is randomly selected from the output of step 2 (140 statements). The 140 statements are read carefully to identify the extent to which these statements reflect discussion about amount recorded in the firm financial statements and its financial ratios. The researcher finds that the final financial-related keywords are successful in capturing the financial-related sentences in the OFR statements.

The second stage of the reliability tests is conducted to examine how well the change score from the automated content analysis is correlated with the change score from the manual coding.

To this end, a randomly selected sample from the OFR statements is manually coded. Each firm OFR statements for the current year ( $t$ ) and the previous year ( $t-1$ ) are compared and manually coded. Within each section, we read through the paragraphs and sentences. Total statements – units of analysis in our study – are identified and we then identify forward-looking sentences. Forward-looking sentences are all statements

that concern the future. Each forward-looking statement is, then, read carefully to identify the basic unit of discussion of the statement, referred to as aspect. If the aspect is about firm financial statements items or/and its financial ratios, then, the statement is classified as FLFD. After that, we calculate the change in FLFD for the same firm OFR statements between period ( $t$ ) and period ( $t-1$ ). Following Hussainey et al. (2003), we use the Pearson correlation to compare between the change score from the automated coding and the change score from the manual coding. The Pearson correlation test shows that the change score based on the manual coding is significantly and highly correlated with the change score from the automated coding. This finding suggests that the change score calculated depending on the computer software is reliable<sup>23</sup>.

The third stage of reliability tests is conducted to examine the extent to which our coding methodology is stable over time. Stability concerns the degree to which a process is unchanging overtime (Krippendorff, 1980). In content analysis, stability can be determined when the same content is coded more than once by the same coding methodology and the results are the same (Hassan & Marston, 2010)<sup>24</sup>.

To check the stability of the coding methodology, all the coding steps employed in measuring the change in FLFD are re-run again after a period of time. First, forward-looking sentences are re-extracted from the OFR statements (Step 1). Second, financial-related sentences are re-extracted from the OFR statements (step 2). Third, FLFD are re-

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<sup>23</sup> This test of reliability is called “Reproducibility” (Krippendorff, 1980) or “Inter-coder reliability” (Hassan & Marston, 2010). It can be defined as “the extent to which content classification produces the same results when the same text is coded by more than one coder” (Weber, 1990, p. 17). Hassan and Martson (2010) argue that if correlation is used to compare between different coders, the higher the correlation coefficient obtained, the higher the reliability of the measurement instrument.

<sup>24</sup> An example of research who conducts the stability test is Hussainey et al. (2003). They code all annual reports at one time using Nudist software. After a short period of time, samples of these reports are recoded using the same software. The resulting scores yielded from the second round matched exactly with those from the first round, which proves the stability of the results obtained from the measurement instrument over time

extracted from the OFR statements (step 3). Finally, the change in FLFD is recalculated (step 4). The output from each step in the second coding trial is compared with those from the first coding round. The outputs of both trials are exactly the same. This provides assurance of the stability of the automated coding methodology over time.

### 3.5.2 Validity tests

Validity concerns the extent to which the measuring instrument measures what is intended to measure (Carmines & Zeller, 1991). Shevlin (2004) suggests that the measuring instrument can be validated by analytical analysis that involves empirical evidence to support the measuring instrument. In other words, this type of validity test focuses on the extent to which the measurement of disclosure is associated with the theoretical expectations (Carmines & Zeller, 1991). Specifically, prior research on disclosure (e.g., Botosan, 1997; Brown & Tucker, 2011) adopts analytical analysis methodology for validating disclosure measures. They suggest that their measure of disclosure is valid, if it is associated with firm-specific characteristics<sup>25</sup>.

For instance, Botosan (1997) develops a disclosure index to measure the level of voluntary disclosure provided by firms in their annual reports. He argues that his disclosure index measures the level of voluntary disclosure, if it is related to some specific firm-related characteristics identified by prior research (e.g., size and auditor type). He validated his disclosure index by examining the association between his index and some firm specific characteristics that are firm size, exchange listing status of a firm, audit firm size and firm's leverage.

Furthermore, Brown and Tucker (2011) measure change in narrative reporting by

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<sup>25</sup> This type of validity test is referred to as construct validity (Hassan & Marston, 2010) or analytical validity (Shevlin, 2004). This validity test involves using empirical evidence to support the measurement of disclosure.

examining the rate of change in the frequency of specific words within the MD&A narrative statements of the annual report. They argue that their change measure captures considerable new information, if it is associated with factors identified in prior research as determinants of voluntary disclosure. They validate their change measure by empirically analyse the association between their change measure and factors that have been identified in prior research as determinants of voluntary disclosure. These factors are firm size, firm competition environment, firm litigation environment, institutional ownership and auditor type. They find that their change measure is associated with firm size, firm competition environment, litigation environment and institutional ownership. They conclude that, these results add validity that their change measure captures considerable new information in narrative reporting.

Following Botosan (1997), and Brown and Tucker (2011), the current study adopts analytical analysis methodology to validate the change score. The study, therefore, empirically examine the association between the change score and some factors that have been identified in prior research as determinates of voluntary disclosure. These factors are firm size, competition environment, litigation environment, managerial ownership and auditor type. Chapter (4) elaborates this empirical test.

The current study, as reported in the empirical analysis in section 4.7.3, finds that associations exist between the change score and some determinates of voluntary disclosure. These factors include the following: firm size, competitive environment, litigious environment and percentage of managerial ownership. This result adds validity to the change score. According, it validates the idea that as long as the company changes its level of disclosure, it will disclose relatively new information

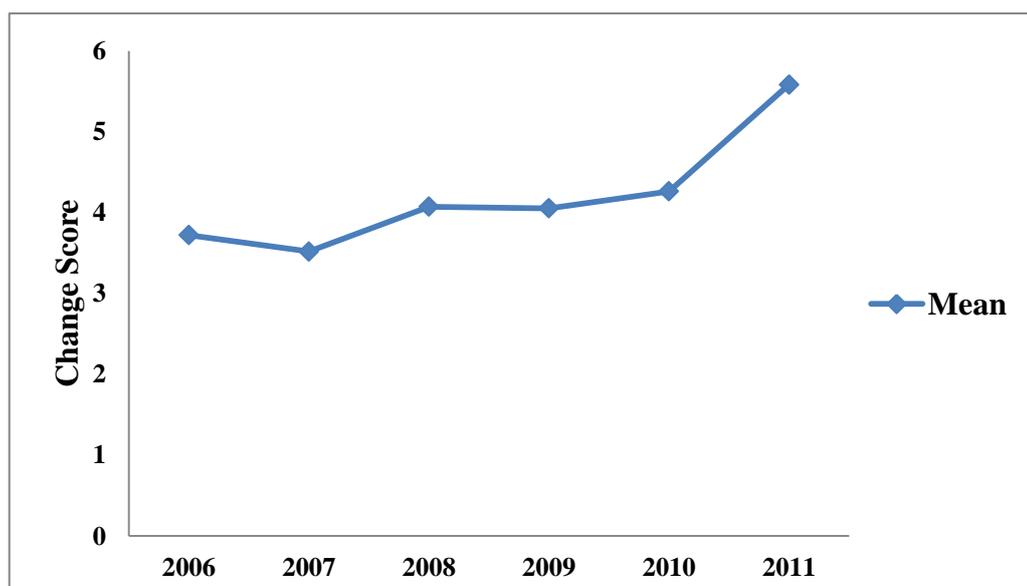
### 3.6 DESCRIPTIVE STATISTICS

Table 3.10 shows the descriptive statistics of the change score  $|\Delta\text{FLFD}|$ . Panel A shows the descriptive statistics for all sample firms and by years, while, panel B presents the descriptive statistics of the change score for all sample firms and by industries.

In Panel A, the mean (medium) values of the change score in all sample firms are 4.27 (3.00). The maximum value of  $|\Delta\text{FLFD}|$  of the sample firms is 58 while the minimum is 0. This range indicates that a variation exists between the UK firms in terms of their decision to change FLFD from year-to-year. Where some firms have higher changes in their level of FLFD, others have smaller changes.

The mean values of change score over the sample period depict monotonic increase, as shown in Figure 3.2, in the change score over the period from 2006 to 2011. It ranges from 3.78 in 2006 to 5.58 in 2011. This small range may be due to the soft talk nature of FLFD which reduces the variation of change from period to period.

**Figure 3.2: The mean value of  $|\Delta\text{FLFD}|$  over years**



This Figure shows the mean value of year-over-year change in the level of FLFD. The sample includes 2076 observation over the period of 2006-2011. It depicts monotonic increase in the change score over the sample period

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Panel B of Table 3.10 shows the descriptive statistics of the change score for all sample firms and by industries. There is a variation in the mean value of change score across different industries. Utilities firms have the highest mean value of the change score (5.54), whilst, the technology firms have the lowest mean value (3.14). It is argued that the disclosure behaviour is similar between firms in the same industry, where similar business environments and operating conditions exist, and this behaviour tends to be different between firms in different industries. This is may be consistent with the prediction that litigation is high in technology industry, and so firms tend to provide less informative disclosure and thus fewer changes.

As mentioned above, it seems that there is a variation in in terms of  $|\Delta\text{FLFD}|$  during the sample period. However, the study compares the mean values of the change score across the sample period to test whether or not differences between the values of change score are significant over the period of study. The Table below indicates that the F value of the ANOVA test is 6.97 and is significant at 1% level of significance. This result suggests that differences exist in terms of the mean values of the change score across firms over the sample period. Therefore, more investigation is required for such variations in the change score.

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	868.326	5	173.665	6.975	.000
Within Groups	51538.697	2070	24.898		
Total	52407.023	2075			

Chapter 4 investigates the factors that that may influence managers of firms to change their firms' FLFD level over years.

**Table 3.10**  
**Panel A: Descriptive statistics of change score,  $|\Delta FLFD|$ , for all the sample and by years**

	All	2006	2007	2008	2009	2010	2011
Mean	4.27	3.78	3.60	4.03	4.03	4.26	5.58
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25%	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Medium	3.00	3.00	2.00	3.00	3.00	3.00	4.00
75%	5.00	5.00	5.00	5.00	6.00	8.00	8.00
Maximum	58.00	24.00	27.00	58.00	58.00	29.00	35.00
N	2076	346	346	346	346	346	346

**Panel B: Descriptive statistics of the change score,  $|\Delta FLFD|$ , for all the sample and by industries**

	All	Industrial	Basic material	Technology	Consumer goods	Consumer service	Health care	Oil and gas	Utilities	Tel.
Mean	4.27	4.24	4.66	3.14	3.50	4.40	4.56	4.94	5.54	4.91
Minimum	0.00	00.00	00.00	0.00	0.00	0.00	00.00	00.00	00.00	1.00
25%	1.00	1.00	1.00	1.00	1.00	2.00	2.00	1.00	1.00	2.00
Medium	3.00	3.00	3.00	2.00	2.00	3.00	3.00	3.00	3.50	4.50
75%	5.00	5.75	5.00	4.00	5.00	6.00	6.00	6.00	10.00	6.00
Maximum	58.00	58.00	51.00	27.00	22.00	31.00	34.00	25.00	18.00	18.00
N	2076	720	168	210	216	462	132	102	42	24

This Table shows the descriptive statistics of the change score  $|\Delta FLFD|$  for all sample firms, by years, and by industries. Panel A shows the descriptive statistics for all sample firms and by years. Whilst, Panel B shows the descriptive statistics for all sample firms and by industry. N indicates the number of observations. The definitions of industries are based on the Industry Classification Benchmark (ICB).

### 3.7 CONCLUDING REMARKS

The main objective of this chapter is measuring the year-over-year change in firm FLFD. The chapter starts by discussing the arguments for adopting change methodology in measuring narrative statements, and explains the sample selection process. Then, it explains the steps of measuring year-over-year change in FLFD. Finally, it provides descriptive analysis that explains the change in FLFD over time and across industries.

Adopting change methodology in measuring narrative reporting can better capture new information that is free of boilerplate statements and reflects changes in the business economic environment, as well as, this methodology alleviates the measurement noise due to the repetitive statements (Muslu et al., 2011; Brown & Tucker, 2011). In addition, this method mitigates the problem of endogeneity (e.g., Li, 2010b) and provides more robust results (e.g., Feldman et al., 2010).

To measure year-over-year change in FLFD, the following four steps are followed. First step, forward-looking sentences are extracted from OFR statements based on a list of 33 forward-looking keywords such as expect, anticipate, and look-forward. Second step, financial-related sentences are extracted from OFR statements based on a list of 62 financial-related keywords such as earnings per share (EPS), cash, and margin.

Third step, using the QSR N6 software package, we search OFR statements for sentences that include both a forward-looking keyword and a financial-related keyword. This helps in counting the frequency of FLFD in firm OFR statements each year. Fourth step, the change in FLFD,  $\Delta\text{FLFD}$ , between period  $t-1$  and period  $t$  is equal to FLFD in period  $t$  minus FLFD in period  $t-1$ . This measures the extent to which FLFD in two successive OFR documents are different. A higher score indicates more changes from

the previous year and vice versa.

The reliability and validity tests have been considered. Reliability test suggests that our change score based on the automated content analysis is reliable. Whilst, the validity test adds credibility to the idea that: as long as the company changes its level of disclosure, it will disclose relatively new information. Hence, it ensures that the change score captures new information

The descriptive statistics indicate that a variation exists between the UK firms in terms of their decision to change their FLFD from year-to-year.

This study contributes to the body of knowledge on methodological developments in the measurement of FLFD. Unlike prior research on forward-looking disclosure in UK narratives (e.g., Hussainey et al., 2003; Schleicher et al., 2007; Wang & Hussainey, 2013), the study uses change in FLFD rather than their respective levels. Adopting change measure can better capture new information that is free of boilerplate statements and reflects change in the business environment (Muslu et al., 2011). In addition, this method mitigates the problem of endogeneity (Li, 2010b) and provides more robust results (Feldman et al., 2010); it also alleviates the measurement noise due to repetitive statements (Muslu et al., 2011).

However, it has some limitations which have to be considered as potential avenues for future research. The change measure employed in the current study is based on the idea in prior research that change in the level disclosure is associated with change in firm performance (e.g., Miller, 2000). In other words, as long as the company changes its level of disclosure, it will disclose relatively new information. However, the change in the level of disclosure may not be the suitable measure to capture the in-depth changes

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in firm's information content. The company may keep its FLFD level the same from year to year, but disclose relatively new information each year. Perhaps for this reason, it would be an interesting area for future research to look for other sophisticated measures of change in information such as Turnitin software used to check for plagiarism. However, our change measure is not perfect; it is one step forward in understanding managers' narrative disclosure behaviour.

Chapter 4 will provide more investigation in terms of the factors that might drive managers of firms to change the FLFD of their firms over years.

**Chapter 4 : MANAGERS' INCENTIVES TO CHANGE FLFD OF  
THEIR FIRMS**

**4.1 OVERVIEW**

Exploring the factors that may encourage firms' managers to change the FLFD of their firms over years is the main objective of this chapter. The chapter, therefore, discusses the theoretical expectations, the research design and the empirical results concerning the factors that may drive managers of firms to change FLFD of their firms over years. Hence, it would provide answers to research questions: Q1a, Q1b, Q1c, Q2a, Q2b, Q2c, Q2d, & Q2e

As previously mentioned each chapter discusses, where relevant, the relevant theories, literature, and hypotheses development. In addition, it explains the research design and reports the results. Particularly, this chapter is outlined as follows:

Section 4.2 discusses the relevant theories that explain managers' incentives to change their FLFD. The review of the literature is discussed in section 4.3. Section 4.4 develops the hypotheses of the current study. Section 4.5 presents the literature on variables that may influence managers to change FLFD (control variables). Section 4.6 details the research design. It draws on the variables' definitions and measurements in section 4.6.1, empirical model in section 4.6.2, statistical issues in section 4.6.3, and sample selection and data collection in section 4.6.4. The results of the current study are presented in section 4.7. This section reports the descriptive statistics in section 4.7.1, the correlation analysis in section 4.7.2, the empirical results in section 4.7.3, and the further analysis and endogeneity tests in sections 4.7.4 and 4.7.5, respectively. Section 4.8 provides the concluding remarks.

### 4.2 THEORIES

Literature presents various theories that explain managers' incentives for disclosure<sup>26</sup>. Obviously, there is no general or comprehensive theory that could be applied (Verrecchia, 2001). However, each theory focuses on or explains different aspect of disclosure. Therefore, several theories could be applied to explain managers' behaviour in terms of narrative disclosure. The objective of this section is to present the main theories that could explain managers' incentives to change FLFD over years.

Managers' decision to change FLFD from the previous year depends on 1) the likelihood that managers have new information to disclose relative to prior year, and 2) the cost of including more or less information in the narrative document. Accordingly, our theoretical prediction is based on the following theories: managers' incentive theories and cost of disclosure theories.

#### 4.2.1 Managers' incentive theories

Managers' incentives to change their narrative reporting over years could be explained from the point of views of the agency and signalling theories (Core, 2001; Beyer, Cohen, Lys, & Walther, 2010).

##### 4.2.1.1 Agency theory

Agency theory was borne by Jensen and Meckling, (1976) and is used to explain voluntary disclosure by firms to investors. It is the dominant of all disclosure theories and is the widely used in disclosure studies (e.g., Wang & Hussainey, 2013; Elshandidy et al., 2013; Elzahar et al., 2015). Jensen and Meckling (1976, p. 308) define the agency

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<sup>26</sup> Examples include: Jensen and Meckling (1976), Spence (1973), Watts and Zimmerman (1990) and Healy and Palepu (2001).

relationship as “a contract under which one or more (principals) engage another person (the agent) to perform some service on their behalf, which involves delegating some decision-making authority to the agent”. This relationship assumes that the agent is driven by self-interest and undertakes self-serving activities that could be detrimental to the economic welfare of the principals (Jensen & Meckling, 1976). The principals’ monitoring of the agents’ behaviour and bonding agents’ interests with principals’ interests, constitute agency costs.

Agency theory suggests that voluntary disclosures enable principals to monitor managers’ behaviour and to reduce agency costs that managers would otherwise bear. The reduction in agency costs is a product of narrowing the information gap and reducing uncertainty (Chalmers & Godfrey, 2004). Thus, managers that have new information relative to prior year may provide it voluntarily to reduce agency costs, resulting in reduced uncertainty and reduced information asymmetry.

Information asymmetry arises when management has a competitive advantage of information within the firm over that of the owner (Arnold & De Lange, 2004). Moreover, uncertainty occurs when performance declines relative to prior year. In this case owners demand more information to better assess the uncertainty of future cash flow and, in turn, firms’ managers provide more information (e.g., forward-looking information). Bujaki et al. (1999) argue that the publication of forward-looking information in the annual report is useful for reducing the degree of information asymmetry between managers and investors. Thus, voluntary disclosure of information may diminish the information asymmetry and uncertainty regarding future cash flow

and so reduce agency costs<sup>27</sup>.

### *4.2.1.2 Signalling theory*

Signalling theory was proposed by Akerlof (1970), developed by Spence (1973), and applied in some prior voluntary disclosure research (e.g. Miller, 2002), which rationalizes voluntary disclosure to the capital markets. It predicts that high-quality firms wish to distinguish themselves from low-quality firms through providing disclosure voluntarily.

Managers with good news may disclose this information voluntarily in order to signal their good news to the market participants and to avoid being pooled with managers of bad news information. Teoh and Hwang (1991) argue that if disclosure is costless, companies with good news will make full disclosure in order to distinguish themselves from firms with bad news and to avoid consequent interpretation by investors of non-disclosing firms. Moreover, Skinner (1994) finds that companies with good performance disclose this good news to distinguish themselves from companies with poor performance information.

Furthermore, firms' managers with bad news (e.g., losses) may have incentives to disclose this information voluntarily. This is to signal their capabilities and strengths to eliminate losses in the future and to avoid the reputation costs which may arise from being late in disclosing information in proper time. Skinner (1994) examines why firms disclose bad news voluntarily. He suggests that poor performing firms might provide more information to explain the reasons for negative performance. Skinner (1994)

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<sup>27</sup> Prior research focuses on the use of voluntary disclosure by management to reduce agency costs. They have used many variables such as firm size, earnings, leverage, liquidity, managerial ownership (e.g., Jensen & Meckling, 1976; Chow & Wong-Boren, 1987; Ruland, Tung & George, 1990; Cooke, 1991; Cooke, 1993; Lang & Lundholm, 1993; Hossain et al., 1994; Noe, 1999; Xiao, Yang & Chow, 2004; Marston & Polei, 2004; Kelton & Yang, 2008)

concludes that this disclosure behaviour may 1) prevent the potential litigation and reputational costs, 2) re-assure the market about future growth, and 3) avoid severe devaluation of share capital and loss of reputation in the stock market as the result of disclosing "bad news".

Therefore, companies with different types of news either good or bad relative to prior year should signal these types of news to their users to keep them updated with the firms' events in order to increase the confidence in their companies<sup>28</sup>.

### 4.2.2 Cost of disclosure theories

Companies may obtain economic benefits from making more disclosure such as improving stock liquidity, reducing cost of capital and increasing comparability (Leventis, 2001). However, disclosure does not have absolute benefits, there are some costs associated with disclosure. Hence, companies disclose voluntarily if the benefits of disclosure exceeds its expected costs. Consistently, it is argued that "It is now generally recognised that a cost-benefit analysis is required, weighting the benefits of additional disclosure to investors against the costs" (Bhushan & Lessard, 1992, pp. 150). Therefore, Cooke (1992) argues that when a firm disclose voluntarily, this means that the benefits of such disclosure exceeds its costs.

There are two types of costs associated with disclosure; direct and indirect costs (Mautz & May, 1978; Foster, 1986). Direct costs of disclosure such as preparation costs, and indirect costs of disclosure refer to all the costs arising from the effect of disclosure on companies' activities (Leventise, 2001). The indirect costs of disclosure include political costs, proprietary costs and litigation costs.

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<sup>28</sup> Performance variables (e.g. earnings), firm liquidity, and reputable external auditors are discussed by researchers in the light of signalling theory (Clarkson et al., 1994; Jog & McConomy, 2003). Change in these variables reveals much new information, either good or bad news, to managers to disclose.

Managers' decision to change their disclosure relative the previous period depends on the cost of including more or less information. These costs include direct cost of disclosure, political costs, proprietary costs, and litigation costs.

### *4.2.2.1 Direct costs of disclosure*

Direct costs of disclosure are all costs associated with the production, preparation, and dissemination of the information (Field et al., 2005; Core, 2001; Lev, 1992). These costs include all costs involved in collecting and gathering the information needed, processing and presenting it, and auditing the financial information, as well as, information technology equipment and the management time spent on disclosure activities (Cook, 1992; Gray, Radebaugh, & Roberts, 1989; Mautz & May, 1978; Foster, 1986).

Managers' decision to change their firms' narrative reporting (e.g., FLFD) over years may be constrained by the direct costs of disclosure. For instance, on one hand, firms may have enough resources to cover the preparation costs and so update their narrative discussions and analyses from year to year. On the other hand, companies may simply cut and paste from previous years' narratives in order to save the preparation costs. Furthermore, firms may have enough resources to acquire reputable external auditor, while, other firms may not afford to acquire big external auditor. Therefore, direct costs of disclosure may constraints managers' ability to change FLFD over time.

### *4.2.2.2 Political cost of disclosure*

The idea beyond political costs was derived from Watts and Zimmerman (1978). The political cost suggests that managers are concerned with political considerations, including preventing explicit or implicit taxes, or other regulatory actions (Healy &

Palepu, 2001; Jensen & Meckling, 1978; Watts & Zimmermann, 1978). In addition, politicians, non-governmental interest groups and other stakeholders try increasingly to influence companies' actions to favour their specific interests. They, thus, have the power to affect wealth transfers between the company and other stakeholders.

To reduce the pressure that the companies encounter from politicians, firms select a number of devices, such as social responsibility campaigns in the media, government lobbying<sup>29</sup> and selection of accounting procedures to minimise reported earnings (Watts & Zimmerman, 1978). Consistently, management can reduce the likelihood of adverse political actions and, thereby, reduce its expected costs (including the legal costs the firm would incur opposing the political actions) by adopting accounting policies and lobby for accounting standards (Watts & Zimmerman, 1978; Rahman & Scapens, 1988).

Political costs have been used to explain why firms voluntarily disclose information. It suggests that some firms (e.g., large firms) are politically visible and regulators make decisions based on the information disclosed by these firms (Watts & Zimmerman, 1986). Therefore, companies may disclose information voluntarily in order to minimize these political costs. Some studies reveal a positive association between political costs and voluntary disclosure (Firth, 1980; Cooke, 1989; Raffournier, 1995). However, others demonstrate that the relationship is doubtful (Belkaoui & Karpik, 1989; Owusu-Ansah, 1997; Milne, 2002).

Political costs can be used to explain managers' incentives to change their narrative reporting relative to prior years' disclosure. Firms that are politically visible are subject to high political costs and thus are more likely to disclose information voluntarily.

Politically visible firms tend to update their disclosure from year-to-year in order to

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<sup>29</sup> Lobbying is the act of attempting to influence business and government leaders to create legislation or conduct an activity that will help a particular organization.

limit their boilerplate disclosures to avoid the political costs of being perceived as being ambiguous.

The size of a firm is an incentive for managers to reveal information voluntarily to reduce the political costs. For instance, larger companies are more appearing in the public eye than smaller firms. This, therefore, motivates larger companies to provide more informative disclosure to reduce their political costs (e.g., tax<sup>30</sup>) (Al-Hatybat, 2005).

### *4.2.2.3 Proprietary costs of disclosure*

Luo, Hossain and Courtenay (2006, p. 506) define proprietary costs as “the costs associated with strategic decision-making by a competitor using all available information”. Proprietary costs are, thus, incurred when the private information, conveyed through voluntary disclosure, is used by firm’s competitors to the harm its income producing activities. It is, also, argued that a firm’s decision to provide information to the public may damage its competitive position (Verrecchia, 1983) because competitors may use this information for their own advantage (Linsley & Shrives, 2005; Tsakumis, Douppnik & Seese, 2006).

It is suggested that the disclosure of proprietary information may affect firm’s future cash flows (Dye, 1985; Scott, 1995). This may be because disclosure could improve a firm competitors’ ability to make inferences about its future plans and this may reduce its future cash flow. For instance, competitors may enter (leave) the industry, when a firm issues good news (bad news) regarding the earnings forecast, thus affecting firm’s future cash flows.

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<sup>30</sup> Zimmerman (1983) argues that larger companies are subject to higher tax rates and, therefore, higher political costs.

Proprietary cost of disclosure represents competitive disadvantage because the extension in disclosing information by the companies may lead to additional information to be used by their rivals (Edwards & Smith, 1996; Radebaugh & Gray, 1997). Verrecchia (1983) analyses the significance of the existence of a proprietary cost. He argues that if proprietary cost of disclosure exists, managers are less likely to disclose informative information that may help their competitors. Empirically, companies have incentive for non-disclosure of information in order to maintain their competitive position in the market and to prevent competitors from using their disclosed information, and to avoid disclosing more than their rivals (Verrecchia, 1983; Feltham & Xie, 1992; Gigler, 1994; Verrecchia & Weber, 2006; Dedman & Lennox, 2009; Depoers & Jeanjean, 2012).

Firm's decision to provide informative disclosure is influenced by proprietary costs of disclosure. If disclosing certain information means publishing vital competitive information, firms will have an incentive for non-disclosure of this proprietary information (Verrecchia, 1983; Wagenhofer, 1990; Feltham & Xie, 1992; Gigler, 1994). Accordingly, managers are less likely to change their narrative reporting over time to avoid providing informative disclosure that may help firm's competitors.

#### ***4.2.2.4 Litigation costs of disclosure***

Litigation is costly and firms have an interest in adopting policies that may reduce litigation costs (Lowry, 2009). Healy and Palepu (2001) argue that the litigation costs have two great effects on managers' disclosure decision. First, lawsuits against companies for their insufficient disclosure may be an incentive for them to increase their voluntary disclosure. Second, litigation costs can reduce managers' incentives to provide disclosure voluntarily.

Regarding the first effect of litigation, companies have an incentive to increase their voluntary disclosure. This is because higher voluntary disclosure should make it harder to claim that the firm is withholding relevant information from the market, which in turn limits the potential litigation costs. This effect has been supported in prior research. For instance, Skinner (1994) finds that firms subject to litigation costs are more than twice as likely to disclose their bad earnings news early. In addition, Skinner (1994) provides evidence that timely disclosure of bad news can reduce litigation costs. Consistent with this evidence, Field et al. (2005) find that disclosure deters the litigation costs. If this is the case, we may expect that managers in high litigation environment to provide more voluntary disclosure and update their disclosure from year-to-year in order to avoid the litigations costs.

On the other hand, the litigation costs may reduce managers' incentive to provide voluntary disclosure. This is may be due to one or more of the following reasons.

First, if legal system cannot distinguish between forecast errors due to chance and those due to deliberate management bias, so managers may be penalized by the legal system and, consequently, this may provide an incentive for managers to refrain from making voluntary disclosure (Healy & Palepu, 2001).

Second, if a firm makes a disclosure and the conditions surrounding that disclosure change, in this case the firm has a duty to update its disclosure and may be sued if it does not update it (Cox, Hillman, & Langevoort, 2001). In this case, the firm may minimise its obligation to update disclosure and so reduces the potential litigation costs by limiting the amount of initial information disclosed voluntarily (Rogers & Van Buskirk, 2009), and accordingly, managers will have incentives to reduce the information they disclose voluntarily. If this is the case, we may expect managers in

## **CHAPTER 4: MANAGERS' INCENTIVES TO CHANGE FLFD**

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more litigation environment to reduce the amount of disclosure disclosed voluntarily and so less changes in FLFD from year to year is expected.

### 4.3 LITERATURE REVIEW

This section highlights the previous empirical research on forward-looking disclosure which has examined the managers' incentives to disclose this type of information. It starts by providing an overview on the FLFD research, and then reviews the literature that examines managers' incentives to provide FLFD.

Obviously, there are two characteristics of FLFD that are of interest to researchers; level (how much to disclose) and tone (how to disclose)<sup>31</sup>. Some prior research on forward-looking disclosure focuses on the level of disclose (e.g., Schleicher & Walker, 1999; Miller & Piotroski, 2000; Hussainey et al., 2003; Aljifri & Hussainey, 2007; Schleicher et al., 2007; Hussainey & Walker, 2008; Hussainey & Al-Najjar, 2011; Wang & Hussainey, 2013; Alkhatib, 2014; Al-Najjar & Abed, 2014; Athansakou & Hussainey, 2014; Muslu et al., 2011). However, other studies focus on the tone of forward-looking information (e.g., Lennox & Park, 2006; Anilowski, Feng, & Skinner, 2007; Feldman et al., 2010; Li, 2010a; Schleicher & Walker, 2010; Schleicher & Walker, 2012; Bonsall, Bozanic, & Merkley, 2013).

In addition, FLFD has been examined in different countries. There is an extensive research on US (e.g., Miller & Piotroski, 2000; Hutton, Miller, & Skinner, 2003; Anilowski et al., 2007; Das, Kim, & Patro, 2007; Feldman et al., 2010; Li, 2010a; Muslu et al., 2011). Some research has been conducted in the UK (e.g., Hussainey et al., 2003; Schleicher et al., 2007; Schleicher & Walker, 2010; Hussainey & Al-Najjar, 2011; Wang & Hussainey, 2013; Athansakou & Hussainey, 2014). Other research conducts a comparative analysis between different countries in European Union (e.g.,

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<sup>31</sup> Level of disclosure represents the amount or quantity of disclosure. This amount or quantity of disclosure reflects number of occurrences and the extent of disclosure to add emphasis on specific disclosure type (Beattie & Thomson, 2007). While disclosure tone reflects how management communicates its disclosure.

Bozzolan et al., 2009) while others focus on only one country such as Italy (e.g., Menicucci, 2013), Turkey (e.g., Celik et al., 2006), Australia (e.g., Kent & Ung, 2003) and Middle East countries such as UAE (e.g., Aljifri & Hussainey, 2007), and Jordan (e.g., Alkhatib, 2014).

Some studies examine the FLFD in all sections of the annual report (e.g., Miller & Piotroski, 2000; Aljifri & Hussainey, 2007; Hussainey et al., 2003; Schleicher et al., 2007; Athansakou & Hussainey, 2014; Hussainey & Al-Najjar, 2011; Al-Najjar & Abed, 2014), while, others focus only on narrative reporting statements of the annual reports such as OFR (e.g., Schleicher & Walker, 1999; Wang & Hussainey, 2013), MD&A (e.g., Feldman et al., 2010; Li, 2010a; Muslu et al., 2011), Management Commentary (e.g., Menicucci, 2013), Outlook section (e.g., Schleicher & Walker, 2010; Schleicher, 2012), Chairman's statements (e.g., Kent & Ung, 2003). In addition, other research focuses on other medium of disclosure such analysts' reports (e.g., Hussainey & Walker, 2008), and Management Earnings Forecasts Releases (e.g., Hutton et al., 2003; Lennox, & Park, 2006; Bozanic, Roulstone, & Van Buskirk, 2013; Davis et al., 2011).

Furthermore, some studies use the level of FLFD as proxy for disclosure quality (Schleicher & Walker, 1999; Hussainey et al., 2003; Schleicher et al., 2007; Bozzolan, et al., 2009; Al-Najjar & Abed, 2014). They justify the use of FLFD in the following ways. First, firms with effective governance mechanisms provide more FLFD (Wang & Hussainey, 2013) and investors view this information as more credible (Athansakou & Hussainey, 2014). Second, it is reported that the analyst forecasts accuracy is positively associated with level of FLFD (Bozzolan et al., 2009)<sup>32</sup>.

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<sup>32</sup> On the other hand, some studies argue that disclosure quality is complex and multidimensional concept (Beattie et al., 2004) and thus FLFD cannot only capture the quality of information. However, FLFD can only be used as one dimension of disclosure quality. For instance, Beattie et al. (2004) measure the

In terms of the managers' incentives to provide forward-looking information, prior research find an association between level of forward-looking information and some firm-specific attributes (e.g., firm size, performance, leverage, liquidity, dividends and governance variables).

For instance, Hussainey and Walker (2008) focus on the analysts' reports as a medium of disclosure to examine the factors that may drive analysts to use different types of FLFD (e.g., financial vs. non-financial). They find that industry-specific characteristics drive the analysts to use different types of forward-looking information when writing their reports. They show that analysts use non-financial forward-looking disclosure when covering firms in high growth firms; in addition, they (analysts) use multiple year forecasts for firms in risky sectors.

A part from analysts' reports, other prior research focuses on the annual reports. Some of them examine the forward-looking information in all sections of annual report (e.g., Hussainey et al., 2003; Athansakou & Hussainey, 2014; Aljifri & Hussainey, 2007), whilst, limited research focus on narrative reporting statements of the annual report (Wang & Hussainey, 2013).

For instance, Aljifri and Hussainey (2007) examine the factors that may encourage managers to provide FLFD in the annual report of UAE firms. They find that there is a significant positive relationship between the level of forward-looking information and the degree of financial leverage. However, they find negative association between firm profitability and forward-looking disclosure

In the UK, Hussainey and Al-Najjar (2011) examine the factors that may affect

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quality of information as a function of four information attributes; namely: the spread (the number of topics disclosed), the time orientation of the information (historical or forward-looking), the financial orientation (financial/non-financial), and the quantitative orientation (quantitative/qualitative).

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managers' decisions to provide FLFD in the annual reports. They find that firm size is the main factor affecting the firms' decision to disclose this type of information in the annual report. They, also, find that FLFD is affected by firm profitability, and percentage of outsider and insider directors' ownerships. Furthermore, positive association exists between the FLFD in the annual report and corporate dividend policy. Consistently, Al-Najjar and Abed (2014) find that the publication of FLFD in the UK annual reports is associated positively with firm size, operating cash flow, cross-listing status and audit committee. While, it is associated negatively with profitability, leverage and block holder ownership.

Furthermore, Athanasakou and Hussainey (2014) use more comprehensive variables to examine what drivers FLFD in the UK annual reports. They find that the disclosure of forward-looking information is negatively associated with firm size and equity offering. However, it is positively associated with volatility of operations, issue debt, performance decline, miss analysts' earnings forecasts and underperforming the industry peers.

More particularly, Wang and Hussainey (2013) focus only on narrative reporting statements of the UK annual reports, namely OFR statements. They find that forward-looking disclosure is positively associated with firm size, dividends yield, leverage, board of director's size and board composition. However, it is negatively affected by firm profitability, managerial ownership and the role duality of the chairman of the board of directors.

Other research focuses on the tone of FLFD. For instance, Schleicher and Walker (2010) show that loss-making firms, risky firms and firms with analysts' earnings forecasts provides more positive forward-looking information. However, they find that

firms with earnings decline relative to prior year tend to provide more negative forward-looking information.

Other stream of research focuses on MD&A. For instance, Li (2010a) finds that firms with better current performance, lower accruals, smaller size, lower market-to-book ratio, less return volatility, lower Fog index, and longer history tend to have more positive forward-looking statements in MD&A.

On the other hand, Muslu et al. (2011) focus on the changes in the level of forward-looking disclosure from previous year rather than their respective year levels in the MD&A. They hypothesise that firms with no analysts following them tend to provide similar levels of forward-looking disclosure in MD&A. However, they find that changes in the level forward-looking disclosure decreases as long as the firms have no-analysts following them. Their results suggest that firms provide less informative forward-looking disclosure when it has no-analyst following them.

Additionally, Nelson and Pritchard (2007) examine the extent to which the cautionary language of forward-looking statements in the MD&A is updated from year-to-year. They find that firms with greater litigation risk tend to update their cautionary language of forward-looking disclosure from year-to-year more than those subjecting to smaller litigation risk.

Despite the above-mentioned research on forward-looking disclosure, the extent to which managers of the UK firms change FLFD from the previous year is largely unexamined and thus needs more investigation. The UK provides an interesting context within which we can examine the changes in the FLFD over years. FLFD in the UK narratives is a very different in nature from those in the US. In contrast to the US

quantitative management forecasts, the UK FLFD is qualitative in nature and is not immediately verifiable or auditable (Athanasakou & Hussainey, 2014; Wang & Hussainey, 2013). This nature may encourage firm managers to use the previous year's FLFD as a template from year to year without making significant changes in order to save preparation costs.

Furthermore, research on FLFD in the UK context explains managers' incentives to provide FLFD from the point of view of the standard theories of disclosure such as agency and signalling theories (e.g., Al-Najjar & Abed, 2014; Wang & Hussainey, 2013; Athanasakou & Hussainey, 2014). However, it is argued that disclosure is costly, and there are many costs associated with disclosure (e.g., direct costs, political and litigation costs). Therefore, this study contributes to literature in FLFD in the UK and examines the effect of disclosure costs on managers' decision to change their FLFD over years.

### **4.4 HYPOTHESES DEVELOPMENT**

In this section, the factors that might encourage managers of firms to change FLFD of their firms are identified to formulate the research hypotheses. Some of these factors (e.g., performance) are used to indicate that managers do have information to disclose if they are changed. Whilst, some other factors are used as proxies for costs of disclosure (e.g., litigious & competitive environments). Therefore, the factors are classified into two strands. The first strand is related to the association between change in firm performance and change in FLFD. The second focuses on which firm characteristics motivate managers to change FLFD of their firms.

#### **4.4.1 Change in firm performance and change in FLFD**

The impact of performance on disclosure is a major issue in disclosure research. Significant amount of prior empirical research typically emphasises on how performance influences the disclosure of quantitative financial information (e.g., Lev & Penman, 1990; Skinner, 1994; Kasznik & Lev, 1995; Harris, 1998; Healy & Palepu, 2001; Botoson & Stanford, 2005; Berger & Hann, 2007). However, large amounts of narratives are not incorporated directly into financial statements. Prior research focuses less on this type of disclosure, perhaps because it is difficult to measure and quantify. Nonetheless, narrative reporting is important because it is analysed by market participants while making their investment decisions and helps them to bridge the gap between the amounts in the financial statements and the economic reality of firms' performance (Feldman et al., 2010; Merkley, 2014). Therefore, this study addresses this issue and focuses on narrative reporting.

The association between performance and narrative reporting could be hypothesised

either positively or negatively. Positive association may be explained on the basis that managers in well-performing firms<sup>33</sup> are likely to provide more discussion and analysis about their performance in order to signal their favourable results to their investors.

On the other hand, a negative association may be hypothesised on the basis that information asymmetry increases as performance decreases (Wittenberg-Moerman 2008; Brown, Lo, & Hillegeist, 2009; Rogers & Van Buskirk, 2009). Hayn (1995) argues that as earnings performance decreases the earnings signal becomes noisier and reported disclosure becomes less predictive of future performance. Thus, investors demand more information to better assess the uncertainty of future cash flows and, in turn, managers provide more discussion and analysis.

Empirically, prior research finds positive association between performance and voluntary disclosure. For instance, Lang and Lundholm (1993) find that firms' overall voluntary disclosure level is greater in periods with increasing performance. Moreover, Miller (2002) finds that firms experiencing an increase in their earnings tend to increase their disclosure, and as earnings performance returns to previous levels, their disclosure level decreases.

On the other hand, empirical studies find a negative association between performance and voluntary disclosure. For instance, Abraham and Tonks (2006) find that firms that have a negative earnings' change from the previous to the current accounting year tend to have a positive and significant disclosure rate. Recently, Merkley (2014) predicts that firms react to bad earnings performance by increasing discussion on activities with a potential positive effect on future performance. Empirically, he confirms his prediction and finds that firms increase their research and development (R&D) disclosure when

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<sup>33</sup> Well-performing firms are, for example, firms with earnings increase. Conversely, poor performing firms are those with earnings decrease.

earnings decrease.

The research that examines the impact of performance on forward-looking disclosure provides mixed results. For instance, Lakhali (2005) and O'Sullivan, Percy and Stewart (2008) find no association between firm profitability and the disclosure of forward-looking information. On the other hand, prior research (e.g., Miller & Piotroski, 2002; Li, 2010a; Athanasakou & Hussainey, 2014) finds that firms with good earnings performance are more likely to provide more forward-looking information. Conversely, other prior research (e.g., Aljifri & Hussainey, 2007; Hussainey & Al-Najjar, 2011; Wang & Hussainey, 2013; Al-Najjar & Abed, 2014) finds a negative association between profit-making firms and forward-looking disclosure. In addition, Schleicher et al. (2007) find that loss-making firms provide more relevant forward-looking information to their investors than profit-making firms.

Recently, Brown and Tucker (2011) examine the association between change in firm economic environment and changes in narrative reporting in MD&A. They provide evidence on the association between a changes in firm earnings performance and changes in narrative reporting in MD&A. In addition, they find that firms with larger changes in their economic environment are more likely to change their narratives reporting more than those with smaller economic changes.

To conclude, a change in a firm performance reveals considerable new information, either good or bad. This suggests that managers do have information to disclose to investors. Furthermore, companies have incentives to disclose and update their disclosure in response to their performance either to signal their favourable results (signalling theory) or to reduce information asymmetry (agency theory). Moreover, prior studies (e.g., Miller, 2002; Merkley, 2014) suggest that changes in disclosure are

associated with changes in performance. In addition, firms with larger changes in their economic environment change their narratives more than those with smaller economic changes (Brown & Tucker, 2011). Consequently, if managers follow the spirit of OFR statements, we expect them to provide discussion and analysis of firms' performance with forward-looking orientation, and update their discussion from year to year in response to changes in performance. Furthermore, managers of firms with larger changes in their performance are expected to change their narratives more than those with smaller performance changes. Therefore, the following hypotheses are set:

**H1a: A positive association exists between change in firm performance and the change in FLFD in UK narratives.**

**H1b: Firms with larger changes in their performance tend to change their FLFD more than those with smaller performance changes in UK narratives.**

### **4.4.2 Firm characteristics and the change in FLFD**

In this section, we hold the changes in firm performance constant and we examine which firms' characteristics may drive managers to change FLFD of their firms. These characteristics are identified in prior research as determinants of corporate voluntary disclosure and are relatively stable over years. In addition, these variables are used to test the validity of the change score. These factors are firm size, competitive environment, litigious environment, managerial ownership, and auditor type.

#### ***4.4.2.1 Firm size and change in FLFD***

The association between firm size and narrative reporting can be explained from different perspectives. First, signalling theory suggests a positive association between

narrative reporting and firm size by proposing that larger firms are more likely to attract financial analysts (Schipper, 1991). This suggests that these firms are under pressure to provide more value relevant information to their analysts and their investors (Iatridis, 2008). Second, larger firms are politically visible (Watts & Zimmerman, 1978) and so they tend to update their disclosure from year to year to limit their boilerplate disclosure to avoid the political costs of being perceived as being ambiguous (Brown & Tucker, 2011). Third, larger firms are more likely to be able to afford the preparation costs of annual reports (Lang & Lundholm, 1993) or smaller firms might be more likely to cut and paste narratives from previous year in order to save the preparation costs.

Empirically, prior research on the association between firm size and narrative reporting reports mixed results. For instance, some studies find positive association between the two variables (e.g., Debreceeny, Gray, & Rahman, 2002; Eng & Mak, 2003; Gul & Leung, 2004; Iatridis, 2008; Kelton & Yang, 2008). However, strangely, Hoitash, Hoitash and Bedard (2009) find negative association between firm size and level of voluntary disclosure.

The literature on the relationship between FLFD and firm size shows mixed results. For instance, Karamnou and Vafeas (2005) find no relation between firm size and management earnings forecasts. While, other research (e.g., Hussainey & Al-Najjar, 2011; Wang & Hussainey, 2013; Al-Najjar & Abed, 2014) find a positive association between firm size and the disclosure of FLFD. Conversely, Li (2010a) and Althanasakou and Hussainey (2014) find a negative association between the two variables. Based on these mixed results, the relationship between firm size and FLFD is an empirical issue and still requires more examination.

This paper, empirically, examines whether firm size encourages managers to change

FLFD of their firms. In other words, it examines whether larger firms change their FLFD more than smaller firms. Firm size is expected to be positively associated with changes in FLFD for the following reasons. First, larger firms are under pressure to provide valuable and relevant information to their financial analysis. Accordingly, they are more likely to change their FLFD over years. Second, larger firms are politically visible and so they tend to update their disclosure from year-to-year to limit their boilerplate disclosure in order to avoid the political costs of being perceived as being ambiguous (Brown & Tucker, 2011). Third, larger firms have sufficient resources to update their disclosure from period to period. Fourth, small firms might be more likely to cut and paste narratives from previous year in order to save the preparation costs. Therefore, we hypothesise that:

**H2a: A positive association exists between firm size and change in FLFD in UK narratives.**

### *4.4.2.2 Competitive environment and change in FLFD*

Competition is considered to be the main obstacle to voluntary disclosure through the notion of proprietary costs (Verrecchia, 1983). Companies have concern about proprietary cost of disclosure. Therefore, managers prefer not to disclose information that may affect the competitive position of their company in the market. Healy and Palepu (2001) argue that managers' incentives to disclose additional information appear to be sensitive to the nature of competition. It is argued that the level of disclosure depends mainly on the concern that such disclosure may damage an entity's competitive position in the market (Wagenhofer, 1990; Feltham & Xie, 1992; Gigler, 1994; Hayes & Lundholm, 1996; Piotroski, 1999).

Healy and Palepu (2001) argue that proprietary cost perspective of disclosure has not been widely used in disclosure studies. They explained that there is a little empirical evidence on the proprietary costs-disclosure hypothesis. Example of these studies is Cormier and Gordon (2001) who examine the corporate social responsibility (CSR) disclosure of utility companies in Canada. They find that environmental disclosure is very sensitive to proprietary information costs. Consistently, Jones (2007) finds that proprietary costs are associated with lower levels of R&D disclosure.

Verrecchia (1983) argues that when proprietary cost exists, information is withheld. Empirically, prior research (e.g., Verrecchia & Weber, 2006; Dedman & Lennox, 2009; and Depoers & Jeanjean, 2012) find that companies have an incentive to withhold information in order to maintain their competitive position in the market and to prevent competitors from using their disclosed information.

Furthermore, mixed evidences have been reported in the literature regarding the effect of competition on the level of disclosure. For instance, Wagenhofer (1990) finds that firms in more competitive industries tend to provide lower levels of information, and firms in less competitive industries provide more disclosure because of the lower proprietary costs. On the other hand, Birt, Bilson, Smith & Whaley (2006) find that firms facing more competition are more likely to provide higher levels of disclosure. They explain that this may be because firms are better off sharing information with their competitors as they can coordinate their actions to their mutual advantage and they feel that disclosing information is less risky to their competitive position. In terms of FLFD, little is known with regard to future oriented information. Clarkson et al. (1994) finds a negative association between competition and future oriented information.

The OFR statements are analysed by market participants and future oriented

information helps in anticipating future earnings (Hussainey et al., 2003; Muslu et al., 2011). Thus, we may expect that firms in a more competitive environment – *where preparatory cost is high* –to provide less informative FLFD in their narrative reporting. Consequently, these firms are less likely to change their FLFD from year to year than those in less competitive environment. Recently, Brown and Tucker (2011) find that firms facing more competition are less likely to change their narrative reporting in MD&A from year to year and thus provide less informative disclosure. Therefore, based on the above discussion, we formulate the following hypothesis:

**H2b: A negative association exists between competitive environment and change in FLFD in UK narratives.**

### ***4.4.2.3 Litigious environment and change in FLFD***

The association between narrative reporting and litigation costs can be hypothesised either positively or negatively. Positive association may be explained on the basis that lawsuits against companies for their insufficient disclosure may be an incentive for these companies to increase their voluntary disclosure. However, the negative association may be hypothesised on the basis that litigation costs can reduce managers' incentives to provide voluntary disclosure.

Prior research on the association between litigation costs and narrative reporting reports mixed results. Some studies find positive association between the two variables. For instance, Skinner (1994) finds that firms subject to litigation costs are more than twice likely to disclose their bad earnings news early. In addition, he provides evidence that timely disclosure of bad news can reduce litigation costs. Consistent with this evidence, Field et al. (2005) find evidence that disclosure deters litigation costs. Moreover,

Johnson, Kasznik & Nelson (2001) find that firms increase their earnings and sales forecast to reduce their legal exposures.

In addition, Miller and Piotroski (2000) find that firms operating in high litigious environment are more likely to provide more future oriented disclosure. Moreover, Nelson and Pritchard (2007) find that firms subject to litigation cost are more likely to update their cautionary language of future oriented information from year-to-year. Furthermore, Brown and Tucker (2011) find that firms in a more litigious environment are more likely to change their narrative reporting in MD&A to larger degree from-year to-year.

On the other hand, other research reports negative association between litigation costs and narrative reporting. This negative association can be explained as follows. If a firm makes a disclosure and the conditions surrounding that disclosure change, in this case the firm has a duty to update its disclosure and may be sued if it does not update it (Cox, et al., 2001). In this case, the firm may minimise its obligation to update disclosure and so reduces the potential litigation costs by limiting the amount of initial information voluntarily disclosed (Rogers & Van Buskirk, 2009).

This effect has been supported in prior research. Kasznik (1999) finds that companies in a high litigation environment narrow their estimated earnings forecasts in order to avoid litigation costs. Rogers and Van Buskirk (2009) find that firms reduce their litigation costs by reducing disclosure for which they may later be held accountable to update it. Additionally, managers prefer to reduce their forward-looking disclosure, especially if managers face the risk of being penalised against their forecasts (Healy & Palepu, 2001). Additionally, Aboody and Kasznik (2000) argue that managers of firms have a concern for disclosure of forward-looking information. This may be because of the chance of a

forecast error, which can cost the firm legal exposure and reputation loss for accuracy errors.

Therefore, based on the above discussion, if we consider the two effects of litigation costs on disclosure behaviour, we may expect one of the following two scenarios. First, firms in a highly litigious environment tend to increase their FLFD in order to avoid litigation costs. In this case, these firms have the duty to update their FLFD over years and so a positive association is expected between a litigious environment and changes in FLFD. Second, firms in highly litigious industries tend to reduce their obligation to update their FLFD over years in order to avoid litigation costs through reducing the amount of FLFD. In this case, a negative association between litigious environment and change in FLFD is expected. Therefore, the following hypothesis is developed:

**H2c: An association exists between litigious environment and the change in FLFD in UK narratives.**

#### ***4.4.2.4 Managerial ownership and change in FLFD.***

Managerial ownership is, also, referred to, in the literature, as director or insider ownership. The agency theory can explain the association between managerial ownership and narrative reporting (e.g., forward-looking disclosure). A positive association is expected between managerial ownership and narrative reporting because the extent of managerial ownership could serve to align management's interests with those of other shareholders (Jensen & Meckling, 1976). Eng and Mak (2003) propose that lower agency problems are associated with higher levels of managerial ownership. Consistently, firms with a higher managerial ownership have lower levels of information asymmetry between management and shareholders, and therefore, provide

more narrative reporting in their annual reports.

Empirical research that examines the relationship between disclosure and managerial ownership reports mixed results. Some studies support the agency theory and find a positive association between managerial ownership and narrative reporting (e.g., Chau & Gray, 2002; Jiang & Habib, 2009). On the other hand, several studies suggest results that contradict with agency theory. For instance, prior studies (e.g., Barakat & Hussainey, 2013; Eng & Mak, 2003; Nagar, Nada, & Wysocki, 2003; Gelb, 2000; Ruland, Tung, & George, 1990) find a negative association between managerial ownership and voluntary disclosure.

In terms of FLFD, prior studies find a negative association between managerial ownership and the disclosure of forward-looking information (Hussainey & Al-Najjar, 2011; Wang & Hussainey, 2013). Their results suggest that firms with higher managerial ownership are more likely to provide less future oriented disclosure.

Based on the agency theory, managers in firms dominated by managerial ownership, which have new information relative to prior year, may provide it voluntarily in order to reduce the information asymmetry between management and the outsider investors. Accordingly, firms with higher managerial ownership are more likely to change their FLFD over years to provide informative disclosure to their outsider investors. Therefore, the following hypothesis is set:

**H2d: A positive association exists between managerial ownership and change in FLFD in UK narratives.**

#### *4.4.2.5 Auditor type and change in FLFD*

Agency theory suggests that the external auditor may act as an independent third party

that may help to resolve the agency conflicts between managers and investors. This may be because external auditors assure investors of the reliability of the accounting information and therefore reduce agency conflicts (Cohen, Krisnamoorthy, & Wright, 2002; Haniffa & Cooke, 2002; Fan & Wong, 2005). Therefore, it is argued that quality of external auditor can improve firm corporate reporting (Eng & Mak, 2003).

Larger audit firms are more likely to have higher experienced, trained, and qualified auditors (Barako et al., 2006), and consequently they are better in auditing performance compared to smaller audit firms (Depoers, 2000). Furthermore, larger audit firms are expected to be more independent (Haniffa & Cooke, 2002) and may demand higher levels of disclosure from clients (firms) to protect themselves against shareholders' lawsuits which might damage their reputations (Depores, 2000).

Prior studies, consistently, find that disclosure quality is associated with auditor type and, lower audit quality is associated with earnings management (e.g., Shaw, 2003; Becker, DeFond, Jiambalvo, & Subramanyam, 1998). Hail (2002) argues that the auditor can play an important role in improving firms' overall reporting strategies. Thus we may expect firms audited by big audit firms to provide informative disclosure in order to reduce the information asymmetry.

The empirical literature on the relationship between auditor type and voluntary disclosure reports mixed findings. For instance, Wallace, Naser and Mora (1994), and Aljifri and Hussainey (2007) find no relationship between auditor type and voluntary disclosure. More particularly, Brown and Tucker (2011) investigate the association between auditor type and changes in narrative reporting in MD&A. They find no association between auditor type and managers' decision to change their narratives in MD&A from the previous year. On the other hand, other research (e.g., Raffournier,

1995; Ntim, Opong, Danbolt & Thomas, 2012a; Schiehl, Terra, & Victor, 2013) find positive association between audit firm size and voluntary disclosure.

In the UK, the companies' Acts of 1985 and 2006 impose some auditing requirements for narrative reporting. Both acts require auditors to state whether the information given in firms' narrative reporting statements for the financial year for which the annual accounts are prepared is consistent with those accounts and whether any matters have come to their attention in the performance of their functions as auditors of the company, which in their opinion are inconsistent with the information given in the operating and financial review (ASB, 2005; ASB, 2006). Thus, this may encourage managers of firms to provide more informative narrative reporting in their annual reports.

Based on the above discussion, we may expect firms audited by big-audit firms to provide more informative disclosure in order to reduce the information asymmetry. Accordingly, these firms are more likely to change their FLFD from year to year. Therefore, our hypothesis is:

**H2e: A positive association exists between auditor type and change in FLFD in UK narratives.**

### 4.5 CONTROL VARIABLES AND CHANGE IN FLFD

In order to provide accurate and more generalizable results, the study controls for some economic environment variables that are identified as determinants of forward-looking disclosure in prior research. Changes in these variables reveal considerable new information for managers to disclose which in turn affect managers' decision to change FLFD. These variables are: leverage, dividend, liquidity, and market risk exposure.

#### 4.5.1 Firm leverage

The agency theory might explain the relationship between firm leverage and narrative reporting. Jensen and Meckling (1976) argue that high leverage firms have high monitoring/agency costs. Accordingly, these firms seek to reduce these costs by providing more information voluntarily (e.g. forward-looking disclosure) in their annual report in order to convey value relevant information to their creditors (Wang & Hussainey, 2013).

Empirical research on the relationship between forward-looking disclosure and leverages reports mixed results. For instance, Lakhali (2005) finds no association between leverage ratios and earnings forecast disclosures. On the other hand, other research (Aljifri & Hussainey, 2007; O'Sullivan et al., 2008; Wang & Hussainey, 2013) finds a positive association between the two variables. Conversely, Al-Najjar and Abed (2014) find that forward-looking information is influenced negatively by firm leverage.

Changes in firm leverage from the previous year reveal relatively new information for managers to disclose voluntarily in order to reduce the agency costs. Therefore, we may expect positive association between changes in firm leverage in change in FLFD.

### 4.5.2 Firm dividends policy

Signalling theory suggests that firms with higher levels of information asymmetry are more likely to pay higher dividends and disclose more information (e.g. forward-looking information) to signal their future prospects to their current and potential investors (Hussainey & Al-Najjar, 2011). It is stated that the association between FLFD and dividends has received much more attention in recent years (Wang & Hussainey, 2013).

Empirically, little research examines the association between FLFD and firm dividends. It finds positive association between the two variables in the UK narratives (Hussainey & Al-Najjar, 2011, Wang & Hussainey, 2013).

Changes in firms' dividends reveal that managers do have information to disclose in order to signal their future prospects to their current and potential investors. The study, therefore, expects positive association between changes in firm dividends policy and change in FLFD.

### 4.5.3 Firm liquidity

The Association between liquidity and narrative reporting may be explained based on agency and signalling theories. The agency theory suggests that managers with weak liquidity can provide more disclosure in order to reduce agency costs and justify their liquidity status (Wallace et al., 1994). Whilst, the signalling theory suggests that firms with high liquidity have incentives to disclose more information in order to signal their favourable results.

Little research examines the association between firm liquidity and FLFD. For instance, Al-Najjar and Abed (2014) find positive association between the disclosure of forward-

looking information and firms' operating cash flow.

In the UK, the ASB requires companies to discuss their current liquidity position in their OFR statements. It is argued that "*The OFR shall discuss the entity's current and prospective liquidity*" (ASB, 2005, p.20; ASB, 2006, p. 22). Consequently, if managers follow the spirit of OFR statements, we expect firms' managers to change their FLFD in response to changes in their liquidity status.

### 4.5.4 Market risk exposure

The association between narrative reporting and market risk exposure could be explained based on agency and signalling theories. Agency theory suggests that managers may disclose more information in order to assure their investors that they deal with their firms' risk successfully and to increase their investors' confidence (Jensen & Meckling, 1976). Whilst, signalling theory suggests that managers may disclose more information voluntarily to signal their capabilities in identifying and managing risks, and to distinguish themselves from those who could not manage their market risks effectively (Akerlof, 1970).

Empirically, limited research examines the association between narrative reporting and risk exposure. For instance, Hussainey and Al-Najjar (2011) find no evidence on the relationship between risk and forward-looking information.

The ASB requires companies to discuss the risks and uncertainties that may affect their entities' short and long term value in their OFR statements (ASB, 2005; ASB, 2006). Consequently, based on the spirit of OFR statements, this discussion should have forward-looking orientation.

Therefore, based on the theoretical prediction and OFR spirit, we may expect firms to

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provide more informative FLFD to mitigate the agency problem and signal their capabilities in managing risk. Accordingly, positive association is expected between change in firm risk exposure and change in FLFD.

### 4.6 RESEARCH DESIGN

This part explains the research design of the current study. It is outlined as follows. Section 4.6.1 discusses the definitions and measurements of variables. The empirical model and the statistical issues are discussed in sections 4.6.2 and 4.6.3, respectively. Finally, section 4.6.4 explains the process of sample selection and data collection.

#### 4.6.1 Variables: Definitions and measurements

This section defines the variables employed in this study and explains how each variable is measured. It starts by defining the dependent variable, then, defines how the explanatory variables are measured.

##### 4.6.1.1 *Dependent variable*

The dependent variable is the change score in the level of FLFD,  $|\Delta\text{FLFD}|$ . It represents the absolute change in the level of FLFD from the most recent year. For more details about how this variable is measured, please see chapter (3) sections 3.4 & 3.5

##### 4.6.1.2 *Independent variables*

###### 4.6.1.2.1 *Changes in performance*

Changes in firm performance are measured using changes in firm's return on equity ratio, *ROE*, from the previous year and refer to the variable as  $\Delta\text{ROE}$ . Earning is a visible performance measure and receives considerable attention from investors. Furthermore, it is important to managers either directly as a component of their compensation contract or indirectly through its relation to stock price (Merkley, 2014). Some prior research uses ROE ratio as a measure of firm performance (e.g., Bauer, Eichholtz & Kok, 2010; Epps & Cereola, 2008; Gompers, Ishii, & Metrick, 2003). The

ROE data is collected from the Datastream. The DataStream code for ROE ratio is (WC08301).

### **4.6.1.2.2 Firm size**

Following prior research on disclosure (e.g., Athanasakoua & Hussainey, 2014; Wang & Hussainey, 2013; Li, 2010a), firm size is measured using the natural logarithm of market value of equity at the end of the current year, and refer to the variable as *LnMk*. The market value of equity at the end of the current year is collected from the DataStream. The Datastream code of the market value of equity at the end of the current year is (WC08001).

### **4.6.1.2.3 Competitive environment**

Herfindahl index, *Herf*, is used as a proxy for industry concentration (Verrecchia & Weber, 2006). It is calculated, as the sum of the squared market share of each competitor (firm) in the industry, using the following formula:

$$\text{Herf} = \sum_{i=1}^n (\text{FS}/\text{IS})^2$$

*Where FS is the firm sales and IS refers to total industry sales*

The current study calculated *Herf* using the 100 firms [or less if the number of firms is less than 100] with the highest sales in the industry [Industry Classification Benchmark (ICB) is used for industry identification]. The general assumption in the literature is that competition decreases as market concentration increases (Botosan & Stanford, 2005; Deepors & Jeanjean, 2010). The lower the *Herf* value, the less concentrated the industry, the higher the competition, and the higher the potential proprietary costs. *Herf* is used in

some prior disclosure research (e.g., Deepors & Jeanjean, 2010; Brown & Tucker, 2010) as a measure of competition within the industry. Firm sales data is collected from DataStream. The Datastream code of firm sales is (WC 01001).

### ***4.6.1.2.4 Litigious environment***

The industry classification is used to identify firms that are exposed to high litigation risk. Prior empirical research finds that a greater percentage of firms subject to litigation risk are in the technology industry (Jones & Weingram, 1996; Field et al., 2005). This is may be because the stocks of the technology firms are more uncertain and more volatile (Kim & Skinner, 2012). Accordingly, litigious environment, referred to as *Litig* is measured using dummy variable that is equal to 1 if the firm is in the technology industry and 0 otherwise. The Industry Classification Benchmark (ICB) is used for industry identification. Some prior research uses industry classification as a measure of litigation environment (e.g., Brown & Tucker, 2010).

### ***4.6.1.2.5 Managerial ownership***

The managerial ownership variables referred to as *%MO*, is measured as the percentage of total shares in issue of 5% or more held by employees, or by those with a substantial position in a company that provides significant voting power at an annual general meeting. This variable is collected from the Datastream (NOSHEM). This measure of managerial ownership is heavily used by prior research that examines the association between disclosure and governance mechanism (e.g., Wang & Husaainey, 2013).

### ***4.6.1.2.6 Auditor type***

The auditor type is the size of the audit firm (big audit firms vs. non-big audit firms). It is measured as a dummy variable that is equal to 1 if the firm is audited by one of the

big 4 audit firms and 0 otherwise. We refer to this variable as *BigN*, the auditor type data is collected manually from each firm's annual report.

### 4.6.1.3 Control variables

The control variables include the following: firm's leverage, dividend, liquidity, and market risk exposure.

The firm Leverage, referred to as *Lev*, is measured using the debt to equity ratio. The debt to equity ratio is the Datastream code (WC08231). Firm dividend, referred to as *DY*, is measured using the dividend yield ratio. The dividend yield is the Datastream code (WC09404). Firm liquidity is measured using the current ratio, and refers to the variable as *CR*. The current ratio is the Datastream code (WC08106). A firm return volatility, refers to as *Ret. Vol*, and is used to measure its market risk exposure; the higher the volatility, the higher the exposure. Firm return volatility is the Datastream code (458E). Change in these variables is measured as the value of the variables in period  $t$  minus the value of the variable of the same firm in period  $t-1$ . Furthermore, we control for overall changes in the narrative document length using change in total statements of the OFR, we refer to this variable as *T.Stat*.

Table 4.1 delineates the variables and identifies the measurement for each variable.

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<b>Table 4.1</b>		
<b>Summary of variables: Definitions and measurements</b>		
<b>Definition</b>	<b>Acronym</b>	<b>Operationalization</b>
Change score in FLFD	$ \Delta\text{FLFD} $	Change score in FLFD as measured in chapter 3 sections 3.4 & 3.5
Firm performance	$ \Delta\text{ROE} $	Year-over-year absolute change in firm's return of equity. Datastream code (WC08301).
Firm size	LnMK	Natural logarithm of market value of equity at the end of the current year. Datastream code (WC08001).
Competitive environment	Herf	Herfindahl index measured using the 100 firms (or less if the number of firms is less than 100) with the highest sales in the industry (Industry Classification Benchmark, <i>ICB</i> , is used for industry identification). The Datastream code of firm sales is (WC01001).
Litigation environment	Litig	Industry classification measured using dummy variable that is equal to 1 if the firm is in technology industry and 0 otherwise. The Industry Classification Benchmark ( <i>ICB</i> ) is used for industry identification.
Auditor type	BigN	Dummy variable that is equal to 1 if the firm is audited by one of the big 4 audit firms and 0 otherwise.
Managerial ownership	%MO	The percentage of total shares held by employees, or by those with a substantial position in a company that provides significant voting power at an annual general meeting. Datastream code (NOSHEM)
Leverage	$ \Delta\text{Lev} $	Year-over-year absolute change in firm's Debt to equity ratio. Datastream code (WC08231).
Dividend	$ \Delta\text{DY} $	Year-over-year absolute change in firm's dividend yield at the end of the fiscal year. Datastream code (WC09404).
Liquidity	$ \Delta\text{CR} $	Year-over-year absolute change in firm's current ratio. Datastream code (WC08106).
Risk exposure	$ \Delta\text{Ret.Vol} $	Year-over-year absolute change in firm's return volatility – Datastream code (458E).
Document length	$ \Delta\text{T.Stat} $	Year-over-year change in the total statements of firm's OFR statements.
This Tables provides the definitions and measurements of the variables		

**4.6.2 Empirical model**

The following model, Model 1, is developed to test the hypotheses related to the association between change in firm performance and change in FLFD. In addition, it tests the hypotheses related to firm characteristics that motivate managers to change FLFD over years. These hypotheses are H1a, H1b, H2a, H2b, H2c, H2d, & H2e. In addition, FLFD may be changed from the previous year because of the implementation of new narrative reporting requirements and accounting standards. For this reason, we use the year-fixed effect<sup>34</sup> to control for change in FLFD due to this reason.

$$|\Delta FLFD| = \beta_0 + \beta_1|\Delta ROE| + \beta_2 \ln MK + \beta_3 Herf + \beta_4 Litig + \beta_5 \%MO + \beta_6 BigN + \beta_7|\Delta Lev| + \beta_8|\Delta DY| + \beta_9|\Delta CR| + \beta_{10}|\Delta Ret.Vol| + \beta_{11}|\Delta T.Stat| + Year\ Fixed\ Effect + \varepsilon \quad (1)$$

Where:

$\beta_0$	The regression intercept
$\beta_1 \dots \beta_{11}$	The regression coefficients
$\varepsilon$	The error term

Table 4.1 summarises the definitions and measurements of the variables

**4.6.3 Statistical issues**

It is stated that the transformation of data is basically helpful in many cases: 1) when non-linear relationship exists between dependent and independent variables, 2) in the event that the errors are not nearly normal distribution, or 3) where a problem of

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<sup>34</sup> The disclosure of forward-looking information may be affected because of the financial crises, therefore, alternatively, the current study controls for the period of financial crises. This is done by adding in the regression model a dummy variable that is equal to 1 for the firm observations during the years 2007 and 2008 and 0 otherwise. The results are largely unchanged if we use the year fixed effect instead of controlling for the period of financial crises. Because the year fixed effect controls for financial crises period in an implicit way, the current study continue the main and further analyses using year-fixed effect.

heteroscedasticity exists (Cooke, 1998)<sup>35</sup>.

Following prior research on disclosure (e.g., Wang & Hussainey, 2013; Li, 2010a, Brown & Tucker, 2011), Firm size (LnMK) is transformed using the natural logarithm of the original values in order to become more approximate to a normal distribution (Cooke, 1998; Pallant, 2005; Tabachnick & Fidell, 2007).

Outliers or extreme values<sup>36</sup> may lead to unreliable output (Pallant, 2005). Outliers may exist in the data of the current study because the sample of this study contains different sizes of firms (large, medium, and small firms) in order to generalize the finding. This generates variations in the distribution of variables (Eisenberg, Sundgren, & Wells, 1998). These outliers may lead to bias in our findings and can potentially violate the OLS assumptions (Brown & Tucker, 2011).

Using the statistical software, STATA, we check whether outliers exist in the data. This is done by checking whether or not the residuals are normally distributed around the predicted dependent variable scores. If the null hypothesis is rejected in the normality test, the outliers exist. Shapiro-Wilk test is used to check the normality of residual. The coefficient of Shapiro is significant ( $P < .05$ ) indicating that the residual is not normally distributed. Accordingly, outliers exist in the data.

In order to identify these outliers, the software is asked to predict the estimated score based upon the regression, then to predict the residuals and sort them according to their values. Consequently, observations with regard to the highest and lowest Z score are to

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<sup>35</sup> Common transformations include logarithm, square root, inverse, reflect and log, reflect and square root, reflect and inverse (Tabachnick & Fidell, 2007).

<sup>36</sup> The terms 'outlier' or "extreme value" refer to an observation of the dependent or independent variables, with values that are inconsistent with the rest of the observations in the data set (Rawlings, Pentula, & Dickey, 1998, p. 331).

be considered as outliers.

There are two strategies to deal with outliers; deleting the outliers or winsorising them. Deleting the outliers means that all the observations that represent extreme values and may affect the reliability of the results are removed from the analysis. Whereas, winsorising is a value modification method for outliers without excluding any observation (Searls, 1966). It involves replacing extreme values with values that is closest to them in the tail of distribution in which they occur. Observations in the sample are part of the target population and they represent source of information that could be critical to the analysis. Thus, the current study does not adopt the option that leads to elimination of some cases. Consequently, variables are winsorised. This option is usually preferred by scholars in order to mitigate the effect of outliers (Tabachnick & Fidell, 2007). Ntim et al. (2012a, p. 139) state that “The main rationale for winsorising is to minimise potentially serious violations of the OLS assumptions”. Therefore, Following prior research (e.g., Brown & Tucker, 2011; Li, 2010a), all continuous variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentile. All the change variables are winsorised before taking the absolute value.

The current study uses panel data set<sup>37</sup> on a sample of UK companies over a period from 2005 to 2011. It is stated that the use of panel data has some econometric concerns (Wooldridge, 2003). Petersen (2009) states that the panel data creates two problems of dependence of the residual which bias the standard errors in the regression model.

First, the residual of a given firm may be correlated across years of this firm. This type of dependence is called unobserved firm effect (Wooldridge, 2003) or time series dependence or auto-correlation (Peterson, 2009; Elshandidy et al., 2013). Second, the

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<sup>37</sup> Panel data is data set that contains observations on multiple firms in multiple years (Petersen, 2009)

residuals of a given year may be correlated across different firms. This type of dependence is called cross-sectional dependence or heteroscedasticity. Failure to deal with auto-correlation and/or heteroscedasticity in the regression model leads to biased standard errors and consequently incorrect inferences (Petersen, 2009; Gow et al., 2010).

Gow et al. (2010) evaluated number of different estimation methods used where panel data sets exist, to address the effect of auto-correlation (time series dependence or firm effect) and heteroscedasticity (cross-sectional dependence or time effect). These methods are OLS standard errors, White standard errors, Newey-West standard errors, Fama-MacBeth, Z2 statistic, and clustered robust standard errors. They examine these methods under 4 different settings: a) non-presence of auto-correlation and heteroscedasticity, b) presence of auto-correlation only, c) presence of heteroscedasticity only, and d) presence of both auto-correlation and heteroscedasticity.

Their findings indicate that the clustered robust standard error estimation method produces well-specified test statistics in all the four setting examined. Consistently, Peterson (2009) finds that in the presence of auto-correlation and heteroscedasticity in the data sets, the standard error clustered by firm is unbiased and produce correctly sized confidence intervals whether the firm effect is permanent or temporary. In addition, he finds that the presence of time effect in the data set can be addressed using fixed effect (e.g. including time dummies). Overall, he suggests that the efficiency of the estimation method can be improved by adding fixed effects to the estimation method.

In order to test the hypotheses, the current study estimates using OLS regression with clustered robust standard errors. This method allows standard errors to be clustered by firms in order to account for any residual dependence created by firm effects. The clustered standard error is used to mitigate the problem of time series dependence (auto-

correlation). Petersen (2009) shows that this estimation method yields unbiased standard errors and consequently would improve the accuracy of the analysis through getting correct estimates and inferences. In addition, the current study uses the year-fixed effect to address the effect of cross-sectional dependence/ time effect (heteroscedasticity)<sup>38</sup>. The current study does not cluster by years in the analyses because the panel data sets of the current study are very short in the time series and clustering by six years may only add noise to the system (Petersen, 2009)<sup>39</sup>.

### 4.6.4 Sample selection and data collection

The current study examines the determinants of the change FLFD in OFR statements of FTSE all-shares listed firms in the main market of the London Stock Exchange over the period from 2005 to 2011. The steps followed in identifying the sample firms are discussed in chapter 3, section 3.3. However, when calculating the change score in the level of FLFD from the previous year, the current study loses one year of observations for each firm. Subsequently, this suggests that there are no observations for the year 2005. In addition, we exclude observations with missing financial data for the current year or the previous year<sup>40</sup>. The screening leaves us with 1912 firm- year observations as listed in Table 4.2.

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<sup>38</sup> The unobserved residuals for the unit (the firm in the current study) may be serially correlated - because of an unobserved effect - across years. Furthermore, the residuals for a specific year may be correlated across firms (Petersen, 2009).

<sup>39</sup> In the current study, all regressions are run using Stata software. Stata is a flexible statistical program that allows users to apply pre-programmed commands or use further commands that have been invented by different users (Hamilton, 2006).

<sup>40</sup> We have no reason to believe there is a systematic pattern in the missing observations, and hence, we believe that excluding observations with missing financial data will not create a bias in the results.

<b>Table 4.2</b>	
<b>Sample selection process</b>	
	<b>N</b>
Sample as shown in chapter 3 section 3.3	2422
Less: One year observations (2005)	346
Less: Firm-year observations with missing financial data	164
<b>Final Sample</b>	<b>1912</b>
This Table reports the process of sample selection. N denotes the number of firm-year observations. The final sample consists of 1912 firms-year observations.	

Table 4.3 shows the final sample sorted by industry. The definition of the industry is based on Industry Classification Benchmark (ICB). These include Industrial, Basic material, Technology, Consumer goods, Consumer services, Health care, Oil and gas, Utilities and Telecommunication. The industrial firms represent the highest firm-year observations. The telecommunication firms, on the other hand, represent only 22 firm-year observations. The classification of the sample is consistent with that shown in chapter 3 section 3.3.

<b>Table 4.3</b>		
<b>Distribution of Sample amongst Industries</b>		
<b>Industry</b>	<b>N</b>	<b>Percentage</b>
Industrial	661	35%
Basic material	149	8%
Technology	191	10%
Consumer goods	211	11%
Consumer services	427	22%
Health care	115	6%
Oil and gas	100	5%
Utilities	36	2%
Telecommunication	22	1%
<b>Total</b>	<b>1912</b>	<b>100%</b>
This Table provides the distribution of the sample among industries. Our sample consists of 1912 observation distributed among 9 industries. The definition of the industry is based on Industry Classification Benchmark (ICB).		

Most firms in the sample produce the OFR statements under the title OFR (344 firms); or report two separate sections Operating Review and Financial Review (727 firms); or produce the same OFR contents under the title Business Review (574 firms); or under

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the title Chief Executive Review (172 firms). This sums 1817 firms, representing 95% of the sample. The remaining 5% produce either only an Operating Review (57 firms) or a Financial Review (38 firms).

Table 4.4 presents a summary of different titles that report OFR contents.

<b>Table 4.4</b>		
<b>Different titles that report OFR contents</b>		
	<b>N</b>	<b>Percentage</b>
OFR	344	18%
Operating review/ financial review	727	38%
Business review	574	30%
Chief executive review	172	9%
Operating review	57	3%
Financial review	38	2%
<b>Total</b>	<b>1912</b>	<b>100%</b>
This Table reports different titles for OFR contents. Firms produce OFR statements under the title OFR; or report two separate sections Operating Review and Financial Review; or produce the same OFR contents under the title Business Review; or under the title Chief Executive Review; or produce either only an Operating Review or a Financial Review.		

As mentioned in chapter 3, the annual reports are collected from company's official websites, Thomson one banker database and Northcote website ([www.northcote.co.uk](http://www.northcote.co.uk)). In addition, all financial data is collected from Datastream. The auditor type data is manually collected from the companies' annual reports.

### 4.7 THE RESULTS

This part reports and discusses the results of the current study. It starts with reporting the descriptive statistics of the variables in section 4.7.1. Then, it displays the correlation analysis in section 4.7.2. Section 4.7.3 reports and discusses the regression results of the current study. Finally, further analysis is introduced in section 4.7.4.

#### 4.7.1 Descriptive statistics

Panel A of Table 4.5 shows the descriptive statistics of the change score for all sample firms and by years. The maximum value of  $|\Delta\text{FLFD}|$  of the sample firms is 58 while the minimum is 0. This range indicates that a variation exists between the UK firms in terms of their decision to change their FLFD from year to year. The sample firms have on average change score of 4.20. The mean values of change score over the sample period depict monotonic increase in the change score over the period from 2006 to 2011. It ranges from 3.72 in 2006 to 5.58 in 2011. This small range may be due to the soft talk nature FLFD which reduces the variation of change over years.

In addition, Panel B of Table 4.5 shows the descriptive statistics of the change score for all sample firms and by industries. There is a variation in the mean value of change score across different industries. It is argued that the disclosure behaviour is similar between firms in the same industry, where similar business environments and operating conditions exist, and this behaviour tends to be different between firms in different industries. The highest mean value of change score is in the utilities industry (6.13) while the lowest mean value of the score is in the technology industry (3.00). This is may be consistent with the prediction that litigation is high in technology industry so firms tend to provide less informative disclosure and thus fewer changes.

Table 4.6 presents the descriptive statistics of the independent variables. Panel A displays the descriptive statistics of the change in firm performance variable measured as change in firm's return on equity ratio from the previous year,  $|\Delta ROE|$ . The maximum value of  $|\Delta ROE|$  is 23.17 while the minimum is .01. In other words, the highest value of change in firm performance from the most recent year is 23.17 while the minimum value of this change from the recent year is .01. On average the sample firms have changes in their performance from the most recent year of 9.39. This range indicates that significant variation exists in firms' earnings performance between UK firms. In addition, there is a variation in the change in firm performance over years. Specifically, the mean value of change in 2006 is 9.63 then decreased to 8.53 in 2007 then increased in 2008 and 2009 to be 9.28 and 11.57 respectively. Then decreased to 9.71 in 2010 and continue in decreasing to be 7.65 in 2011.

Panels B and D of Table 4.6 show the descriptive statistics for firm characteristics variables. Panel B presents the descriptive statistics of the continuous variables, while, panel D shows the frequencies for dummy variables. These variables are expected to be relatively stable over years. They include firm size, competitive environment, litigation environment, percentage of managerial ownership, and auditor type.

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**Table 4.5**  
**Panel A: Descriptive statistics of change score,  $|\Delta FLFD|$ , for all the sample and by years**

	All	2006	2007	2008	2009	2010	2011
Mean	4.20	3.72	3.51	4.07	4.05	4.26	5.58
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25%	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Medium	3.00	3.00	2.00	3.00	3.00	3.00	3.00
75%	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Maximum	58.00	24.00	27.00	58.00	58.00	29.00	35.00
N	1912	318	321	315	320	317	321

**Panel B: Descriptive statistics of the change score,  $|\Delta FLFD|$ , for all the sample and by industries**

	All	Industrial	Basic material	Technology	Consumer goods	Consumer service	Health care	Oil and gas	Utilities	Tel.
Mean	4.20	4.27	4.69	3.00	3.44	4.37	4.74	4.79	6.13	4.50
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
25%	1.00	1.00	1.00	1.00	1.00	2.00	2.00	3.00	1.00	1.75
Medium	3.00	3.00	2.00	2.00	2.00	3.00	4.00	3.00	6.00	4.00
75%	5.00	5.00	5.00	4.00	5.00	6.00	7.00	6.00	10.00	5.25
Maximum	58.00	58.00	51.00	23.00	22.00	31.00	34.00	24.00	18.00	18.00
N	1912	661	149	191	211	427	115	100	36	22

This Table shows the descriptive statistics of the change score  $|\Delta FLFD|$  for all sample firms, by year and by industry. Panel A shows the descriptive statistics for all sample firms and by year. While, Panel B shows the descriptive statistics for all sample firms and by industries. The definitions of industries are based on the Industry Classification Benchmark (ICB). N indicates the number of observations.

Firm size measured as the natural logarithm of firm's market value of equity (LnMK) has a mean value of 12.40 in the sample firms with minimum value of 9.59 and maximum value of 15.43. The mean value of LnMK is relatively stable over the sample period. The mean value of competitive level in industry measured using Herf index is .0096 in the sample firms. It is observed that the minimum level of Herf is .0002 and the maximum level is .045. The level of competition is relatively stable over years.

Firm's managerial ownership %MO measured as the percentage of ownership by firm directors has a mean value over the sample period of .087. This value is quite consistent to Wang and Hussainey (2013) who find that the percent of director ownership in the UK firms is 7%. The %MO variable varies significantly in the sample with a maximum of 99% and a minimum of 0%. The mean value of the %MO variable is relatively stable over the sample period.

Panel D presents the frequencies for dummy variables. In terms of litigious environment, litig, 10% of our sample firms are in more litigious environment. In other words, 10% of the sample firms are in technology industry and this percent is stable over the sample period. With regard to auditor type, BigN, 83% are audited by one of the big audit firms whilst 17% only are audited by non-big audit firms and this percent is relatively stable over the sample period.

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**Table 4.6**  
**Descriptive statistics of independent variables**

	All	2006	2007	2008	2009	2010	2011
<b>Panel A: Changes in firm performance (<math>\Delta</math>ROE)</b>							
Mean	9.39	9.63	8.53	9.28	11.57	9.71	7.65
Minimum	0.01	0.01	0.03	0.03	0.03	0.02	0.01
25%	2.35	2.87	2.40	2.33	3.30	2.62	1.54
Medium	6.51	6.93	5.73	6.27	10.58	7.36	4.27
75%	16.9	16.87	13.78	16.23	20.31	17.55	12.75
Maximum	23.17	23.17	23.17	23.17	23.17	23.17	23.17
N	1912	318	321	315	320	317	321

**Panel B: Firm characteristics**

*Firm size (LnMK)*

Mean	12.40	12.58	12.58	12.12	12.20	12.48	12.46
Minimum	9.59	9.59	9.59	9.59	9.59	9.59	9.59
25%	10.72	11.10	11.11	10.45	10.38	10.72	10.69
Medium	12.33	12.50	12.51	11.94	12.12	12.47	12.38
75%	13.96	14.05	14.04	13.53	13.81	14.15	14.07
Maximum	15.43	15.43	15.43	15.43	15.43	15.43	15.43
N	1912	318	321	315	320	317	321

*Competitive environment (Herf)*

Mean	.0096	.0098	.0098	.0097	.0096	.0095	.0094
Minimum	.0002	.0002	.0002	.0002	.0002	.0002	.0002
25%	.0007	.0007	.0007	.0006	.0006	.0006	.0006
Medium	.0026	.0028	.0026	.0024	.0025	.0023	.0026
75%	.0106	.0109	.0110	.0109	.0107	.0103	.0100
Maximum	.0457	.0457	.0457	.0457	.0457	.0457	.0457
N	1912	318	321	315	320	317	321

*Managerial ownership(%MO)*

Mean	0.087	0.088	0.091	0.085	0.087	0.085	0.088
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25%	0.00	0.00	.00	.00	.00	.00	.00
Medium	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75%	0.12	0.13	0.14	0.12	0.13	0.11	0.11
Maximum	0.99	0.98	0.99	0.99	0.99	0.99	0.99
N	1912	318	321	315	320	317	321

**Panel C: Control variables**

*Change in firm leverage ( $\Delta$ Lev)*

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Mean	15.16	16.07	16.27	14.96	16.32	14.55	12.81
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25%	2.01	1.62	2.46	2.42	2.31	2.67	1.42
Medium	9.89	10.01	11.35	9.92	10.22	9.87	8.47
75%	26.89	31.58	32.34	24.87	31.53	23.00	20.16
Maximum	40.40	40.40	40.40	40.40	40.40	40.40	40.40
N	1912	318	321	315	320	317	321

### *Change in firm dividend ( $\Delta DY$ )*

Mean	0.91	.493	.668	1.711	1.106	0.756	0.744
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.000
25%	0.11	0.08	.085	0.66	0.29	0.050	0.045
Medium	0.60	0.33	0.37	2.14	1.42	0.51	0.44
75%	1.74	0.71	0.94	2.71	1.80	1.22	1.18
Maximum	2.71	2.71	2.71	2.71	2.71	2.71	2.71
N	1912	318	321	315	320	317	321

### *Change in firm liquidity ( $\Delta CR$ )*

Mean	0.223	0.231	0.226	0.219	0.229	0.226	0.206
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25%	0.07	0.07	0.065	0.070	0.080	0.070	0.060
Medium	0.18	0.18	0.18	0.19	0.19	0.18	0.16
75%	0.38	0.43	0.465	0.35	0.36	0.43	0.33
Maximum	0.50	0.50	0.50	0.50	0.50	0.50	0.50
N	1912	318	321	315	320	317	321

### *Change in firm risk exposure ( $\Delta Ret.Vol$ )*

Mean	0.196	0.143	0.197	0.252	0.280	0.208	0.098
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25%	0.07	0.05	0.08	0.13	0.15	0.10	0.030
Medium	0.17	0.11	0.17	0.26	0.34	0.19	0.08
75%	0.34	0.20	0.32	0.40	0.40	0.33	0.13
Maximum	0.410	0.410	0.410	0.41	0.410	0.410	0.410
N	1912	318	321	315	320	317	321

### *Change in length of the document ( $\Delta T.Stat$ )*

Mean	135.42	123.11	69.18	68.24	66.46	70.17	412
Minimum	6.00	6	6	6	6	6	6
25%	18.00	20	10	14	15	13	259
Medium	52.00	52	35	37	40	39	550
75%	163	143	84	83	81	82	568
Maximum	568	568	568	568	568	568	568
N	1912	318	321	315	320	317	321

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<b>Panel D: Dummy variables</b>														
	All		2006		2007		2008		2009		2010		2011	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
<i>Litigious environment (Litig)</i>														
<b>0</b>	1722	90%	286	90%	288	90%	285	90%	289	90%	286	90%	287	89%
<b>1</b>	191	10%	32	10%	33	10%	30	10%	31	10%	31	10%	34	11%
<i>Auditor type (BigN)</i>														
<b>0</b>	327	17%	57	18%	60	19%	53	17%	53	17%	51	16%	52	16%
<b>1</b>	1586	83%	261	82%	261	81%	262	83%	267	83%	266	84%	269	84%
This Table displays the descriptive statistics for the explanatory variables for all the sample firms and by year. Panel A shows the descriptive statistics for change in performance variable. Panels B and C shows the descriptive statistics for firm characteristics and control variables, respectively. Panel D shows the frequencies for dummy variables.														
The variables definitions and measurements are included in Table 4.1														

In terms of control variables, Panel C of Table 4.6 provides their descriptive statistics.

The mean value of change in firm leverage,  $|\Delta Lev|$ , is 15.16 with minimum value of .00 and maximum value of 40.40.

The mean value of change in firm dividend,  $|\Delta DY|$ , is .91 and its minimum and maximum values are .00 and .271 respectively. The change in firm liquidity ratio,  $|\Delta CR|$ , has a mean value of .223 with minimum value of .00 and maximum value of .50.

The mean value of firm risk measured using return volatility,  $|\Delta Ret.Vol|$ , is.196 with minimum value of .00 and maximum value of .410.

It is noticed that there is change in firms' economic environment variables over the sample period. Finally, on average the change in firm's OFR documents,  $|\Delta T.Stat|$  is 231.1166 statements.

### 4.7.2 Correlation analysis

High correlation between pairs of variables may cause problem of multi-collinearity<sup>41</sup> (Gujarati & Porter, 2009). This problem might affect the reliability of the estimates (Acock, 2008). Furthermore, Tabachnick and Fidell (2007) state that multi-collinearity among independent variables results in a problem in terms of assessing the importance of each variable in the regression. Therefore, it is needed to compare the total relationship/correlation of the independent variables with each other (Tabachnick & Fidell, 2007).

The Pearson correlation matrix is an initial tool to detect multi-collinearity. Gujarati and Porter (2009) indicate that variables are highly correlated if the correlation is greater than 0.80. Consequently, the multi-collinearity among variables is acceptable if the correlation coefficients are less than 0.80. Table 4.7 presents Pearson correlation matrix among dependent and all explanatory variables of the current study. The Pearson correlation coefficients among all variables are relatively low, less than 0.80, suggesting that there is no variable exhibit multi-collinearity problem.

Further, check for multi-collinearity is performed by calculating the tolerance coefficients among variables (alternatively, Variance Inflation Factor or simply VIF), after carrying out the regression model. Statistically, the higher the correlation among variables, the higher the possibilities of the tolerance coefficients will approach to zero and the higher the possibilities to have multi-collinearity problem. If the tolerance of any variable is less than 0.1 (alternatively, VIF is more than 10), this suggests a multi-collinearity problem (Field, 2009). The mean and maximum values of VIF test are

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<sup>41</sup> Multi-collinearity (also, multicollinearity or colinearity) exists when two or more variables are highly correlated meaning that one can be linearly predicted from the other (Tabachnick & Fidell, 2007; Gujarati & Porter, 2009)

tabulated with the regression results and indicate that there is no concern about this problem.

In addition to diagnose the multi-colinearity problem among variables, the Pearson correlation matrix is used to measure the strength and direction of the linear association between any pair of variables. It provides evidence that change in FLFD is statistically correlated positively with changes in firm performance ( $p < 0.01$ ). This result is consistent with prior research (e.g. Miller, 2002; Merkley, 2014) who suggest change in disclosure is associated with change in performance.

Furthermore, the Pearson correlation matrix indicates significant association between change in FLFD and all explanatory variables except  $|\Delta \text{Ret.Vol}|$ . It finds statistical positive correlation between change in FLFD and some firm characteristics such as firm size (LnMK), competitive environment (Herf), and auditor type (BigN). However, negative correlation exists with other firm characteristics such as litigious environment (Litig) and managerial ownership (%MO). Some of these significant associations, especially firm size (LnMK), competitive environment (Herf), litigious environment (Litig) and managerial ownership (%MO) are consistent with prior research (e.g., Brown & Tucker, 2011), which add validity that the change score captures new information. In other words, this result adds validity to the idea that change in the level of disclosure captures new information.

In terms of control variables, changes in firm's leverage ( $|\Delta \text{Lev}|$ ), dividend ( $|\Delta \text{DY}|$ ), liquidity ( $|\Delta \text{CR}|$ ) and total statements ( $|\Delta \text{T.Stat}|$ ) are positively correlated with change in FLFD.

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**Table 4.7**  
**Pearson Correlation Matrix**

	\u0394FLFD	\u0394ROE	LnMk	Herf	Litig	%MO	BigN	\u0394Lev	\u0394DY	\u0394CR	\u0394Ret.Vol	\u0394T.Stat
\u0394FLFD	1.0000											
\u0394ROE	0.0926***	1.0000										
	0.0001											
LnMk	0.2755***	0.0296	1.0000									
	0.0000	0.1986										
Herf	0.2647***	-0.0040	0.6880***	1.0000								
	0.0000	0.8611	0.0000									
Litig	-0.0791***	-0.0069	-0.2046***	0.0545**	1.0000							
	0.0002	0.7638	0.0000	0.0179								
%MO	-0.1496***	0.0723***	-0.3582***	-0.2431***	0.1063***	1.0000						
	0.0000	0.0017	0.0000	0.0000	0.0000							Ap
BigN	0.1595***	0.0231	0.4504***	0.2695***	-0.1113***	-0.3242***	1.0000					
	0.0000	0.3158	0.0000	0.0000	0.0000	0.0000						
\u0394Lev	0.0779***	0.1289***	0.1692***	0.1010***	-0.1813***	-0.0693***	0.1698***	1.0000				
	0.0010	0.0000	0.0000	0.0000	0.0000	0.0026	0.0000					
\u0394DY	0.0425*	-0.0103	-0.0424*	-0.0086	-0.0981***	0.0248	0.1041***	0.0533**	1.0000			
	0.0598	0.6542	0.0652	0.7097	0.0000	0.2812	0.0000	0.0205				
\u0394CR	0.1033***	-0.0058	0.2586***	0.1650***	-0.1556***	-0.0778***	0.1397***	0.1690***	0.1062***	1.0000		
	0.0000	0.7995	0.0000	0.0000	0.0000	0.0007	0.0000	0.0000	0.0000			
\u0394Ret.Vol	-0.0368	-0.0266	-0.1268***	-0.0748***	0.0968***	-0.0186	0.0211	-0.0128	0.1009***	0.0035	1.0000	
	0.1225	0.2479	0.0000	0.0011	0.0000	0.4186	0.3599	0.5795	0.0000	0.8798		
\u0394T.Stat	0.2786***	0.0354	0.2062***	0.2115***	-0.0466**	-0.0883***	0.0918***	0.0105	-0.0334	0.0703***	-0.2048***	1.0000
	0.0000	0.1239	0.0000	0.0000	0.0430	0.0001	0.0001	0.6483	0.1467	0.0022	0.0000	

This Table presents the Pearson Correlation Matrix for all variables in model 1.  
 Variables' definitions and measurements are the same as summarized in Table 4.1.  
 \*, \*\*, and \*\*\* indicate significance at 0.1, 0.05, and 0.01, respectively.

### 4.7.3 Empirical results

Table 4.8 reports the multivariate results which are robust to heteroscedasticity and auto-correlation. Columns (1) & (2) provide the estimation of model (1) in two different ways. Column (1) uses the absolute values of change in earnings performance. This estimation preserves the magnitude of earnings performance change. Column (2) uses the quartile ranking of absolute change in earnings performance with 1 being the smallest absolute change group and 4 being the largest absolute change group. This approach allows us to examine whether firms with a larger change in earnings performance change their FLFD more than those with smaller performance changes. Furthermore, by using scale, this approach mitigates the influences of extreme values and relaxes the OLS linearity assumption (Brown & Tucker, 2011). Because of these advantages, column (2) is treated as the primary analysis. The *t*-Statistics presented in parentheses are based on standard error clustered by firm.

The model in columns (1) & (2) is statistically significant at 1% level of significance ( $P < .01$ ) and the adjusted R-squared values are 14.51% and 13.99%, respectively. These values imply a good overall model fit which indicate that the model explains some variation in  $|\Delta\text{FLFD}|$ .

In column (1), the current study finds that the coefficient of  $|\Delta\text{ROE}|$  is 0.0017 and is statistically significant at the 1% significance level ( $t = 4.26$ ). This result indicates that  $|\Delta\text{FLFD}|$  is positively associated with  $|\Delta\text{ROE}|$ , meaning that firms change their FLFD in response to the change in their earnings performance. In column (2), the coefficient of  $|\Delta\text{ROE}|$  is 0.1809, and is significant at 10% level of significance ( $t = 1.71$ ). This result indicates that firms with larger changes in their earnings performance change their FLFD more than those with smaller performance changes.

These results suggest that firms change their FLFD in response to changes in their earnings performance. In addition, firms with larger changes in their earnings performance are more likely to change their FLFD than those with smaller performance changes. These results are consistent with the spirit of OFR statements that managers provide discussion and analysis of firm performance with forward-looking orientation and update their discussion from year to year in response to changes in firm performance over years. Therefore, the researcher accepts H1a and H1b.

The results are consistent with the current study expectations based on managers' incentive theories and empirical research. Agency theory suggests that managers that have new information relative to the prior year may provide it voluntarily to reduce agency costs, resulting in reduced information asymmetry. Signalling theory suggests that managers with new information relative to prior year may provide it voluntarily in order to signal their good news or signal their capabilities and strengths to manage the bad news.

The results are also consistent with prior empirical research that suggests that change in disclosure is associated with change in firm performance (e.g., Lang & Lundholm, 1993; Miller, 2002; Abraham & Tonks, 2006; Merkley, 2014). Moreover, they are consistent with Brown and Tucker (2011) who find that firms with larger changes in their economic environment variables tend to change their narratives reporting in MD&A more than those with smaller changes in their economic environment.

Obviously, there is a weak statistical significance level (10%) that firms with larger changes in their earnings performance are likely to change their FLFD more than those with smaller performance changes. This may be due to the soft talk (vs. hard facts) nature of narrative reporting in general and FLFD in particular. This nature may

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encourage managers of firms to use the FLFD of the previous years as templates without making extremely significant changes, which in turn reduces the variation of change in FLFD.

<b>Table 4.8</b>				
<b>Empirical results: Incentives to change FLFD</b>				
			(1)	(2)
	<b>Variables</b>	<b>Pred. Sign</b>	<b>Coefficient (t-statistic)</b>	<b>Coefficient (t-statistic)</b>
Constant			-.4487 (-0.32)	-1.1353 (-0.82)
Performance	ΔROE	+	.0017*** (4.26)	.1809* (1.71)
Size	LnMK	+	.2651*** (2.64)	.2938*** (2.95)
Competitive environment	Herf	+	47.6255*** (2.64)	46.2672*** (2.57)
Litigious environment	Litig	+/-	-.8120** (-2.15)	-.7629** (-2.04)
Managerial ownership	%MO	+	-1.7284*** (-2.73)	-1.4811** (-2.21)
Auditor type	BigN	+	.3395 (1.23)	.3370 (1.21)
Leverage	ΔLev.	+	.0063 (0.75)	.0066 (0.74)
Dividend	ΔDY	+	.2546* (1.75)	.2514* (1.72)
Liquidity	ΔCR	+	.0194 (0.13)	.0042 (0.03)
Business risk	ΔRet. Vol	+	1.1906 (1.27)	1.0224 (1.11)
Document length	ΔT.Stat.	+	.0017** (2.26)	.0018** (2.28)
Fixed effect			Year	Year
Standard error clustering			Firm	Firm
Model F			11.80***	10.74***
Prob > F			0.0000	0.0000
Adjusted R- squared			14.51%	13.99%
VIF: Mean			1.35	1.37
Max.			2.18	2.18
Observation (N)			1,912	1,912
This Table reports the coefficients estimates of model (1). Column 1 uses the absolute values of change in earnings performance while column 2 uses the quartile ranking of absolute change in earnings performance with 1 being the smallest absolute change group and 4 being the largest absolute change group. The <i>t</i> -Statistics in parentheses are based on robust standard error clustered by firm to control for auto-correlation and heteroscedasticity.				
Variables definitions and measurements are the same as discussed in Table 4.1.				
*, **, and *** indicate significance at 0.1, 0.05, and 0.01, respectively.				

In this part, changes in firms' earnings performance are held constant, and the current study examines which firm characteristics are associated with change in FLFD. As mentioned before, column (2) is treated as the primary analysis.

In column (2), the coefficient on LnMK is 0.2938 and is statistically significant at 1% level of significance ( $t = 2.95$ ). This result indicates that  $|\Delta\text{FLFD}|$  is positively associated with LnMK, meaning that a positive association exists between firm size and the change in FLFD. In other words, this result suggests that larger firms are more likely to change their FLFD than smaller firms. Therefore, the researcher accepts H2a.

The result may be rationalised from two different perspectives. First, from the political costs perspective, larger firms are politically visible and so they are likely to update their disclosure periodically in order to avoid political costs of being perceived as being ambiguous. Second, from the direct costs of disclosure perspective, reporting information is costly; hence, large firms have sufficient resources to update their disclosure periodically, whilst, small firms may be more likely to cut and paste narratives from previous year in order to save the preparation costs. Consistently, prior research finds that large firms tend to provide informative disclosure (Al-Najjar & Abed, 2014; Wang & Hussainey, 2013).

The coefficient on Herf index is 46.2672 and is statistically significant at 1% level of significance ( $t = 2.57$ ). This result indicates that  $|\Delta\text{FLFD}|$  is positively associated with Herf index. Because the lower the Herf value, the higher the competition, this result indicates that a negative association exists between competitive environment and the change in FLFD. In other words, the result suggests that firms facing more competition are less likely to change their FLFD from the previous year. Therefore, the researcher accepts H2b.

This result is consistent with the proprietary cost of disclosure expectation. Proprietary cost of disclosure represents competitive disadvantage because information disclosed by companies may be used by their competitors (Verrrecchia, 1983; Edwards & Smith, 1996; Radebaugh & Gray, 1997). Therefore, firms in more competitive environment are likely to provide less informative disclosure in order to maintain their competitive position in the market. Consequently, these firms are less likely to change their FLFD over years.

Prior research (e.g., Verrecchia & Weber, 2006; Dedman & Lennox, 2009; Depoers & Jeanjean, 2012) consistently finds that companies have an incentive for non-disclosure of information in order to prevent competitors from using their disclosed information. Particularly, Brown and Tucker (2011) find that firms facing more competition are less likely to change their narratives reporting in MD&A from year to year and consequently they provide less informative narrative reporting in their MD&A.

The coefficient on Litig is  $-0.7629$  and is statistically significant at the 5% level of significance ( $t = -2.04$ ). This result indicates that  $|\Delta\text{FLFD}|$  is negatively associated with Litig, meaning that a negative association exists between litigation industries and the change in FLFD. In other words, the result suggests that firms in more litigious industries are less likely to change their FLFD from the previous year. Therefore, the researcher accepts H2c.

The result is consistent with the litigation cost of disclosure prediction that firms in highly litigious industries tend to reduce their obligation to update their forward-looking disclosure over years in order to avoid the litigation costs. This may be done by reducing the amount of forward-looking information and consequently reducing the change in such disclosure. This result, therefore, supports Healy and Palepu (2001)

theoretical prediction that firms reduce their future oriented disclosure when they face risk of being penalised against their forecast.

The result is consistent with some prior research. For instance, it is consistent with Rogers and Van Buskirk (2009) who find that firms reduce their litigation costs by reducing disclosure for which they may later be held accountable to update it. It is also consistent with Kaszink (1996) who finds that firms in more litigation environment narrow their estimated earnings forecasts in order to avoid litigation costs. On the other hand, this result is not consistent with Brown and Tucker (2011) who find that firms in more litigation environment tend to change their narratives reporting in MD&A to larger degree from year to year.

The coefficient on %MO is -1.4811 and is statistically significant at 5% level of significance ( $t = -2.21$ ). This result indicates that  $|\Delta\text{FLFD}|$  is negatively associated with %MO, meaning that a negative association exists between percentage of managerial ownership and the change in FLFD. This result suggests that firms dominated by managerial ownership are less likely to change their FLFD from the previous year and thus provide less informative forward-looking information. However, this result is statistically significant; the researcher rejects H2d due to the direction of the result.

Theoretically, this result is not consistent with agency theory. Agency theory suggests that managerial ownership might serve to align the interests of management with those of shareholders and thus managers change narratives from the recent year to provide informative disclosure. However, the result could be explained from other theoretical perspective such as management entrenchment perspective. Under this perspective, high managerial ownership can be counterproductive to the firm because managers are more

likely to maximize their private controlling benefits by providing less informative disclosure (Randall, Shleifer, & Vishny, 1988).

Empirically, the result is consistent with prior research of voluntary disclosure in general (e.g., Barakat & Hussainey, 2013; Eng & Mak, 2003; Nagar, Nada, & Wysocki, 2003; Gelb, 2000; Ruland et al., 1990) and forward-looking disclosure in particular (e.g., e.g., Hussainey & Al-Najjar, 2011; Wang & Hussainey, 2013). This research finds a negative association between managerial ownership and disclosure of voluntary information.

The coefficient on BigN is .337 and is not statistically significant at any level of significance ( $t = 1.21$ ). This result indicates that  $|\Delta\text{FLFD}|$  is not statistically associated with BigN, meaning that no association exists between auditor type and the change in FLFD in UK narratives. This result suggests that there is no role of the auditor in overseeing forward-looking statements in UK narrative reporting. Therefore, the researcher rejects H2e due to insignificance of the result.

This result is not consistent with the theoretical expectations of managers' incentive theories. Agency theory suggests that external auditor assures shareholders of the reliability of annual reports and hence this reduces information asymmetry and agency conflicts. Signalling theory suggests that firms audited by audit firms provide high quality information in order to distinguish themselves from firms audited by non-big audit firms. Empirically, the non-significance of result is consistent with Aljifri and Hussainey (2007) who find no association between auditor type and disclosure of forward-looking information.

The insignificant association between auditor type and change in FLFD can be

explained from two different perspectives. First, from the nature of forward-looking statements in UK narratives perspective, these statements are qualitative in nature. This nature makes forward-looking statements difficult to be audited. Second, from enforcement action perspective, the risks of ASB enforcement actions on auditors are small because narratives are soft talk not hard facts.

In sum, by holding changes in firm's current earnings performance constant, the study finds that changes in FLFD is associated positively (negatively) with firm size, (competitive environment), (litigious environment), and (percentage of managerial ownership). This result adds validity to the change score that changes in the level of disclosure captures new information.

In terms of a firm's economic environment control variables, the coefficient on  $|\Delta DY|$  is .2514 and is statistically significant at the 10% level of significance ( $t = 1.72$ ). This result indicates that  $|\Delta FLFD|$  is positively associated with  $|\Delta DY|$ , meaning that a positive association exists between changes in firm's dividend and the changes in FLFD. The result suggests that firms change their FLFD in response to changes in their dividend.

This result is consistent with managers' incentive theories and empirical research. Agency theory suggests that managers that have new information relative to the prior year may provide it voluntarily to reduce agency costs, resulting in reduced information asymmetry. Signalling theory suggests that managers with new information relative to prior year may provide it voluntarily in order to signal their good news or signal their capabilities and strengths to manage the bad news.

Furthermore, it is consistent with prior research that finds a positive relationship

between dividend policy and the disclosure of forward-looking information (e.g., Hussainey & Al-Najjar, 2011, Wang & Hussainey, 2013). The result is also consistent with the result concerning the effect of changes in firm's performance on change in firm's FLFD (H1a).

The coefficient on  $|\Delta T.Stat.|$  is .0018 and is statistically significant at 5% level of significance ( $t = 2.28$ ). This result indicates that  $|\Delta FLFD|$  is positively associated with  $|\Delta T.Stat.|$ , meaning that positive association exists between change in firm's narrative document length and changes in firm's FLFD. In other words, the result suggests that firms change their FLFD as long as they change the length of their narrative document from year to year.

On the other hand, the coefficients on  $|\Delta Lev.|$ ,  $|\Delta CR|$ , and  $|\Delta Ret.Vol|$  are .0066 ( $t = 0.74$ ), .0042 ( $t = .03$ ), and 1.0224 ( $t = 1.11$ ), respectively. These results indicate that  $|\Delta FLFD|$  is not statistically associated with  $|\Delta Lev.|$ ,  $|\Delta CR|$ , and  $|\Delta Ret.Vol|$ , meaning that change in FLFD is not affected by changes in firm's leverage, firm's liquidity and firm's business risk.

Table 4.9 presents a summary of the results of the hypotheses.

**CHAPTER 4: MANAGERS' INCENTIVES TO CHANGE FLFD**

<b>Variables</b>	<b>Hypotheses</b>	<b>Regression results</b>	<b>Notes</b>
Firm performance	<b>H1a:</b> A positive association exists between change in firm performance and change in FLFD in UK narratives.	A +	
	<b>H1b:</b> Firms with larger changes in their performance tend to change their FLFD more than those with smaller performance changes in UK narratives.	A +	
Firm characteristics	<b>H2a:</b> A positive association exists between firm size and change in FLFD in UK narratives	A +	
	<b>H2b:</b> A negative association exists between competitive environment and change in FLFD in UK narratives.	A +	
	<b>H2c:</b> An association exists between litigious environment and change in FLFD in UK narratives	A +	
	<b>H2d:</b> A positive association exists between managerial ownership and change in FLFD in UK narratives	R -	Rejected due to direction
	<b>H2e:</b> A positive association exists between auditor type and change in FLFD in UK narratives	R +	Rejected due to insignificance
Control variables	Changes in firm's leverage effect	R +	Rejected due to insignificance
	Changes in firm's dividend policy effect	A +	
	Changes in firm's liquidity effect	R +	Rejected due to insignificance
	Changes in market risk effect	R +	Rejected due to insignificance
	Changes in total statements effect	A +	
This Table provides summary of the hypotheses tests. A means acceptance that there is significant association, R means rejection that there is significant association, + means positive direction, - means negative direction.			

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### 4.7.4 Further analysis

#### 4.7.4.1 *Well and poorly performing firms*

Based on signalling theory, firms with poor performance (e.g., losses) may provide more informative disclosure in order to explain to their investors why losses arise, as well as to signal their strengths to eliminate such losses in the future. This section examines whether the association between the change in FLFD and change in earnings performance differ based on the sign of earnings performance change.

The sample is divided into two subsamples: well-performing and poorly performing firms based on the direction of change in firm's ROE. Firms that have positive change in ROE from the previous year ( $\Delta ROE > 0$ ) are regarded as well-performing firms, while firms with negative change in ROE from the previous year ( $\Delta ROE < 0$ ) are regarded as poorly performing firms.

Table 4.10 reports the estimation of the model (1) for samples of well-performing firms (earnings increase) and poorly performing firms (earnings decrease) separately. Column (1) presents the regression results for well-performing firms sample, while column (2) displays the results for poorly performing firms sample.

While the coefficient of  $|\Delta ROE|$  for well-performing firms is .0008 and is statistically significant at the 10% level of significance ( $t = 1.73$ ), the coefficient of  $|\Delta ROE|$  for poorly performing firms is .0025 and is statistically significant at the 1% level of significance ( $t = 5.94$ ). This result indicates that a positive association exists between change in earnings performance and change in FLFD for both well-performing and poorly performing firms. However, this association is more positive and statistically significant for poorly performing firms compared to well-performing firms.

These results may be rationalised from two perspectives. First, from the point of view of well-performing firms, managers of these firms feel that their investors are satisfied with the good performance of their firms and consequently they would not wish for more information (Wallace & Naser, 1995). Second, from the point of view of poorly performing firms, managers of these firms react to bad earnings performance by increasing discussion on activities with a potential positive effect on future performance (Merkley, 2014). Those two perspectives suggest that poorly performing firms are more likely to provide informative disclosure than well-performing firms.

Consistently, prior empirical research in the UK finds that forward-looking disclosures are more likely to be used by unprofitable firms than by profitable firms (Hussainey & Al-Najjar, 2011; Wang & Hussainey, 2013). In addition, Schleicher et al. (2007) find that loss-making firms provide more relevant forward-looking information to their investors than profit-making firms.

In summary, the results indicate that poorly performing firms are more likely to change their FLFD in response to changes in performance than well-performing firms. Consequently, poorly performing firms provide more informative FLFD compared to well-performing firms.

<b>Table 4.10</b>				
<b>Model (1) results: Well-performing and poorly performing firms</b>				
			(1)	(2)
			$\Delta ROE > 0$	$\Delta ROE < 0$
	<b>Variables</b>	<b>Pred. Sign</b>	<b>Coefficient (t-statistic)</b>	<b>Coefficient (t-statistic)</b>
Constant			-2.1794 (-1.24)	1.1530 (0.85)
Performance	$\Delta ROE$	+	.0008* (1.73)	.0025*** (5.94)
Size	LnMK	+	.3347** (2.56)	.1715 (1.48)
Competitive environment	Herf	+	52.4033** (2.33)	38.6538** (2.01)
Litigious environment	Litig	+/-	-.9159* (-1.89)	-.5151 (-1.09)
Managerial ownership	%MO	+	-1.8560* (-1.96)	-1.4982** (-2.01)
Auditor type	BigN	+	.1612 (0.37)	.6986** (2.23)
Leverage	$\Delta Lev$	+	.0136 (1.15)	-.0024 (-0.20)
Dividend	$\Delta DY$	+	.3102 (1.42)	.1855 (1.27)
Liquidity	$\Delta CR$	+	.1358 (0.67)	-.1175 (-0.67)
Business risk	$\Delta Ret. Vol$	+	2.0645* (1.76)	-.0686 (-0.05)
Document length	$\Delta T.Stat$	+	.0011* (1.66)	.0033*** (3.08)
Fixed effect			Year	Year
Standard error clustering			Firm	Firm
Model F			7.56***	11.03***
Prob > F			0.0000	0.0000
Adjusted R- squared			15.53%	15.71%
VIF: Mean			1.34	1.53
Max.			2.16	2.32
Observation (N)			946	966
This Table reports the coefficients estimate of model (1) for well and poorly performing firms. Column 1 provides the estimates for well-performing while column two reports for poorly performing firms. The <i>t</i> -Statistics in parentheses are based on robust standard error clustered by firms to control for auto-correlation and heteroscedasticity.				
Variables definitions and measurements are the same as discussed in Table 4.1.				
*, **, and *** indicate significance at 0.1, 0.05, and 0.01, respectively				

### 4.7.4.2 Auditor type

Column (2) of Table 4.8 shows that the coefficient on BigN is .337 and is not statistically significant at any level of significance ( $t = 1.21$ ). This result suggests that there is no role of the auditor in overseeing forward-looking disclosure in the UK narrative reporting statements.

When the current study distinguishes between well-performing and poorly performing firms, the regression results in Table 4.10 show that the coefficient on BigN for well-performing firms is .1612 and is not statistically significant at any level of significance ( $t = 0.37$ ). However, the coefficient on BigN for poorly performing firms is .6986 and is statistically significant at 5% level of significance ( $t = 2.23$ ). These results indicate a positive association between auditor type and the change in FLFD in the UK narratives exists when firms are poorly performing. However, these results are not existed for either all sample firms or for well-performing firms.

These results suggest that the role of the auditor in overseeing narrative reporting is not appearing for the all sample firms or for well-performing firms, however, it is observable only when firms are poorly performing.

These results may be due to the higher liquidation risk of poorly performing firms which in turn increases the risk that the auditor will be sued. This may encourage auditor to exercise more effort when auditing poorly performing firms. Consistently, Walker and Casterella (2000) find that auditors are less willing to offer discounts when auditees show losses in the year prior to the new audit engagement. This is because of the increased audit risk which requires more audit engagements tests.

### 4.7.5 Endogeneity test

Endogeneity is a statistical concern in the disclosure literature (Ammann, Oesch, & Schmid, 2011). It is considered an important issue which may affect the validity of the regression results (Chenhall & Moers, 2007). There are two causes that lead to endogeneity; *omitted variables and Simultaneity*. Omitted variables refer to that the dependent and explanatory variables have systematic relationships with other variables that are not included in the model. Those variables that are not included in the model are referred to as *omitted variables* (Chenhall & Moers, 2007). Apart from omitted variable, simultaneity may occur when the association between dependent and independent variables runs in both ways (Chenhall & Moers, 2007),

The results of the current study are further analysed to examine the extent to which endogeneity problem exists among variables. The study examines the two issues that may cause endogeneity problem by conducting an instrumental Two-Stage Least Square (2SLS) regression. The 2SLS is widely used technique to detect endogeneity (Black, Jang, & Kim, 2006a; Henry, 2008; Ntim et al., 2012b). It helps in assessing whether there are serious variations between the regressor variables and either the error term (omitted variables) or risk disclosures (simultaneity problem).

To this end, managerial ownership and auditor type variables are introduced in the regression analysis as instrument variables, and the other variables are introduced as regressor variables. The analysis is run for all sample firms are for well and poorly performing firms, separately. This helps to observe any variation over change score and to minimize the possible drawbacks of using the instrumental variable (Larcker & Rusticus, 2010).

Because of the effects associated with incorrect identification of instrumental variables, the instrumental variables are further validated to detect whether or not the data set exhibits endogeneity. The validity of instruments is checked using Sargan and Basmann statistics. The existence of simultaneity is checked using Durbin and Wu–Haumsan statistics.

Sargan and Basmann statistics are used to examine the over-identifying restrictions that may arise due to having more than one instrumental variable. The null-hypothesis of these tests is that: *the mean value of the instruments and residuals are equal to zero*. These two tests are based on the Chi-square statistic. In addition, Durbin and Wu–Haumsan tests are used to examine the extent to which dependent variable and endogenous variables are exogenous. The null-hypothesis of these tests is that: *the covariance of the endogenous variables and the residuals is equal to zero*. The Durbin statistic is based on Chi-square statistic, and the Wu–Haumsan statistic is based on F-statistic.

Table 4.11 reports the results of the endogeneity tests. Column (1) presents the results of endogeneity test for the whole sample firms. While, Columns (2) and (3) report the endogeneity test results for well-performing and poorly performing firms, respectively. Sargan and Basmann statistics indicate that the instrumental variables employed in the endogeneity tests are valid and are considered appropriate for the use in the regression model. Durbin and Wu-Haumsan statistics suggest that the exogeneity of regressor variables are acceptable. These results indicate that there is no concern arising from endogeneity.

<b>Table 4.11</b>			
<b>Endogeneity tests results</b>			
	(1)	(2)	(3)
	<b>Whole sample</b>	<b>Well-Performing</b>	<b>Poorly Performing</b>
<b>Sargan statistic</b>	1.523 (.524)	1.906 (0.781)	1.884 (0.142)
<b>Basmann statistic</b>	1.253 (0.540)	1.679 (0.787)	1.723 (0.185)
<b>Durbin statistic</b>	0.986 (0.501)	0.675 (0.745)	1.265 (0.239)
<b>Wu-Haumsan statistic</b>	0.892 (0.572)	0.530 (0.751)	1.349 (0.269)
This Table reports the endogeneity tests' results for all sample firms and for well and poorly performing firms, separately. `			
The Chi-square and the F values are given in parentheses.			

### 4.8 CONCLUDING REMARKS

This chapter provides answers to the research questions Q1a, Q1b, Q1c, Q2a, Q2b, Q2c, Q2d, & Q2e. It investigates theoretically and empirically the factors that may drive managers of firms to change FLFD over years for a large sample of the UK all-shares firms over an extended time period from 2005 to 2011.

Theoretically, firms' managers' decision to change their FLFD over years depends on 1) the likelihood that managers have new information to disclose relative to prior year, and 2) the cost of including more or less information in the narrative document. Managers that have new information relative to the prior year may disclose it voluntarily in order to 1) reduce information asymmetry, 2) signal their favourable results in case of good news information and 3) signal their capabilities and strengths for future growth in case of bad news information. Furthermore, the costs of including more or less information include the following: 1) direct costs of disclosure, 2) political costs, 3) proprietary costs, and 4) litigation costs.

The study estimates using the OLS regression with clustered robust standard errors and uses year-fixed effect. This estimation method accounts for any residual dependence created by firm effects (auto-correlation) and time effect (heteroscedasticity).

The correlation analysis provides evidence that change in FLFD is statistically correlated positively with changes in firm performance. In terms of firm characteristics, there are statistical positive correlation between change in FLFD and some firm characteristics such as firm size, competitive environment, and auditor type. However, negative correlation exists with other firm characteristics such as litigious environment and percentage of managerial ownership.

In the multivariate analysis, the study finds an association between change in firms' earnings performance and change in FLFD. However, it offers evidence that firms with larger changes in earnings performance are more likely to change their FLFD than those with smaller performance changes. Furthermore, when we distinguish between well and poorly performing firms, the study finds that change in FLFD is more positively associated with poorly performing firms compared to well-performing firms. These results are consistent with the managers' incentive theories and empirical research (e.g., Lang & Lundholm, 1993; Miller, 2002; Schleicher et al., 2007; Brown & Tucker, 2011; Merkley, 2014).

Furthermore, by holding changes in firm current earnings performance constant, the study finds that change in FLFD is associated positively (negatively) with firm size, (competitive environment), (litigious environment), and (percentage of managerial ownership). This result adds validity to the change score that change in the level of disclosure captures relatively new information. Obviously, the study finds that the auditor has no role in overseeing narratives. However, in the further analysis, it finds that the role of the auditor in overseeing narrative reporting is observable only when the firms are poorly performing.

This chapter offers two contributions to narrative reporting literature in general and forward-looking disclosure in particular. First, it contributes to the body of knowledge on methodological developments in the estimation method in empirical tests. The study uses OLS regression with robust standard error clustered by firm to mitigate the residual dependence problems caused by time effect (heteroscedasticity) and firm effect (auto-correlation). This estimation method accounts for the residual dependency problems frequently neglected in market-based accounting research (Gow, Ormazabal, & Taylor,

2010).

Second, to the best of our knowledge, this is the first UK evidence on the extent to which firms change their FLFD from the previous year in response to change in performance. The results help in understanding managers' behaviour while preparing narrative reporting. Given that IASB concerns about the informativeness of narrative disclosure, this study provides fresh evidence that FLFD in UK narrative statements includes some content about firm performance. The results are, also, helpful for wide range of stakeholders dealing with firms with different characteristics (e.g. large or small firms; good or poorly performing firms; facing more or less disclosure costs)

This study has implications for the emphasis in the UK regulatory bodies (e.g., IASB) on setting clear best practise guidance for narrative reporting such as OFR, business review and management commentary. In the UK, managers have flexibility in terms of the amount and content of narrative reporting. This room of discretion may encourage managers to strategically obscure the financial results of the company in their narrative discussion. In this case narratives are a mean for managers to mislead investors. Thus, guidance has to be set for managers while preparing their narrative discussions.

Furthermore, the results have important implications for users of annual report narratives. The importance of the narrative discussion and analysis in the annual report depends concomitantly on firm performance. In the UK, this narrative discussion is not currently subject to external audit or assurance. The results suggest that users of annual reports may desire some element of assurance that this narrative discussion is consistent with firm performance. The external auditors may be able and willing to provide such assurance. However, some enforcement actions from regulatory bodies may be required.

## **CHAPTER 4: MANAGERS' INCENTIVES TO CHANGE FLFD**

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The current study has some limitations which have to be considered as potential avenues for future research. First, it uses firm earning performance proxied by return on equity ratio as a measure for firm performance. The main limitation in this is related to using only just one variable to measure firm performance. Employing more than one variable to measure firm performance could be an area of interest for future research.

Second, it uses only two proxies for governance that are managerial ownership and auditor type. Not considering other corporate governance mechanisms such as the characteristics of the board of directors (e.g., Elshandidy et al., 2013) could be a limitation for the current study and, also, an area of interest for future research.

Chapter 5 will discuss the investors' response to change in FLFD. Particularly, it will examine the association between change in FLFD and the future value of a firm.

**CHAPTER 5 : ASSOCIATION BETWEEN CHANGE IN FLFD AND FIRM VALUE**

**5.1 OVERVIEW**

Exploring whether investors response to change in FLFD over years is the main objective of this chapter. Particularly, this chapter uses firm value at three months of the annual report date to measure the investors' response to changes in FLFD. The chapter discusses the theoretical expectations, the research design and the empirical results concerning the association between change in FLFD and firm value. Hence, it would provide an answer to the research question: Q3.

The chapter is outlined as flows. Section 5.2 discusses the relevant theories that explain the association between change FLFD and firm value. The review of the literature is discussed in section 5.3. It highlights the previous research on the association between disclosure and cost of capital in section 5.3.1, association between disclosure and firm value in section 5.3.2, and the economic consequences of FLFD in section 5.3.3. Section 5.4 highlights gaps in prior research. Section 5.5 develops the hypothesis of the current study. Section 5.6 presents the literature on variables that may affect the value of a firm (control variables). Section 5.7 details the research design. It draws on the variables' definitions and measurements in section 5.7.1, the empirical model on section 5.7.2, the statistical issues in section 5.7.3, and the sample selection and data collection in section 5.7.4. The results of the current study are presented in section 5.8. This section reports the descriptive statistics in section 5.8.1, the correlation analysis in section 5.8.2, the empirical results in section 5.8.3 and the further analysis and the robustness test in section 5.8.4. Section 5.9 provides the concluding remarks

### 5.2 THEORIES

Accounting information might play a vital role in capital markets. It is argued that “accounting information is relevant if it has a predicted association with equity market values” (Barth, Beaver, & Landsman, 2001, p. 79). It may serve the market participants through two main roles; valuation and stewardship roles. The valuation role of accounting information permits capital providers to evaluate the potential return of a certain investment opportunity (Beyer et al., 2010). Whilst, the stewardship role allows capital providers to manage and utilise their invested capital in a certain firm. More importantly, if we consider the information asymmetry problem, the role of accounting information in the market becomes even more obvious.

Healy et al. (1999) argue that disclosure can provide several benefits. First, it can help to correct any firm miss-valuation. Second, it can increase firm’s stock liquidity. Therefore, disclosure strategies may provide important means for corporate managers to convey their knowledge to outside investors (Healy & Palepu, 1993). Lang, Lins and Miller (2004) argue that higher market valuation is associated with better information environment. Consequently, informative disclosure adds some credibility to financial reports and enhances the investors’ perception of firms; in turn, such investors’ perceptions are reflected in firm value (Healy et al., 1999). Obviously, this assumption relies deeply on the quality of disclosed information to the market. Investors value disclosure if it is of high quality rather than being meaningless talk (boilerplate statements) from management.

The firm OFR statements are regarded as an important venue for investors to know more about the company from the eyes of the board of directors and through which managers can communicate what cannot be delivered by financial statements numbers.

Change in FLFD is, thus, expected to be useful. This is because as long as firms change their level of FLFD from year to year relatively new information is disclosed to investors.

In the current study, firm value<sup>42</sup> is used to measure investors' response to changes in FLFD. Theoretically, disclosure can affect the value of the firm either by affecting its cost of capital or its expected cash flow to its shareholders, or both (Diamond & Verrecchia, 1991, Hassan et al., 2009; Elzahar et al., 2015). Particularly, the study depends on the agency theory, finance theory, and efficient market hypotheses to explain the relationship between such information released as a result of changes in FLFD and firm value.

Agency theory is based on the separation of ownership and control, whereby the principal (shareholders or debt holders) delegate the responsibility to manage the firm to agents (managers), this separation of ownership and control create conflict of interest between principal and agent. Agents have much more information than principals which in turn led to asymmetry in terms of the information available to principles which causes uncertainty to shareholders (Jensen & Meckling, 1976). This problem is referred to as information asymmetry problem between management and investors. Investors usually do not have access to internal information about the company which is available to managers. One way to mitigate information asymmetry is to provide disclosure (Hassan et al., 2009).

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<sup>42</sup> Firm value is an economic measure that reflects the market value of the business as a whole and it takes into account the value of firm's debt. Both firm value and market capitalization are often used interchangeably. However, firm value provides more accurate valuation of the firm than market capitalization. Furthermore, Hassan et al. (2009) define firm value as the cash flow expected to be generated by the company in the future, discounted at company's cost of capital.. The cost of capital is the rate of return that the company has to provide to finance providers in order to induce them to buy and hold firm's financial security (Arnold, 2005). Hence, there are two factors that might affect firm's value: expect cash flows and cost of capital.

The agency theory might explain the effect of information on the value of a firm from two perspectives:

First, the information released by the firm decreases the information asymmetry between the management and the investors. This in turn reduces the uncertainty surrounding firm's future performance. This expectation is supported by Healy and Palepu (1993) who argue that the better the managers' disclosure behaviour, the higher the possibility that investors understand their business activities. Consequently, decrease in the uncertainty surrounding firm's future performance may affect its share price and consequently its value (Hassan et al., 2009; Hunter & Smith, 2009).

Second, disclosure could reduce the private benefits that controlling shareholders and management might get from controlling the firm (monitoring costs). This reduction in monitoring costs could increase the expected cash flow to investors (Coffee, 1999; Stulz, 1999) which in turn increases its value.

Finance theory, also, may provide a theoretical framework to explain how disclosure could affect the value of a firm.

Finance theory suggests that information could affect the value of a firm either by affecting its future cash flow or/and its cost of capital (Hassan et al., 2009). An investor's decision to buy or hold company's financial securities depends on his or her expectations regarding its future cash flows or its returns. This investor's expectations are based on exploiting all available information. The information released as a result of change in FLFD from year to year may help investors to build up their expectations about firm's future cash flows and its returns which in turn affect the value of this firm.

However, the information asymmetry problem may, also, arise among investors. This is

occurred when the level of information available to a particular investor is different from that to another investor. This problem may affect firm cost of capital through two main factors; estimation risk and stock liquidity.

In terms of estimation risk, disclosure may affect the firm cost of capital through its effect on the investors' estimation of the risk level which affects the required rate of return when acquiring a firm's shares (Coles, Loewenstein, & Suay, 1995; Clarkson, Guedes, & Thompson, 1996). The investors' estimation risk can be defined as "investor uncertainty about the parameters of the return- or cash flow- generating process" (Shanken & Lewellen, 2000, p. 2). The true parameters of security's future cash flow or return are unknown. Therefore, investors try to predict them using whatever information is available (Hassan et al., 2009). Investors' prediction always carries the risk of uncertainty. This uncertainty might arise because the amount of information available about alternative shares is different. For instance, there is significant variation in the level of voluntary information disclosed by different firms. This kind of uncertainty, caused by variation in information available about alternative securities, is usually called asymmetric estimation risk (Hassan et al., 2009)<sup>43</sup>.

This asymmetric estimation risk is believed to have a systematic component<sup>44</sup> and hence should be priced to some extent. Given that the systematic risk is common to all companies to a greater or lesser extent and cannot be eliminated by holding a

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<sup>43</sup> Coles et al. (1995: p. 347) explain this element of risk as a result of information asymmetry as follows:

"The standard theoretical analysis of portfolio choice and equilibrium asset pricing assumes investors know the parameters that govern the distribution of payoffs or returns of the various assets. But the investor must, in any application, estimate these parameters. For example, the investor may need to estimate the vector of means and covariance matrix of asset returns or payoffs. For some securities, the investor may have the same number of sample observations (information asymmetry problem does not exist). In this case, parameter uncertainty is said to be symmetric. In other cases, estimation is complicated by missing data and unequal numbers of observations on assets (information asymmetry problem exists), hereafter, asymmetric or differential parameter uncertainty"

<sup>44</sup>The Capital Asset Pricing Model (CAPM) defines the systematic risk as market beta.

sufficiently large portfolio (non-diversifiable), investors require higher returns for riskier securities in terms of systematic risk. This, in turn, means that this element of risk, the asymmetric estimation risk, increases the firm's cost of capital.

The second factor that might affect firm cost of capital is stock liquidity. The liquidity of stock can be defined as "a measure of the ease with which cash can be converted to an investment in the stock or vice versa. Illiquidity is driven by the explicit and implicit costs of buying or selling the stock" (Amihud & Mendelson, 2000, p. 9). There are three types of costs associated with liquidating the stocks: a) the transaction costs of trading such as commission, b) the adverse selection costs such as bid ask spread<sup>45</sup>, and c) the opportunity costs of liquidating stock. Obviously, the rate of return required by an investor when buying or selling a stock is positively associated with the liquidity costs of this stock.

Finance theory suggests that as long as the information asymmetry among investors increases, the liquidity costs increases. This, hereafter, reduces the stock liquidity and consequently increases the rate of return required by investors to invest in a firm shares. More clearly, an uninformed investor, who has no private information about the stock, requires a premium for the risk he bears as a result of trading with an informed investor, who has private information about the stock. This premium is argued to be an important component of the firm's cost of equity capital.

To conclude, disclosure is expected to reduce the information asymmetry problem either between managers and outside investors or among investors. This reduction in

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<sup>45</sup> "The bid and ask prices quoted for a stock are the prices at which investors can trade a small order instantaneously; a small sell order can be instantaneously executed at the market bid price, and a small buy order can be executed instantaneously at the ask price. The difference between the highest bid (buying) price and the lowest ask (selling) price- the bid-ask spread- thus represents a liquidity cost. A liquid stock has a narrow bid-ask spread, which implies a lower cost for an instantaneous "round-trip" transaction" (Amihud & Mendelson, 2000, p. 9).

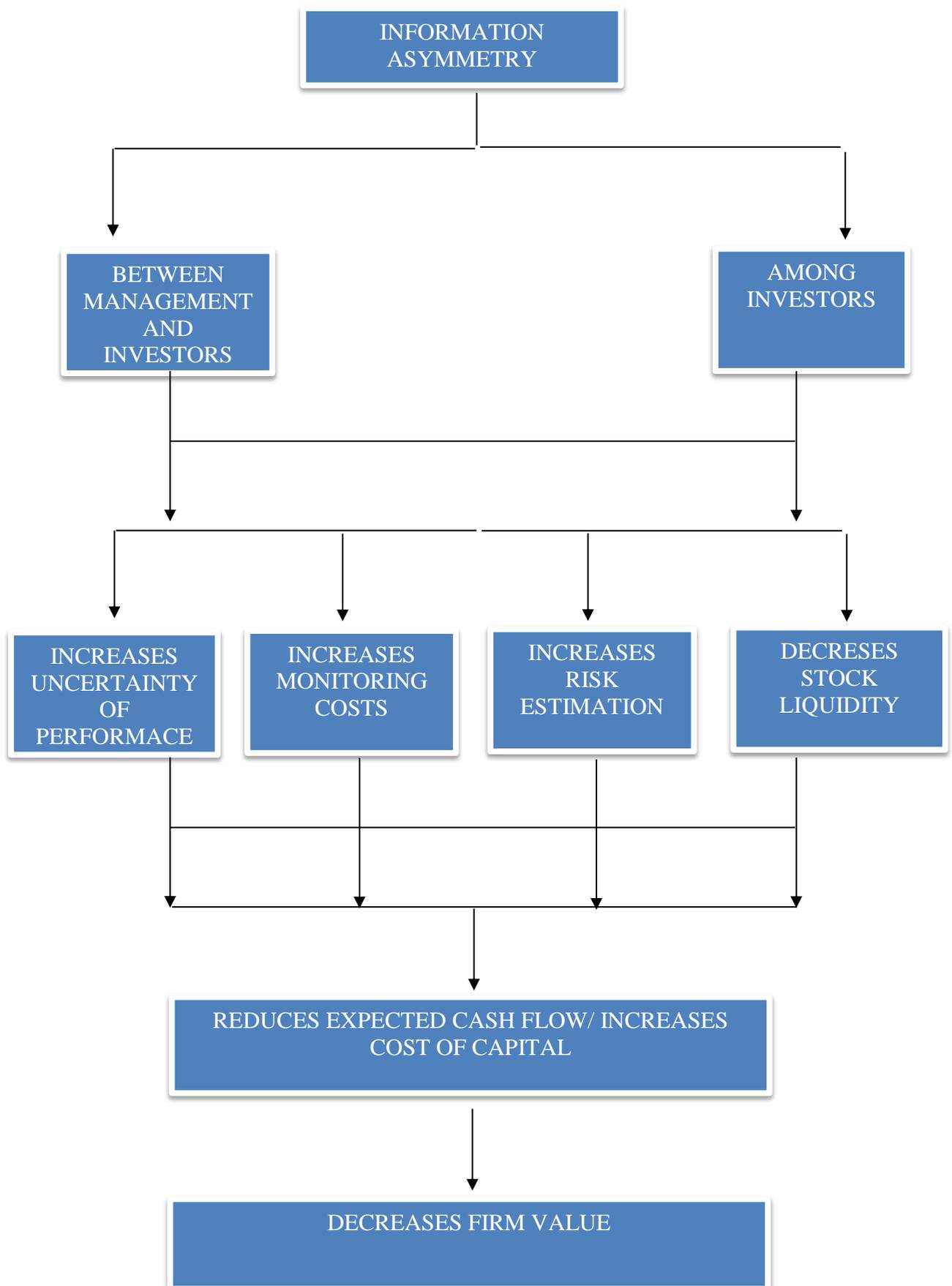
## **CHAPTER 5: CHANGE IN FLFD AND FIRM VALUE**

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information asymmetry reduces firm cost of capital, and increase expected cash flow. Since firm value is a negative (positive) function of its cost of capital (expected cash flow), it is expected that, ceteris paribus, reducing the firm cost of capital (the required rate of return) will increase its value. In addition increasing expected cash flow will enhance firm value.

For clarity, Figure 5.1 shows how information asymmetry might affect firm value.

Figure 5.1: Information asymmetry effect on firm value



Source: The author

Apart from information asymmetry, how information affects firm value could be explained in the light of Efficient Market Hypothesis (EMH). Simply, according to EMH, we expect change in FLFD to release considerable new information for investors. This information adjusts prices of a firm security either up or down. This in turn affects a firm value.

The idea beyond EMH is developed by Fama (1970). Fama (1970) argues that the market price of a security reflects the true price of the security as long as all available value relevant information is incorporated into security price. Thus, rational investors can determine the expected future cash flows of the security, its riskiness, and the appropriate discount rate. Fama (1970) distinguishes between three forms of the market based on the degree of efficiency; strong-form efficiency, semi-strong-form efficiency, and weak-form efficiency.

In the strong-form of market efficiency, the security prices reflect all available information and, thus, there is no chance for abnormal return. In the semi-strong-form of market efficiency, the security prices may be adjusted based on the public information disclosed and profit can be made via not publically available information. Finally, in the weak-form of market efficiency, the security prices follow random walk which means that security prices cannot be predicted by analysing prices from the past.

Ogden, Jen, and O'Connor (2003) argue that there are three degrees of market efficiency because there are some factors that may modify the efficiency of the market. Such factors include characteristics of security, issuer and market in which the security is traded, and the efficiency of technology available to gather and process information. Furthermore, they argue that if the market is perfectly efficient, there is no abnormal return, except when investors learn new information. In contrast, if the market is not

perfect, there will be a delay in change of stock prices. Consequently, this delay leads to adjustments in security prices and investors can benefit from it. This explains the importance of information.

The information disclosed is critical to an investor decision-making process and may have immediate pricing effect on securities market. Considering that changes in the level of disclosure release considerable new information. In this case, whatever the form of market efficiency, the security prices would be adjusted, either up or down, as a result of this new information. Accordingly, the participants of the market would not be able to obtain abnormal return because all information would be reflected in the security prices.

Overall and in sum, changes in FLFD reveal relatively new information to investors. This information might have an effect on the value of the firm through affecting its cost of capital or its expected cash flow. This could be explained from different perspectives. First, it decreases the information asymmetry between management and investors. This reduces the uncertainty surrounding firm's future performance which in turn affects its shares' price. Second, it reduces the private benefits that controlling shareholders and management might get from controlling the firm. This in turn increases the expected cash flow to shareholders. Fourth, disclosure affects the investors' estimation of risk level and, therefore, affects the required rate of return when acquiring a firm's shares. Fifth, it may reduce the liquidity costs, hereafter, increasing stock liquidity and, therefore, reducing the rate of return required by investors to invest in a firm's shares. Finally, consistent with efficient market hypothesis, stock prices are adjusted, move up or down, in response to information available.

Table 5.1 provides summary for the theories that explain the effect of information on

firm value.

<b>Table 5.1 Summary of theories explaining the effect of disclosure on firm value</b>	
<b>Theory</b>	<b>Explanation (summary)</b>
Agency theory	Information decreases the information asymmetry between management and investors. This may reduce the uncertainty surrounding firm's future performance which in turn affects its shares' price. Information reduces the private benefits that controlling shareholders and management might get from controlling the firm. This increases the expected cash flow to shareholders.
Finance theory	Investor uses information to build his decision to buy or hold firm's securities. Information reduces the cost of capital because it leads investors to reduce their estimation of the risk level, and therefore reduces the required rate of return when acquiring a firm's shares. Information reduces the liquidity costs, hereafter increasing stock liquidity and therefore reducing the rate of return required by investors to invest in a firm's shares.
Efficient Market Hypothesis (EMH)	Share prices are adjusted up and down in line with the information available
This Table summarises the theories that explain the effect of disclosure on firm value.	

On the other hand and despite of the above discussion, the effect of change in FLFD on firm value may not be visible. This may be because of one or more of the following reasons.

First, managers have flexibility in how and what information to disclose and so they may use their disclosure discretion to mislead investors (Marquardt & Wiedman, 2005). Li (2008) concludes that managers can use their discretion in preparing narrative reporting to strategically obfuscate the financial results. Furthermore, Athanasakou and Hussainey (2014) argue that managers use future oriented information when they have incentives to mislead and provide untruthful disclosure. If so, even if managers update their discussion according to changes in firm performance, investors will not have a

clear view of the business and therefore their response to FLFD in OFR statements may be faint.

Second, the doubt about the usefulness of OFR statements could be arising from the relative lack of the timeliness of the annual report publication time. Therefore, even if managers change FLFD of their firms in good faith and provide clear analysis regarding business performance, the information released is likely to be forestalled by other disclosure media.

Third, disclosure is not cost-free decision and firms' managers have concern about the costs of disclosure. For instance, proprietary costs of disclosure may prevent firms from providing informative disclosure. In addition litigation costs may reduce managers' incentives to provide informative narrative reporting.

The above three reasons make the investors' responses to changes in FLFD in OFR statements an empirical issue and, therefore, needs more investigation.

### 5.3 LITERATURE REVIEW

This section highlights the previous research on the effect of disclosure on firm value either directly or indirectly through its effect on the firm cost of capital<sup>46</sup>. In addition, this section reviews the empirical research on the usefulness of forward-looking disclosure.

The section is organized as follows. It starts by exploring the research that examines the relationship between disclosure and firm cost of capital. Then, it reviews the literature that directly investigates the relationship between disclosure and firm value. Finally, it presents the literature related to the economic consequences of the forward-looking disclosure.

#### 5.3.1 Disclosure and cost of capital

This research stream attempts to review the research that examines the effect of disclosure on firm value through its effect on cost of capital of a firm. The association between accounting information and firm cost of capital is one of the fundamental issues in accounting (Lambert, Leuz, & Verrecchia, 2007). It is argued that the value of the firm is a decreasing function of its cost of capital. In other words, the lower the firm cost of capital, the higher the firm value. A substantial prior research has examined the relationship between disclosure and cost of capital. This research suggests negative relationship between voluntary disclosure of a firm and its cost of capital.

Extensive studies have directly examined the relationship between voluntary disclosure of a firm and its cost of capital. One strand of this research has find that disclosure

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<sup>46</sup> There is a substantial research that explores the economic benefits of firm disclosure (e.g., Diamond & Verrecchia, 1991; Lev, 1992; Kim & Verrecchia, 1994; Elliot & Jacobson, 1994; Leuz & Verrecchia, 2000; Verrecchia, 2001; Hail, 2002; Lam & Du, 2004; Lambert et al., 2007; Francis, Nanda, & Olsson, 2008; Kim & Shi, 2011; Sadka, 2011; Lang & Maffett, 2011; Ng, 2011;)

improves cost of equity capital and, thus, reports a negative relationship between disclosure level of a firm and its cost of capital. For instance, Botosan (1997) find a negative relationship between firm disclosure and its cost of equity capital. However, this result is documented only for firms with lower analyst following.

Hail (2002) investigates the association between disclosure quality and the cost of equity capital for sample of Swiss firms. He finds a strong negative relationship between a firm disclosure and its cost of capital. In addition, Rashid (2000) examines the association between firm disclosure and its cost of capital. He uses sample from retail banks listed within the London Stock Exchange. He finds negative association between disclosure and cost of capital, suggesting that banks with higher disclosure score experience lower cost of capital.

Furthermore, Francis, Nanda, & Olsson (2008) find negative relationship between voluntary disclosures, measured using the number of conference calls made by firms, and the cost of capital; however, this relationship disappears after they control for earnings quality. In addition, Barth, Konchitchki, and Landsman (2013) find that firms with high transparent earnings exhibit lower costs of capital.

Using Corporate Social Responsibility (CSR) information as a proxy for voluntary disclosure, the prior research documents either negative or non-significant relationship between CSR disclosures and cost of capital. For instance, Clarkson, Fang, & Richardson (2011) find non-significant association between firms' environmental disclosure and their costs of capital. On the other hand, some prior research (e.g., Plumlee, Broen, & Marshall, 2009; Dhaliwal et al., 2009) finds negative association between firm CSR disclosure level and its cost of capital. This result suggests that firms with greater CSR disclosure exhibit lower costs of capital. Furthermore, they

demonstrate that a high level of CSR disclosure has some other economic benefits such as increasing institutional shareholder ownership, improving analyst coverage, enhancing analyst forecast accuracy and reducing analyst forecast dispersion.

Moreover, Kim and Shi (2011) use management earnings forecasts as a proxy for voluntary disclosure. They examine association between the tone of management earnings forecasts (good news vs. bad news) and cost of capital. They find a positive association between bad news forecasts and cost of capital suggesting that bad news information increase the cost of capital. On the other hand, they find no association between good news forecast and cost of capital meaning that good news information has no effect on the firm cost of capital. They suggest that the cost of capital does not respond to good news forecasts because investors presume that they do not provide credible information.

On the other hand, Botosan and Plumlee (2002) re-examine the association between firm corporate disclosure and its cost of capital. In contrast to their expectation, they find that increase in the level of disclosure is associated with a higher cost of capital. Then, they examine whether the relationship between disclosure and cost of equity capital varies based on the timing of disclosure. Their results suggest that annual report disclosure reduces the cost of equity capital; however, disclosure of quarterly reports increases the cost of equity capital. They do not report any association between investor relations and cost of equity capital.

Besides, limited prior research examines the effect of disclosure on cost of capital through examining the effect of disclosure on asymmetric estimation risks. It is argued that market beta is an increasing function of asymmetric estimation risk (Hassan,

2006)<sup>47</sup>. Consequently, prior research suggests negative relationship between disclosure and market beta. For instance, Clarkson and Thompson (1990) investigate the relationship between information available about stock and market beta using sample of US initial public offering (IPO). They argue that information is increasing overtime and they used the listing period as proxy for the amount of information available for stock. They find negative association between amount of information available about stock and market beta. This result suggests a negative relationship between disclosure and cost of capital. However, time cannot capture the difference in information among different firms, so it may not be an effective proxy for the quantity of information (Barry & Brown, 1985).

In addition, Lam and Du (2004) investigate the relationship between disclosure and market beta. Their preliminary evidence suggests negative association between disclosure and market beta and consequently negative association with cost of capital. However, the regression analysis does not support such association. They add that their results may not be generalizable because their data were very noisy.

Furthermore, some prior research examines the association between disclosure and some other variables that may indirectly affect firm cost of capital between. For instance, Healy et al. (1999) find that firms with increased level of disclosure experience improvements in the bid ask spread. In addition, Lambert et al. (2007) demonstrate that better disclosure reduces the amount of managerial appropriation. This effect generally reduces a firm's cost of capital.

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<sup>47</sup> Market beta increases as long as asymmetric estimation risks increase and, consequently, firm cost of capital increases.

### 5.3.2 Disclosure and firm value

This research stream attempts to explore the research that directly links disclosure to firm value. It is suggested that disclosure could affect the value of the firm either by affecting its cost of capital or/and its expected cash flow that accrue to its shareholders. However, there is a lack of empirical research that directly investigates the relationship between disclosure and firm value.

For instance, Patel, Balic and Bwakira (2002) use Standard and Poor's dataset on Transparency and Disclosure (T&D) scores to examine the relationship between T&D scores and firm value. Their results suggest that firms with higher T&D scores have higher value compared to firms with lower T&D scores. However, they do not control for variables that may influence firm value causing an omitted variable bias problem.

In addition, Beak, Kang and Park (2004) use the listing in ADR as proxy for disclosure quality to examine the relationship between disclosure quality and firm value. Their results suggest positive association between ADR listing (disclosure quality) and firm value. Furthermore, Da-Silva and Alves (2004) examine the relationship between internet disclosure and firm value. They find that firm value is positively associated with internet disclosure.

Hassan et al. (2009) find that the relationship between disclosure and firm value depends on the type of disclosure: mandatory vs. voluntary disclosure. They find negative association between firm value and mandatory disclosure made by Egyptian firms. However, they report non-significant relationship between firm value and voluntary disclosure. Further, Clarkson et al. (2011) and Plumlee et al. (2010) find positive association between voluntary disclosure and firm value.

Recently, Elzahar et al. (2015) examine the effect of the disclosure of Key Performance Indicators (KPIs) on cost of capital and directly on firm value. They find significant negative relationship between the disclosure of KPIs and the cost of capital. However, they find weak positive relationship between disclosure of KPIs and firm value.

Apart from the type of disclosure, Uyar and Kiliç (2012) find that the relationship between disclosure and firm value depends on the measure of firm value; *market to book value vs. market capitalization*. They find that disclosure is positively associated with market to value measure of firm value. However no significant association exist when market capitalisation is used.

### 5.3.3 Economic consequences of FLFD

Prior empirical research examines the economic consequences of the disclosure of forward-looking information through the impact of this type of information on different variables. It finds that the publication of forward-looking information is associated with 1) the prediction of future performance, 2) the accuracy of analyst forecasts, and 3) anticipation of the stock price.

For instance, Clarkson, et al. (1994) find that the publication of forward-looking information in the annual reports is informative with respect to future performance. In addition, they provide evidence that the change in forward-looking disclosure level in MD&A is positively associated with future firm performance. This evidence suggests that forward-looking disclosure in MD&A provides value relevant information. Furthermore, Li (2010a) examines whether forward-looking statements in MD&A are informative about future performance. He finds that forward-looking statements in MD&A are informative with respect to future firm performance.

Large body of prior research focuses on the association between forward-looking disclosure and financial analyst forecasts. Generally, Lang and Lundholm (1996) report that analysts rely on value relevant information in deriving their forecasts. Such findings support Lev and Zarowin's (1999) argument that the value relevance of historical information is decreasing. In terms of forward-looking disclosure, Barron et al. (1999) find that higher levels of forward-looking disclosure about capital expenditure and operations are associated with more accuracy in the analyst forecasts.

Furthermore, Walker and Tsalta (2001) find a positive association between analyst forecasts and the quality of forward-looking disclosure published in the UK annual reports. Moreover, Vanstraelen et al. (2003) find that disclosure of forward-looking information increases analysts' accuracy of forecasts, whereas historical information does not affect the accuracy of analysts' forecasts. Furthermore, Bozzolan et al. (2009) argue that forward-looking information reflects the expected impact on firm performance and hence is considered effective at improving the accuracy of analyst forecasts.

A further group of research examines the effect of publishing forward-looking information in the annual reports on the stock market. This research assesses the usefulness of forward-looking statements in narrative reporting, by their impact on future earnings. For example, Muslu et al. (2011) examine whether disclosure of forward-looking information in MD&A helps investors to anticipate future earnings. They find that additional disclosure of forward-looking information in MD&A helps investors to anticipate future earnings especially when there no earning guidance.

On the other hand, some prior research focuses on the association between disclosure of forward-looking information and future return in the UK narrative reporting. Schleicher

and Walker (1999) and Hussainey et al. (2003) provide evidence that high levels of forward-looking disclosure in the narrative statements of the annual report improve the ability of stock market to anticipate future earnings changes.

Moreover, Schleicher et al. (2007) find that the ability of stock returns of loss firms to anticipate next period's earnings change is significantly greater when the firm provides a large number of profit predictions in the annual report narratives. Furthermore, Wang and Hussainey (2013) find that forward-looking information in the OFR statements of well-governed firms improves the stock market ability to anticipate future earnings.

### 5.4 THE CURRENT STUDY

There is a limited literature that directly examines the relationship between firm value and disclosure (e.g., Patel et al., 2002; Da-Silva & Alves, 2004; Hassan et al., 2009; Clarkson et al., 2011; Plumlee et al., 2010). This is may be because the fact that the association between disclosure and firm value may be perceived as a logical conclusion rather than hypothesis to be tested. For instance, some prior research examines the relationship between disclosure and firm value through its effect on firm cost of capital (e.g., Botosan & Plumlee, 2002; Kim & Shi, 2011). Their empirical findings support the positive relation between the two variables. Consequently, they suggest a positive association between disclosure and firm value. The current study investigates directly the relationship between FLFD and firm value.

Prior empirical research assesses the investors' response to the publication of forward-looking information by their impact on future performance (e.g., Li, 2010a), accuracy of analyst forecasts (e.g., Bozzolan et al., 2009), and future earnings (e.g., Wang & Hussainey, 2013; Muslu et al., 2011). To the best of our knowledge, there is no prior empirical research that directly investigates the relationship between the publication of forward-looking statements and firm value in the UK. Furthermore, research that investigates investors' response to the UK OFR statements is limited (Wang & Hussainey, 2013). The current study uses a sample from the UK to examine the association between the change in FLFD in OFR statements and firm value.

Various theoretical models predict that a firm commitment to disclosure is negatively related to its cost of capital (e.g., Diamond & Verrecchia, 1991; Easley & Mauren, 2004; Lambert et al., 2007). Despite of its importance and plausibility, the nature of this link is still an open question. Empirical literature provides cross-sectional evidence that

firms with more extensive voluntary disclosures exhibit less information asymmetry and have a lower cost of capital. However, there are substantial concerns about whether this relation can be interpreted in a causal way. Firms are likely to choose disclosures with the effect on their cost of capital in mind, creating an endogeneity problem for which it is difficult to find valid instruments. The current study uses an alternative strategy which is the use of a change measure of narrative disclosure. As stated by Li (2010b) using change methodology in measuring narrative disclosure may mitigate the problem of endogeneity.

Research that directly examines the relationship between disclosure and firm value provides cross-sectional evidence that firms with more disclosure exhibit high values. Panel data analysis is rarely used. Cross sectional analysis suffers from many problems such as heteroscedasticity and auto-correlation. Accordingly, there is a substantial concern about the validity of results. The current study uses a panel data analysis technique (OLS with robust standard errors) to solve the problems associated with cross-sectional analyses (Petersen, 2009).

### 5.5 HYPOTHESES DEVELOPMENTS

The informativeness of forward-looking disclosure is still under-research (Wang & Hussainey, 2013). The OFR statements are considered to be as an important venue for investors to know more about the company from the eyes of the board of directors, and through which managers can communicate what cannot be delivered by financial statements numbers. The change in FLFD is, thus, expected to be useful as it reveals much considerable new information for investors.

This information is expected to help investors to build up their expectation about firm future cash flows which in turn affects the value of the firm. In addition, it is expected to affect stock liquidity through its impact on liquidity costs, and the demand for firm shares. In addition, this information is likely to have an effect on investors' estimation of risk and consequently the rate of return required by investor to buy firm share. Consequently, there will be an impact on the cost of capital which affects the value of the firm. Furthermore, this information might have particular impact on the firm value through its influence on the expected cash flow that may accrue to shareholders through its effect on the monitoring costs. Finally, information causes stock prices to move up and down which in turn affects the value of the firm in the market.

A review of literature indicates that empirical studies have focused on examining the association between disclosure level and cost of equity (e.g., Hail, 2002; Lam & Du, 2004; Francis et al., 2008; Kim & Shi, 2011). Limited research exists with respect to the direct association between disclosure level and firm value (e.g. Hassan et al., 2009; Elzahar et al., 2015).

The empirical evidence regarding the influence of disclosure on firm value is still

inclusive. Some studies maintain that narrative disclosure adds to firm value (e.g., Beak et al., 2004; Cheung et al., 2010; Elzahar et al., 2015) while others (e.g., Hassan, et al., 2009) do not find evidence to support this assumption. Obviously, the association between change in FLFD and firm value has not been investigated in prior research.

Based on the review of the theories and literature, it is expected that change in FLFD may affect the value of a firm. Therefore, the current study hypothesises that:

**H3: An association exists between the change in forward-looking financial disclosure and firm value in UK narratives.**

### 5.6 CONTROL VARIABLES AND FIRM VALUE

In order to provide accurate and more generalizable results, the study controls for variables identified from prior research that might affect firm value (e.g., Hassan et al., 2009). The use of control variables reduces the potential omitted variable bias (Ntim et al., 2012a). Therefore, the study controls for the following variables: firm size, firm current earnings, firm leverage, firm dividend, firm liquidity, firm growth, firm capital expenditure, and firm managerial ownership.

#### 5.6.1 Firm size

Firm size is widely used variable in prior research. It is regarded as an important factor that influences firm performance (Eisenberg et al., 1998; Samaha et al., 2012). This may be because larger firms have more resources than smaller firms. Larger firms are more likely to employ more skilled managers; in addition, they may find easily secure external finance (Black, Jang & Kim, 2006a; Black, Love, & Rachinsky, 2006b). Furthermore, they tend to have a large asset base that can be used as collateral (Baek et al., 2004). Therefore, larger firms are expected to have higher values than smaller firms.

Consistently, some prior empirical research reports a positive association between firm size and its value (e.g. Baek et al., 2004; Hassan et al., 2009; Liu, Uchida & Yang, 2010). On the other hand, other prior research (e.g, Black et al., 2006a&b; Cho & Kang, 2002; Ammann, Oesch & Schmid, 2009) find a negative association between firm size and its value, suggesting that larger firms have lower values. This negative relation may be because small firms tend to enhance their governance mechanisms which in turn affect their values (Klapper & Love, 2004).

Based on these mixed arguments and findings, the relationship between firm size and

firm value is still an empirical issue that requires more examination. Consequently, this study adds the firm size to the analysis as a control variable.

### **5.6.2 Firm current earnings**

Generally, investors pay much more attention to the firm's earnings level (Merkly, 2014). Thus, firms that report higher earnings may signal their good performance information to their investors. It might be perceived that these firms have competitive advantages that enable them to achieve higher profits which positively affect shareholder value. In addition, firms with high earnings are perceived as firms with more growth opportunities. Furthermore, prior research argues that firm's earnings influence positively its market value (Henry, 2008; Hassan et al., 2009; Price, Roman, & Rountree 2011). Therefore, firms that have higher earnings may be perceived to have higher value because investors expect this level of good earnings to be maintained in the future (Chaney & Lewis, 1995).

Empirically, some prior research, consistently, finds a positive relationship between earnings levels and firm value (e.g., Hassan et al., 2009; Elzahar, 2013). Based on the above discussion, positive relationship is expected between firm's earnings and its value.

### **5.6.3 Firm leverage**

The association between leverage and firm value can be explained from two different perspectives. First, leverage may have positive effect on firm value. This may be because the following: a) tax deductibility on borrowing might cause decrease in the cost of capital which increases firm value (Hodgson & Stevenson-Clarke, 2000), and b) debt may be used as monitoring tool by creditors (Jensen, 1986; Hart & Moore, 1990; Jensen, 1993). Lins (2003, p. 169) argues that "I control for debt to account for the

possibility that creditors are able to lessen managerial agency problems". Thus, creditors are expected to act as external monitors that could provide a beneficial governance role in reducing managerial agency problems. Consistently, Haniffa and Cooke (2002) argue that firms' existing debt may help the board of directors in their monitoring role. Furthermore, it is suggested that firms with high leverage tend to have large investments and thus higher earnings growth (Murekefu & Ouma, 2012). Empirically, McConnell and Servaes (1985) find positive relationship between corporate value of firm and its leverage.

Second, on the other hand, leverage may negatively affect the value of a firm. Leverage may be a signal of potential financial problem or increase in the cost of capital (Henry, 2008). Hence, negative effect of leverage on firm value is expected. Some prior research suggests a negative relationship between leverage and firm performance (Ammann et al., 2009; Jackling & Johl, 2009; Mangena, Tauringana, & Chamisa, 2012).

Based on the above discussion, the relationship between firm leverage and firm value is an empirical issue that still requires examination. Consequently, this paper adds leverage to the analysis as a control variable.

### **5.6.4 Firm dividends**

Dividends distribution is one of the most important financial decisions by management. The payment of dividends is preferable if it increases the owners' wealth. However, if it does not, the firm should not pay dividends and retain profit.

The effect of dividends payment on firm value can be explained from two different perspectives. First, firms may increase their dividends pay-out. This is to a) signal that they have expected future cash flows that are sufficiently large to meet dividend

payment without increasing the probability of bankruptcy, or/ and b) to reduce the agency problem between managers and shareholders which in turn enhances firm value to shareholders (Dhanani, 2005). Consistently, prior research shows that the value of the company increases because dividends are taken as signals that the firm is expected to have higher future cash flows (Miller & Rock, 1985).

Second, however, the dividends initiation signal the good profitability and cash flow for the initiating firms, this may limit management ability to make future investments which in turn lowers firm value (Officer, 2011). Consistently, Officer (2011) finds that firms with a low firm value (Tobin's Q) have significantly more positive dividends initiation announcement returns than other firms. However, an association may exist between lower dividends and lower growth because of the suboptimal investment decisions by management (Arnott & Asness, 2003).

Given these mixed perspectives on the association between firm dividends and its value, this study empirically examines the relationship between dividends payment and firm value. Thus, we may expect positive or negative relationship between the two variables.

### **5.6.5 Firm liquidity**

Liquidity might play a vital role in enhancing the value of the firm. Signalling theory suggests that firms with increasing liquidity tend to signal their favourable liquidity results in order to signal their capabilities to their investors. Furthermore, firms with high liquidity have greater freedom to invest than those with low liquidity status which in turn affects its value. Additionally, liquidity might affect management decision to pay dividend which in turn affect firm value.

Conversely, firms experiencing liquidity shocks can turn to external capital markets or

internally generate cash flow or may curtailing new investments (Beak et al., 2004). Given that prior research (Fazzari, Hubbard, & Petersen, 1988; Hoshi, Kashyap, & Scharfstein, 1991; Whited, 1992) find significant positive association between liquidity and investment level, thus this liquidity shock might affect the growth opportunities of the company and therefore affects its value. Furthermore, firms with greater liquidity are subject to smaller stock prices reduction (Liu et al., 2010). This in turn enhances firm value.

Based on the above discussion, this study expects positive association between a liquidity of a firm and its value.

### **5.6.6 Firm growth**

Firm growth is closely related to firm survival. More precise, firms experiencing continuous growth will have higher probability of survival in the market.

Theoretically, the firm growth is accompanied by an increase in its business activities (Henry, 2008). This implies an increased need for external capital (Beiner, Drobetz, Schmid, & Zimmermann, 2006; Chung & Zhang, 2011). It is argued that firms with better growth opportunities are more attractive and, thus, are more likely to receive better valuation (Henry, 2008).

Empirically, prior studies support the above argument and find a positive and significant relationship between firm growth and firm performance (e.g., Haniffa & Hudaib, 2006; Henry, 2008). Therefore, positive relationship is expected between firm growth and its value

### 5.6.7 Capital expenditure

Capital expenditure is related to firm's investment policy. This policy is usually done when the firm aims to expand its business through expansion of its production capacity, modernization or building new factories. Furthermore, one of the main determinates of a firm growth is its capital expenditure (Pfeffer, 1972; Pearce & Zahra, 1992). Therefore, increase in capital expenditure may have significance to make the value of the company increase. Empirically, McConnell and Muscarella (1985) find that the announcement of an increase (decrease) in capital expenditure has positive (negative) effect on stock return. However, this requires enhanced monitoring by board of directors to protect the shareholders' wealth (Nicholson & Kiel, 2007; Conyon & He, 2011).

Empirical research on the relationship between capital expenditure and firm performance reports mixed results. On one hand, Weir, Laing and McKnight (2002), and Haniffa and Hudaib (2006) find a positive relationship between capital expenditure and firm performance. While, on the other hand, Jackling and Johl (2009) and Mangena et al. (2012) find a negative relationship between the two variables.

Based on the above argument, positive association is expected between firm capital expenditure and its value.

### 5.6.8 Managerial ownership

The previous literature has shown mixed results with respect to the impact of managerial ownership on the value of a firm. For instance, Morck et al. (1988) report that, at relatively low and high levels of ownership, the value of a firm is positively associated with its level of managerial ownership. However, this relationship turns out to be negative at the medium level of the percentage of the managerial ownership.

On the other hand, Cheng, Su, and Zhu (2012) find that management entrenchment causes the association between managerial ownership and firm value to be negative at low and high levels of ownership. In turn, this relationship becomes negative between the two variables at the medium level of ownership due to a convergence of interests effect.

Based on the above discussion, the relationship between managerial ownership and firm value is an empirical issue that still requires examination. Consequently, this paper adds managerial ownership to the analysis as a control variable.

### 5.7 RESEARCH DESIGN

This part explains the research design of the current study. It is outlined as follows. Section 5.7.1 details the definitions and measurements of variables. The empirical model and the statistical issues are discussed in sections 5.7.2 and 5.7.3, respectively. Finally, section 5.7.4 explains the sample and the collection of data.

#### 5.7.1 Variables: Definitions and measurements

This section defines the variables employed in this study and explains how each variable is measured. It starts by defining the dependent and independent variables then show how the variables are measured.

##### 5.7.1.1 *Dependent variable*

To examine investors' response to the changes in FLFD, firm value is used as dependent variable in this study. Following prior research (e.g., Ntim, Opong, & Thomas, 2012b; La porta, Lopez-de-Silanes, & Shleifer, 2002; Lins, 2003), the Tobin's Q ratio is used as a measure of the value of a firm.

Tobin's Q is defined as "the ratio of the market value of the outstanding financial claims on the firm to the current replacement cost of the firm's asset" (Lewellen & Badrinath, 1997, p. 77-78). The idea is that the replacement cost is a logical measure of the alternative use-value of the assets (Hassan et al., 2009). If Tobin's Q is greater than 1, this means that the company exceeds its assets replacement costs and thus the perceived value of a firm by its shareholders will increase due to effective use of firm assets and vice versa. The Tobin's Q ratio is a market based measure and reflects the current stock market value of the firm (Thomsen, Pedersen, & Kvist, 2006) and it measures the extent to which the firm is expected to earn more than the average return on its invested capital

(Abdullah & Page, 2009).

Some prior research (e.g., Bauer et al., 2010; Epps & Cereola, 2008) uses the return on assets ratio as a measure for firm value. The return on assets ratio has been criticised as a measure of a firm value due to the following reasons. First, it is dependent on the estimated value of firm assets which is based on historical costs rather than market values. In addition, the values of firm assets may be changed based on change in the accounting policies such as depreciation method. Second, the return on assets may be manipulated by firm management because of the flexibility given in the estimation methods (Lev & Sunder, 1979). Third, beside the above criticisms, the return on asset ratio focuses entirely on back word orientation as it depends on historical data.

The current study uses the natural logarithm of Tobin's Q three months after the date of the annual report<sup>48</sup>. The study refers to this variable as  $\text{LnTQ}_{+3}$ . Following prior research (e.g., Beak et al., 2004; Klapper & Love, 2004; Beiner et al., 2006)  $\text{TQ}_{+3}$  is computed as  $[(\text{total debt} + \text{market value of equity}) / \text{book value of total assets}]$ . All the data used in measuring  $\text{TQ}_{+3}$  is collected from Datastream. Total debt is the Datastream item (WC03255) and book value of total assets is the Datastream item (WC02999). The market value of equity is calculated as the number of outstanding shares at the year-end, Datastream item (WC05301), multiplied by the market value of the share at three months after the date of annual report (the closing price of the share at three month of the annual report date which has not been historically adjusted for bonus and rights

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<sup>48</sup> In principle, Hassan et al. (2009) allow six months after the financial year-end, assuming that the annual report is usually published three months later, and then allow three months to capture information disclosed. Following prior research in the UK (e.g., Hussainey et al., 2003) the value of a firm is calculated at three months after its annual report date. To be more precise, each firm's annual report publication date is identified when the stock price over three months is calculated.

issues.)<sup>49</sup>. The procedures to use market value of equity three months after the date of annual report is to ensure that stock prices capture the new information released by change in forward-looking financial disclosure.

### *5.7.1.2 Independent variables*

#### *5.7.1.2.1 The change in the level of FLFD*

The change in the level of FLFD represents the absolute change in the level of FLFD between year t and year t-1. For more details about how this variable is measured, please see chapter (3) sections 3.4 & 3.5

#### *5.7.1.2.2 Control variables*

These variables include: firm size, firm current earnings, firm leverage, firm dividend, firm liquidity, firm growth, firm capital expenditures, and firm managerial ownership.

***Firm size:*** It is measured as the natural logarithm of market value of equity at the end of the current year and refers to the variable as LnMK. The data of the market value of equity at the end of the current year is collected from the DataStream. The Datastream code for the market value of equity at the end of the current year is (WC08001).

***Firm current earnings:*** It is measured using a firm's return on equity ratio and refers to the variable as ROE. This variable is collected from Datastream. The Datastream code for ROE is (WC08301).

***Firm leverage:*** It is measured using the firm's debt-to-equity ratio and refers to the variable as Lev. The variable data is collected from Datastream. The Datastream code for Lev is (WC08231).

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<sup>49</sup>This figure, therefore, represents the actual or raw prices of the shares as recorded.

***Firm dividend:*** It is measured using the dividend yield ratio and refers to the variable as DY. The data of DY is collected from DataStream. The DY is the Datastream code (WC09404).

***Firm liquidity:*** It is measured using the current ratio, and refers to the variable as CR. The CR data is collected from the DataStream. The current ratio is the Datastream code (WC08106).

***Firm growth:*** it is measured as the firm's sales growth ratio at 3 years and refers to the variable as GRTH. This variable is collected from Datastream. The Datastream code of firm's sales growth ratio is (WC08633).

***Firm capital expenditures:*** It is measured using the capital expenditures-to-assets ratio at 5 years and refers to the variable as CAPEX. This variable is collected from DataStream. The Datastream code of capital expenditure to asset ratio is (WC08420)

***Firm managerial ownership:*** It is measured as the percentage of total shares in issue of 5% or more held by employees, or by those with a substantial position in a company that provides significant voting power at an annual general meeting. It is referred to this variable as %MO. The data for this variable is collected from Datastream. This variable has a Datastream code (NOSHEM).

Table 5.2 delineates the variables and identifies the measurement for each variable.

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<b>Table 5.2 Variables: Definitions and measurements</b>		
<b>Definition</b>	<b>Acronym</b>	<b>Operationalization</b>
Firm value	LnTQ <sub>+3</sub>	Natural logarithm of Firm's Tobin's Q three month after the date of annual report: Tobin's Q = [(total debt + market value of equity) / book value of total assets]. Total debt is the Datastream item (WC03255) and book value of total assets is the Datastream item (WC02999). The market value of equity is calculated as the number of outstanding shares at the year-end, Datastream item (WC05301), multiplied by the market value of the share at three months after the date of annual report (closing price).
Change score in FLFD	\DeltaFLFD	Change score in FLFD as measured in chapter 3 sections 3.4 & 3.5.
Firm size	LnMK	Natural logarithm of market value of equity at the end of the current year. Datastream code (WC08001).
Current earnings	ROE	Firm return on equity. Datastream code (WC08301).
Leverage	Lev	Debt to equity ratio. Datastream code (WC08231).
Dividend	DY	Dividend yield ratio. Datastream code (WC 09402)
Liquidity	CR	Current ratio. DataStream code (WC08106).
Firm growth	GRTH	Firm sales growth ratio. Datastream code (WC08633).
Capital expenditure	CAPEX	Capital expenditure to assets ratio. Datastream code (WC08420).
Managerial ownership	%MO	The percentage of total shares held by employees, or by those with a substantial position in a company that provides significant voting power at an annual general meeting. Datastream code (NOSHEM).
This Table provides the definitions and variables of the variables		

**5.7.2 Empirical model**

The following model, Model 2, is developed to test the hypothesis related to investors' response to the changes in FLFD which is H3. Particularly, this model examines the association between firm Tobin's Q and the change in its FLFD.

$$\begin{aligned}
 LnTQ_{+3} = & \beta_0 + \beta_1|\Delta FLFD| + \beta_2LnMK + \beta_3ROE + \beta_4Lev + \beta_5DY + \beta_6CR \\
 & + \beta_7GRTH + \beta_8CAPEX + \beta_9\%MO + Year\ Fixed\ Effect \\
 & + Industry\ Fixed\ Effect \\
 & + \varepsilon
 \end{aligned}
 \tag{2}$$

Where:

- $\beta_0$                       The regression intercept
- $\beta_1, \dots, \beta_9$         The regression coefficients
- $\varepsilon$                     The error term

Table 5.2 summarises the definitions and measurements of the variables

**5.7.3 Statistical issues**

The study estimates using the same econometric procedures used in model (1) in chapter 4, section 4.5.3. Summary of these statistical issues is provided below.

The study estimates model (2) using OLS regression with clustered robust standard errors. This method allows standard errors to be clustered by firms in order to account for any residual dependence created by firm effects. The clustered standard error is used to mitigate the problem of time series dependence (auto-correlation). Petersen (2009) shows that this estimation method yields unbiased standard errors and consequently would improve the accuracy of the analyses. In addition, the study uses the year-fixed effect to address the effect of cross-sectional dependence or time effect (heteroscedasticity). In addition, the industry-fixed effect is used to control for industry-specific characteristics that may affect firm value. We do not cluster by years in the

analysis because the panel data set is short in the time series and clustering by six years may only add noise to the system (Petersen, 2009). To mitigate the effect of outliers, all continuous variables are winsorised at the 1<sup>st</sup> and 99<sup>th</sup> percentile.

### 5.7.4 Sample selection and data collection

The current study examines the association between changes in FLFD and the firm value for FTSE all shares firms listed in the main market of the London Stock Exchange over the period from 2005 to 2011<sup>50</sup>. The sample of the current study is the same as that of chapter 4 section 4.5.4. It consists of 1912 firm year observations. Please, check the following Tables in chapter 4: Table 4.2 which displays the sample selection process, Table 4.3 which shows the distribution of the sample amongst industries, and Table 4.4 which presents different titles that report the OFR contents.

As previously mentioned, all financial data is collected from the Datastream.

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<sup>50</sup> However, because we calculate change in FLFD from the previous year, we lose one year observations, particularly, the observations of the year 2005.

### 5.8 THE RESULTS

This part reports and discusses the results of the current study. It starts with reporting the descriptive statistics of the variables in section 5.8.1. Then, it displays the correlation analysis in section 5.8.2. Section 5.8.3 reports and discusses the regression results of model 2. Finally, further analysis and robustness test are introduced in section 5.8.4.

#### 5.8.1 Descriptive statistics

Panel A of Table 5.3 shows the descriptive statistics of the firm value ( $\text{LnTQ}_{+3}$ ) for all sample firms and by years. The maximum value of  $\text{LnTQ}_{+3}$  in the sample firms is 0.894 while the minimum value is -0.823. This range indicates that a variation exists between the UK firms in terms of their values. The sample firms have an average value of -.0106. There are some variations in the mean value of  $\text{LnTQ}_{+3}$  over the sample period. It was 0.230 in 2006 then decreased to -.171 and -.127 in 2007 and 2008 respectively. Then, decreased again in 2009 and become -.000020 and increased in 2010 to -.030 and continued to increase in 2011 to become .035. There is some variation in the values of UK firms over years.

In addition, panel B of Table 5.3 shows the descriptive statistics for  $\text{LnTQ}_{+3}$  for all sample firms and by industries. The mean values of  $\text{LnTQ}_{+3}$  across industries are as follows; industrial (-.125), basic material (.153), technology (.111), consumer goods (-.022), consumer service (-.072), health care (.423) oil and gas (.085), utilities (.025) and telecommunication (-.161). There is a variation in the mean value of  $\text{LnTQ}_{+3}$  across industries. The highest mean value of  $\text{LnTQ}_{+3}$  is in the health care industry (.423), while, the lowest value is in the industrial industry (-.125). This is consistent with Abdullah

and Page (2009) who argue that the Tobin's Q as a measure of firm value is widely varies from one industry to another.

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**Table 5.3**  
**Panel A: Descriptive statistics of the firm value (LnTQ<sub>+3</sub>) for all the sample and by years**

	All	2006	2007	2008	2009	2010	2011
Mean	-.0106	.230	-.171	-.1271	-.000020	-.030	.035
Minimum	-.823	-.823	-.823	-.823	-.823	-.823	-.823
25%	-.451	-.108	-.668	-.523	-.401	-.485	-.399
Medium	-.031	.237	-.249	-.190	-.045	-.067	.040
75%	.397	.680	.223	.249	.396	.372	.461
Maximum	.894	.894	.894	.894	.894	.894	.894
N	1912	318	321	315	320	317	321

**Panel B: Descriptive statistics of the firm value (LnTQ<sub>+3</sub>) for all the sample and by industries**

	All	Industrial	Basic material	Technology	Consumer goods	Consumer service	Health care	Oil and gas	Utilities	Tel.
Mean	-.0106	-.125	.153	.111	-.022	-.072	.423	.085	.025	-.161
Minimum	-.823	-.823	-.823	-.823	-.823	-.823	-.698	-.823	-.299	-.823
25%	-.451	-.561	-.292	-.352	-.428	-.470	.205	-.334	-.081	-.334
Medium	-.031	-.203	.211	.138	-.061	-.113	.437	.060	.032	-.171
75%	.397	.251	.669	.616	.407	.292	.832	.464	.124	.033
Maximum	.894	.894	.894	.894	.894	.894	.894	.894	.547	.450
N	1912	661	149	191	211	427	115	100	36	22

This Table shows the descriptive statistics of the firm value (LnTQ<sub>+3</sub>) for all sample firms, by year and by industry. Panel A shows the descriptive statistics for all sample firms and by year. While, Panel B shows the descriptive statistics for all sample firms and by industries. The definitions of industries are based on the Industry Classification Benchmark (ICB). N indicates the number of observations.

Table 5.4 presents the descriptive statistics for the independent variables. Panel A displays the descriptive statistics of change score  $|\Delta\text{FLFD}|$ , the main explanatory variable, for all sample firms and by years. The maximum value of  $|\Delta\text{FLFD}|$  of the sample firms is 58 while the minimum is 0. This range indicates that a variation exists between UK firms in terms of their decision to change their financial forward-looking disclosure from year to year. The sample firms have on average change score of 4.20. The mean values of change score over the sample period depict monotonic increase in the change score over the period from 2006 to 2011. It ranges from 3.72 in 2006 to 5.58 in 2011. This small range may be due to the soft talk nature of financial forward-looking disclosure which reduces the variation of change from period to period.

Panel B of Table 5.4 shows the descriptive statistics of the control variables for all sample firms and by years. The Firm size ( $\text{LnMK}$ ) measured as the natural logarithm of firm's market value of equity at the end of the current year has a mean value of 12.40 in the sample firms with minimum value of 9.59 and maximum value of 15.43. The firm current earnings measured using the return on equity ratio (ROE) has a mean value of 16.40 in all the sample firms with minimum value of -8.944 and maximum value of 65.57.

The firm leverage measuring using debt to equity ratio (Lev) has mean value of 52.69 with minimum value of .00 and maximum value of 166.96 in all the sample firms. In terms of dividend, it is measured using dividends yield ratio (DY) and it has mean value of 2.65 and minimum value of .00 and maximum value of 6.21.

The firm liquidity measured using the current ratio (CR) has a mean value of 1.61 and minimum value of .68 and maximum value of 3.35 in the sample firms. The firm growth measured using firms growth rate in sales percentage (GRTH) has a mean value of 8.75

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and minimum value of -6.86 with maximum value of 26.48. The firm capital expenditure measured as firm expenditure to total assets ratio (CAPEX) has a mean value of 5.07 with minimum and maximum values of 1.05 and 11.91, respectively.

The firm managerial ownership (%MO) measured as the percentage of ownership by firm directors has a mean value over the sample period of .087. This value is quite consistent to Wang and Hussainey (2013) who find that the percent of director ownership in UK firms is 7%. The %MO variable varies significantly in the sample with a maximum value of 99% and a minimum value of 0%.

**Table 5.4**  
**Descriptive statistics of the explanatory variables**

	All	2006	2007	2008	2009	2010	2011
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**Panel A: Change in FLFD ( $\Delta$ FLFD)**

Mean	4.20	3.72	3.51	4.07	4.05	4.26	5.58
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25%	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Medium	3.00	3.00	2.00	3.00	3.00	3.00	3.00
75%	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Maximum	58	24	27	58	58	29	35
N	1912	318	321	315	320	317	321

**Panel B: control variables**

***Firm size (LnMK)***

Mean	12.40	12.58	12.58	12.12	12.20	12.48	12.46
Minimum	9.59	9.59	9.59	9.59	9.59	9.59	9.59
25%	10.72	11.10	11.11	10.45	10.38	10.72	10.69
Medium	12.33	12.50	12.51	11.94	12.12	12.47	12.38
75%	13.96	14.05	14.04	13.53	13.81	14.15	14.07
Maximum	15.43	15.43	15.43	15.43	15.43	15.43	15.43
N	1912	318	321	315	320	317	321

***Firm current earnings (ROE)***

Mean	16.40	18.87	21.35	15.42	11.69	16.15	14.88
Minimum	-8.944	-8.44	-8.44	-8.44	-8.44	-8.44	-8.44
25%	4.92	6.86	8.92	4.95	-.067	4.26	5.05
Medium	13.80	16.61	17.43	14.33	10.52	11.69	13.42
75%	22.70	26.42	26.85	23.23	19.49	21.25	21.89

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Maximum	65.57	65.57	65.57	65.57	65.57	65.57	65.57
N	1912	318	321	315	320	317	321

<i>Firm leverage (Lev)</i>							
Mean	52.69	52.52	52.98	57.83	55.80	50.08	47.03
Minimum	.00	.00	.00	.00	.00	.00	.00
25%	6.11	6.09	6.57	7.19	5.44	5.87	4.28
Medium	38.20	36.00	39.84	44.38	40.67	35.55	34.04
75%	78.67	81.37	82.56	90.25	84.83	66.20	66.71
Maximum	166.96	166.96	166.96	166.96	166.96	166.96	166.96
N	1912	318	321	315	320	317	321

<i>Firm dividend (DY)</i>							
Mean	2.65	2.01	2.40	4.02	2.52	2.29	2.66
Minimum	.00	.00	.00	.00	.00	.00	.00
75%	.782	.89	.96	2.02	.00	.43	.77
Medium	2.56	2.06	2.43	4.81	2.44	2.13	2.78
75%	4.17	2.293	3.60	6.21	4.20	3.68	4.02
Maximum	6.21	6.21	6.21	6.21	6.21	6.21	6.21
N	1912	318	321	315	320	317	321

<i>Firm liquidity (CR)</i>							
Mean	1.61	1.64	1.59	1.56	1.61	1.64	1.62
Minimum	0.68	0.68	0.68	0.68	0.68	0.68	0.68
25%	0.960	1.02	0.97	0.90	0.94	0.97	0.94
Medium	1.41	1.43	1.35	1.38	1.41	1.43	1.46
75%	1.98	2.03	1.98	1.91	1.97	2.00	2.00
Maximum	3.35	3.35	3.35	3.35	3.35	3.35	3.35
N	1912	318	321	315	320	317	321

<i>firm growth (GRTH)</i>							
Mean	8.75	9.44	10.74	11.54	8.56	6.84	5.39
Minimum	-6.86	-6.86	-6.86	-6.86	-6.86	-6.86	-6.86
25%	1.08	1.85	2.57	4.12	.117	-.07	-1.88
Medium	7.86	8.05	9.87	10.64	8.26	6.45	4.72
75%	15.77	17.36	19.37	7.90	15.53	12.89	9.91
Maximum	26.48	26.48	26.48	26.48	26.48	26.48	26.48
N	1912	318	321	315	320	317	321

<i>Firm capital expenditure (CAPEX)</i>							
Mean	5.07	5.29	5.21	5.23	5.14	4.88	4.65
Minimum	1.05	1.05	1.05	1.05	1.05	1.05	1.05
25%	2.03	2.38	2.31	2.15	1.91	1.83	1.62
Medium	4.16	4.78	4.51	4.23	3.88	3.67	3.51
75%	7.51	7.21	7.45	7.90	8.01	7.47	7.01
Maximum	11.91	11.91	11.91	11.91	11.91	11.91	11.91
N	1912	318	321	315	320	317	321

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<i>Firm managerial ownership (%MO)</i>							
Mean	.087	.088	.091	.085	.087	.085	.088
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25%	0.00	0.00	.00	.00	.00	.00	.00
Medium	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75%	0.12	0.13	0.14	0.12	0.13	0.11	0.11
Maximum	.99	.98	.99	.99	.99	.99	.99
N	1912	318	321	315	320	317	321
This Table reports the descriptive statistics of all explanatory variables for all sample firms and by years. N indicates the number of observations							
The definitions and measurements of variables are included in Table 5.2							

### 5.8.2 Correlation analysis

The Pearson correlation matrix is an initial tool to detect multi-collinearity. Table 5.5 presents the Pearson correlation matrix among dependent and all explanatory variables of the current study. The Pearson correlation coefficients among all variables are relatively low, less than 0.80, suggesting that there is no variable exhibit multi-collinearity problem (Gujarati & Porter, 2009).

Further check for multi-collinearity is performed by calculating the Variance Inflation Factor (VIF) after carrying out each regression model. As previously indicated, if the VIF value is more than 10, this suggests a problem of multi-collinearity (Field, 2009). The mean and maximum values of the VIF tests are tabulated with the regression results and indicate that there is no concern about this problem.

In addition to diagnose the multi-collinearity problem among variables, the Pearson correlation matrix is used to measure the strength and direction of the linear correlation between any pair of variables. The correlation coefficients of 0.0255 between firm value ( $\text{LnTQ}_{+3}$ ) and change in FLFD ( $|\Delta\text{FLFD}|$ ) is not statistically significant under any level of significance ( $P= 0.3052$ ). This correlation result suggests that firm value ( $\text{LnTQ}_{+3}$ ) is not statistically correlated with changes in FLFD ( $|\Delta\text{FLFD}|$ ).

However, the Pearson correlation matrix indicates significant correlation between firm value ( $\text{LnTQ}_{+3}$ ) and all other explanatory variables except leverage (Lev). It presents statistical positive correlation at 1% level of significance between the value of the firm ( $\text{LnTQ}_{+3}$ ) and some explanatory variables such as firm size ( $\text{LnMK}$ ), firm earnings (ROE), firm liquidity (CR), firm growth (GRTH) and firm capital expenditure (CAPEX). However, it reports negative statistical correlation between firm value

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( $\text{LnTQ}_{+3}$ ) and some other explanatory variables such as dividends policy (DY) and percent of managerial ownership (%MO).

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	<b>LnTQ<sub>+3</sub></b>	<b> \u0394FLFD </b>	<b>LnMk</b>	<b>ROE</b>	<b>Lev</b>	<b>DY</b>	<b>CR</b>	<b>GRTH</b>	<b>CAPEX</b>	<b>%MO</b>
<b>LnTQ<sub>+3</sub></b>	1.0000									
<b> \u0394FLFD </b>	0.0255	1.0000								
	0.3052									
<b>LnMk</b>	0.3331***	0.2774***	1.0000							
	0.0000	0.0000								
<b>ROE</b>	0.3253***	0.0516**	0.4034***	1.0000						
	0.0000	0.0235	0.0000							
<b>Lev</b>	-0.0211	0.1288***	0.2592***	0.1385***	1.0000					
	0.2698	0.0000	0.0000	0.0000						
<b>DY</b>	-0.1949***	0.0464**	0.0849***	0.1728***	0.1639***	1.0000				
	0.0000	0.0426	0.0002	0.0000	0.0000					
<b>CR</b>	0.1301***	-0.1022***	-0.2333***	-0.1386***	-0.4121***	-0.2202***	1.0000			
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000				
<b>GRTH</b>	0.2039***	-0.0225	0.1496***	0.1867***	-0.0003	-0.1133***	0.0012	1.0000		
	0.0000	0.3258	0.0000	0.0000	0.9902	0.0000	0.9586			
<b>CAPEX</b>	0.1712***	0.0673***	0.2307***	-0.0683***	0.0954***	-0.1729***	0.0920***	0.1685***	1.0000	
	0.0000	0.0036	0.0000	0.0031	0.0000	0.0000	0.0001	0.0000		
<b>%MO</b>	-0.0662***	-0.1469***	-0.3561***	-0.0872***	-0.1374***	-0.0481**	0.1638***	-0.0763***	-0.0361	1.0000
	0.0032	0.0000	0.0000	0.0001	0.0000	0.0359	0.0000	0.0009	0.1191	
This Table presents the Pearson Correlation Matrix among all variables in Model 2										
Variables' definitions and measurements are the same as summarized in Table 5.2										
*, **, and *** indicate significance at 0.1, 0.05 and 0.01, respectively.										

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### 5.8.3 Empirical results

Table 5.6 reports the multivariate results which are robust to heteroscedasticity and auto-correlation. Model (2) is statistically significant at 1% level of significance ( $P < .01$ ) and the adjusted R-squared value is 36.53%. These values imply a good overall model fit which indicate that the model explains some variation in the values of the UK firms. The  $t$ -statistics presented in parentheses are based on standard error clustered by firms.

The current study finds that the coefficient for  $\text{LnTQ}_{+3}$  on  $|\Delta\text{FLFD}|$  is  $-.0059$  and is statistically significant at 5% level of significance ( $t = -2.16$ ). This result indicate that  $\text{LnTQ}_{+3}$  is negatively associated with  $|\Delta\text{FLFD}|$ , meaning that negative association exists between firm Tobin's Q and change in FLFD. In other words, the result suggests that the value of the firm decreases as long as the firm changes its FLFD from the previous year. Because the main objective of the current study is not the direction of the relation but only the existence of such association between firm value and change in FLFD, the researcher accepts H3 hypothesis that an association exists between change in FLFD and firm value in the UK narratives.

This result is consistent with the current study theoretical expectations. For instance, based on agency theory, the information released by change in FLFD decreases the information asymmetry and agency costs. This in turn reduces the uncertainty surrounding firm's future performance and reduces the private benefits that controlling shareholders and management might get from controlling the firm which could increase the expected cash flow to shareholders. In addition, finance theory suggests that the new information released as a result of change in FLFD from the previous year may help investors build their expectations about the required rate of return and expected cash flows which in turn affect the value of a firm. Besides, the EMH suggests that share

prices are adjusted up and down in response to information available. This in turn affects the value of the firm.

However, the result is not consistent with prior research (e.g., Beak et al., 2004; Da-Silva & Alves, 2004; Clarkson et al., 2011; Plumlee et al., 2010; Cheung et al., 2010; Balic & Bwakira, 2002; Elzahar et al., 2015) who argue that voluntary disclosure adds to firm value.

Given that FLFD are more likely to be used by un-profitable firms and based on the finding on chapter 4 that poorly performing firms are likely to change their FLFD more than well-performing firms. The further analysis in section 5.8.4 investigates whether change in FLFD can have different effect on the value of well and poor performing firms. This analysis may provide more understanding of the association between the two variables.

<b>Table 5.6</b>			
<b>Model (2) results: Association between <math> \Delta\text{FLFD} </math> and <math>\text{LnTQ}_{+3}</math></b>			
	<b>Variables</b>	<b>Pred. Sign</b>	<b>Coefficient (t-statistic)</b>
Constant			-1.6249*** (-6.70)
Forward-looking financial disclosure	$ \Delta\text{FLFD} $	+/-	-.0059** (-2.16)
Firm's size	$\text{LnMK}$	+/-	.0871*** (7.09)
Current earnings	ROE	+	.0110*** (7.49)
Leverage	Lev	+/-	.00005 (0.16)
Dividend	DY	+/-	-.0350*** (-4.36)
Liquidity	CR	+	.08597*** (3.08)
Firm growth	GRTH	+	.0034** (2.13)
Capital expenditures	CAPEX	+	.0095** (2.33)
Managerial ownership	%MO	+/-	.1051 (0.72)
Fixed effect			Year & Industry
Standard error clustering			Firm
Model F			74.42***
Prob > F			.0000
Adjusted R- squared			36.53%
VIF: Mean			1.33
Max.			1.49
Observation (N)			1,912
This Table reports the coefficients estimates of model (2). The <i>t</i> -Statistics in parentheses are based on robust standard error clustered by firms to control for auto-correlation and heteroscedasticity.			
Variables' definitions and measurements are the same as discussed in Table 5.2.			
*, **, and *** indicate significance at 0.1, 0.05 and 0.01, respectively			

In terms of control variables, Table 5.6 presents the results of the association between firm value and control variables that are LnMK, ROE, Lev, DY, CR, GRTH, CAPEX, and %MO.

The coefficient of LnTQ<sub>+3</sub> on LnMK is .0871 and is statistically significant at 1% level of significance (t = 7.09). This result indicates that LnMK is positively associated with LnTQ<sub>+3</sub>, meaning that a significant positive relationship exists between a firm size and its value. The result suggests that firm value is higher for larger firms than for smaller firms.

This finding is consistent with the theoretical argument that larger firms have more skilled managers and large assets base which enable them to enhance their values (Beak et al., 2004; Klapper & Love, 2004). Consistently, prior research supports this positive association between firm size and its value (e.g., Hassan et al., 2009; Beak et al., 2004; Liu et al., 2010). However, this result is not consistent with other prior research (e.g., Black et al., 2006a&b; Cho & Kang, 2002; Ammann et al., 2009) who find negative association between the size of a firm and its value.

The coefficient of LnTQ<sub>+3</sub> on ROE is .0110 and is statistically significant at 1% level of significance (t = 7.49). This result indicates that ROE is positively associated with LnTQ<sub>+3</sub>, meaning that a significant positive relationship exists between the current earnings of a firm and its value. The result suggests that firms with good earnings performance are more likely to have higher values in the future.

This result is consistent with Chaney and Lewis (1995) augment that firms with good performance are perceived to have higher value because their investors expect this good performance to be maintained in the future. Empirically, prior research (e.g., Hassan et

al., 2009; Elzahar, 2013) finds consistent result that firms with higher earnings have higher values.

The coefficient of  $\text{LnTQ}_{+3}$  on Lev is .00005 and is not statistically significant at any level of significance ( $t = 0.16$ ). This result indicates that Lev is not statistically associated with  $\text{LnTQ}_{+3}$ , meaning that the value of the firm is not affected by its leverage. This result is not consistent with prior empirical research who find significant association between the value of the firm and its leverage either positively (e.g., McConnell & Servaes, 1995) or negatively (e.g., Ammann et al., 2009; Jackling & Johl, 2009; Mangena et al., 2012).

The coefficient of  $\text{LnTQ}_{+3}$  on DY is -.0350 and is statistically significant at 1% level of significance ( $t = -4.36$ ). This result indicates that DY is negatively associated with  $\text{LnTQ}_{+3}$ , meaning that a significant negative relationship exists between firm dividend and its value. This result suggests that firms with good dividends policy (higher dividends yield) are likely to have lower values in the future.

This result is consistent with the argument of Officer (2011). He argues that dividends initiating limits the ability of management to make future investments which in turn lowers the value of the firm in the future. Consistently, officer (2011) finds that firms with a lower firm value (Tobin's Q) have significantly more positive dividend initiation announcement returns than other firms.

The coefficient of  $\text{LnTQ}_{+3}$  on CR is .0859 and is statistically significant at 1% level of significance ( $t = 3.08$ ). This finding indicates that CR is positively associated with  $\text{LnTQ}_{+3}$ , meaning that a significant positive association exists between firm liquidity and its value. The result suggests that firms with higher liquidity status (measured using

current ratio) have higher values in the future.

Theoretically, this result is consistent with the argument that firms with higher liquidity have more freedom for investments, consequently, higher growth opportunities and higher values in the future (Beak et al., 2004). Empirically, prior research (e.g., Fazzari et al., 1988; Hoshi et al., 1991; Whited, 1992) finds significant positive association between liquidity of a firm and its investment level. This investment level consequently affects the growth opportunity of the company and, therefore, affects its future value.

The coefficient of  $\text{LnTQ}_{+3}$  on GRTH is .0034 and is statistically significant at 5% level of significance ( $t = 2.13$ ). This result indicates that GRTH is positively associated with  $\text{LnTQ}_{+3}$ , meaning that a significant positive association exists between firm growth and its value. This result suggests that firms with higher growth are likely to have higher values in the future than firms with smaller growth.

This result is consistent with the argument of Henry (2008) that the growth of the firm is accompanied by better valuation. Empirically, prior research (e.g., Haniffa & Hudaib, 2006; Henry, 2008; Laidroo, 2009; Gompers, Ishii, & Metrick, 2003) supports the above argument and finds a positive and significant relationship between firm growth, and its performance.

The coefficient of  $\text{LnTQ}_{+3}$  on CAPEX is .0095 and is statistically significant at 5% level of significance ( $t = 2.33$ ). This result indicates that CAPEX is positively associated with  $\text{LnTQ}_{+3}$ , meaning that a significant positive relationship exists between firm capital expenditure and its value in the future. The result suggests that firms with increasing capital expenditure are likely to have higher values in the future.

This result is consistent with the prediction that the increase in capital expenditure in

current years makes the value of the company to increase in the future. In addition, the result is consistent with some prior research. For instance, McConnell and Muscarella (1995) find positive association between firm capital expenditure and its stock return. Moreover, some prior research (e.g., Weir et al., 2002) finds positive association between capital expenditure and firm performance. However, the result is not consistent with other research (e.g., Jackling & Johl, 2009; Mangena et al., 2012) who finds negative association between the two variables.

Finally, the coefficient of  $\text{LnTQ}_{+3}$  on %MO is .1051 and is not statistically significant at any level of significance ( $t = 0.72$ ). This result indicates that %MO is not statistically associated with  $\text{LnTQ}_{+3}$ , meaning that the value of a firm is not affected by the percentage of its managerial ownership. The result is not consistent with prior research (e.g., Cheng et al., 2012) who finds an association between the percentage of managerial ownership and its value.

In sum, the empirical result on control variables suggest that firm size, current earnings, liquidity, growth and capital expenditure affect the value of a firm positively. However, dividends affect the firm value negatively. The current study finds that firm leverage and its managerial ownership have no effect on the value of the firm.

Table 5.7 presents a summary of the results of the of the hypotheses' test.

<b>Variables</b>	<b>Hypotheses</b>	<b>Regression results</b>	<b>Notes</b>
Change in FLFD	<b>H3:</b> An association exists between change in forward-looking financial disclosure and firm value in UK narratives.	A -	
Control variables	Firm size effect	A +	
	Firm earnings effect	A +	
	Firm leverage effect	R +	Due to insignificance
	Firm dividends effect	A -	
	Firm liquidity effect	A +	
	Firm growth effect	A +	
	Firm capital expenditure effect	A +	
	Percentage of managerial ownership effect	R +	Due to insignificance

This Table provides summary of the hypotheses test. A means acceptance that there is significant association, R means rejection that there is significant association, + means positive direction, - means negative direction.

### 5.8.4 Further analysis

This section examines whether change in FLFD can affect the value of well-performing firms and poorly performing firms differently. In addition, it reports a sensitivity analysis test to assess the robustness of the results

#### *5.8.4.1 Well and poorly performing firms*

To better understand the results of Table 5.6, we examine whether the change in FLFD can affect the value of well and poor performing firms differently. The regression model (2) is run separately for samples of well-performing firms and poorly performing firms. Table 5.8 reports the results of the model for both well and poorly performing firms separately. Column (1) reports the regression results for well-performing firms sample, while, column (2) shows the results for poorly performing sample.

In terms of well-poorly performing firms, the coefficient of  $\text{LnTQ}_{+3}$  on  $|\Delta\text{FLFD}|$  is -.0040 and is not statistically significant at any level of significance ( $t = -1.26$ ). This result indicates that  $|\Delta\text{FLFD}|$  is not statistically significant with  $\text{LnTQ}_{+3}$ , meaning that no association exists between change in firm FLFD and the future value of well-performing firms. This result suggests that the future value of well-performing firms is not affected by managers' decisions to change their FLFD over years. This result is consistent with the findings of Hassan et al. (2009) who find no association between a firm value and managers' decisions to provide voluntary disclosure. This is may be due to the lack of the timeliness of the annual report.

With regard to poorly performing firms, the coefficient of  $\text{LnTQ}_{+3}$  on  $|\Delta\text{FLFD}|$  is -.0074 and is statistically significant at 5% level of significance ( $t = -2.26$ ). This result indicates that  $|\Delta\text{FLFD}|$  is negatively associated with  $\text{LnTQ}_{+3}$ , meaning that a significant

negative association exists between change in firm FLFD and its future value. This result suggests that values of poorly performing firms decrease as long as firms change their FLFD from the previous year.

This result could be rationalized from two different perspectives. First, given that forward-looking information is more likely to be used by unprofitable firm, the value of the firm may be driven by its performance. Accordingly, managers may use their discretion in preparing narrative disclosure to strategically obfuscate the financial results – that is actually poor – and this may be perceived as a way of misleading investors about a firm’s actual performance. Consequently, investors respond negatively to disclosure. Second, information could cause noise to investors (Cheng et al., 2012). Therefore, it may negatively affect the value of the firm.

To conclude, the results suggest that new information revealed as a result of changes in FLFD from the previous year has no effect on the value of well-performing firms. In addition, this information does not enhance the investors’ valuation of poorly performing firms.

<b>Table 5.8</b>				
<b>Model (2) results: Well-performing and poorly performing firms</b>				
			(1)	(2)
			$\Delta ROE > 0$	$\Delta ROE < 0$
	<b>Variables</b>	<b>Pred. Sign</b>	<b>Coefficient (t-statistic)</b>	<b>Coefficient (t-statistic)</b>
Constant			-1.6590*** (-7.34)	-1.4050*** (-6.85)
Forward-looking financial disclosure	$\Delta FLFD$	+/-	-.0040 (-1.26)	-.0074** (-2.26)
Firm's size	LnMK	+/-	.0880*** (6.05)	.0874*** (6.77)
Current earnings	ROE	+	.0120*** (6.55)	.0098*** (6.39)
Leverage	Lev	+/-	-.0003 (-0.83)	.0005 (0.213)
Dividend	DY	+/-	-.0348*** (-3.28)	-.03853*** (-4.28)
Liquidity	CR	+	.0917*** (2.98)	.0837*** (2.68)
Firm growth	GRTH	+	.0063*** (3.18)	.0006 (0.34)
Capital expenditures	CAPEX	+	.0068 (1.45)	.0106** (2.43)
Managerial ownership	%MO	+/-	.0914 (0.65)	.1265 (0.71)
Fixed effect			Year & Industry	Year & Industry
Standard error clustering			Firm	Firm
Model F			27.46***	29.56***
Prob > F			.0000	.0000
Adjusted R- squared			37.21%	34.85%
VIF: Mean			1.42	1.46
Max.			1.84	1.92
Observation (N)			946	966
This Table reports the coefficients estimate of model (2) for well and poorly performing firms. Column (1) provides the estimates for well-performing while column (2) reports the estimation for poorly performing firms. The <i>t</i> -Statistics in parentheses are based on robust standard error clustered by firms to control for auto-correlation and heteroscedasticity.				
The variables' definitions and measurements are the same as discussed in Table 5.2				
*, **, and *** indicate significance at 0.1, 0.05 and 0.01, respectively				

### *5.8.4.2 Robustness test*

This section presents a sensitivity analysis test to assess the robustness of the results on the usefulness of change in FLFD.

One of the concerns of Tobin's Q as a measure of firm value is that it widely varies from one industry to another (Abdullah & Page, 2009). Consequently, a failure to industry adjustments of Tobin's Q could lead to distortion of the regression results. Therefore, an alternative measure of firm value is used to test the robustness of the results.

The current study computes an industry median adjusted Tobin's Q for each year. This Tobin's Q controls for potential bias arising from industry (Bebchuk, Cohen, & Ferrell, 2009), and rules out the potential for simultaneity (Brown & Caylor, 2006). In addition, it helps to mitigate endogeneity. The industry-median adjusted Tobin's Q is computed as a firm's Tobin's Q minus the median Tobin's Q in the firm's industry in the observation year. The industry classification Benchmark (ICB) is used to identify the industry.

Model (2) is re-estimated using the industry median adjusted Tobin's Q as the dependent variable. The results are presented in Table 5.9 for all sample firms and for well and poorly performing firms separately. Column (1) reports the result for all sample firms while columns (2) and (3) present the result for well and poorly performing firms, respectively. The results are similar to those shown in Table 5.6 (for the all sample firms) and Table 5.8 (for well-performing firms and poorly performing firms).

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<b>Table 5.9</b>					
<b>Model (2) results: The Industry median adjusted Tobin's Q</b>					
			<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
	<b>Variables</b>	<b>Pred. Sign</b>	<b>All firms</b>	<b><math>\Delta</math>ROE&gt;0</b>	<b><math>\Delta</math>ROE&lt;0</b>
			<b>Coefficient</b>	<b>Coefficient</b>	<b>Coefficient</b>
			<b>(t-statistic)</b>	<b>(t-statistic)</b>	<b>(t-statistic)</b>
Constant			-1.3642*** (-5.19)	-1.5688*** (-5.95)	-1.3695*** (-5.95)
Forward-looking financial disclosure	$\Delta$ FLFD	+/-	-.0070** (-2.12)	-.0049 (-1.19)	-.0094** (-2.53)
Firm's size	LnMK	+/-	.0876*** (6.13)	.0878*** (5.08)	.09040*** (6.24)
Current earnings	ROE	+	.0121*** (6.55)	.0136*** (6.04)	.0101*** (5.36)
Leverage	Lev	+/-	-.0001 (-0.33)	-.0006 (-1.17)	.0004 (0.83)
Dividend	DY	+/-	-.0426*** (-4.80)	-.0452*** (-3.86)	-.0435*** (-4.46)
Liquidity	CR	+	.1158*** (3.47)	.1184*** (3.12)	.1150*** (3.07)
Firm growth	GRTH	+	.0041** (2.15)	.00711*** (3.02)	.0014 (0.65)
Capital expenditures	CAPEX	+	.0099* (1.97)	.0073 (1.30)	.01098** (2.04)
Managerial ownership	%MO	+/-	.1340 (0.82)	.05418 (0.34)	.2204 (1.11)
Fixed effect			Year & Industry	Year & Industry	Year & Industry
Standard error clustering			Firm	Firm	Firm
Model F			10.33***	7.82***	8.02***
Prob > F			.0000	.0000	.0000
Adjusted R- squared			24.22%	24.99%	21.95%
VIF: Mean			1.34	1.46	1.52
Max			1.52	1.86	1.94
Observation (N)			1,912	946	966
This Table reports the coefficients estimates of model (2) for all sample firms, and for well and poorly performing firms. Column (1) provides the estimates for all sample firms. Columns (2) & (3) report the estimation for well and poorly performing firms respectively. The <i>t</i> -Statistics in parentheses are based on robust standard error clustered by firms to control for auto-correlation and heteroscedasticity.					
The definitions' and measurements of variables are the same as discussed in Table 5.2.					
*, **, and *** indicate significance at 0.1, 0.05 and 0.01, respectively					

### 5.9 CONCLUDING REMARKS

This chapter provides the answer to the research question Q3. It investigates theoretically and empirically the association between change in a firm FLFD over years and its future value for large sample of the UK all-shares firms over an extended period of time.

Theoretically, disclosure can affect the value of the firm either by affecting its cost of capital or its expected cash flow to its shareholders, or both. According to agency theory, the information released by change in FLFD decreases the information asymmetry and agency costs. This in turn reduces the uncertainty surrounding firm's future performance and reduces the private benefits that controlling shareholders and management might get from controlling the firm which could increase the expected cash flow to investors. In addition, finance theory suggests that the new information released as a result of change in FLFD from the previous year may help investors build their expectations about the required rate of return and expected cash flows which in turn affect the value of a firm. Besides, the EMH suggests that share prices are adjusted up and down in response to new information available. This in turn affects the value of

A review of the literature reveals that limited research exists with respect to the direct association between disclosure level and firm value. Furthermore, prior studies vary regarding the disclosure type, the proxies used for the information disclosure, and measures of firm value. However, they share the same expectation that disclosure has an impact on the market value of the firm. In addition, none of prior research examines the association between change in FLFD and firm value.

The study estimates using the OLS regression with clustered robust standard errors and

uses year-fixed effect. This estimation method accounts for any residual dependence created by firm effects (auto-correlation) and time effect (heteroscedasticity).

The multivariate analysis suggests that the value of a firm decreases as long as it changes its FLFD from the previous year. This result is consistent with the theoretical expectations. However, it is not consistent with prior research (e.g., Beak et al., 2004; Da-Silva & Alves, 2004; Clarkson et al., 2011; Plumlee et al., 2010; Cheung et al., 2010; Balic & Bwakira, 2002; Elzahar et al., 2015) who argue that voluntary disclosure adds to firm value. Further, when we distinguish between well and poorly performing firms, the study finds that new information revealed as a result of changes in FLFD from the previous year has no effect on the value of well-performing firms. In addition, it does not enhance the investors' valuation of poorly performing firms.

In terms of control variables, the multivariate analysis reports that firm size, current earnings, liquidity, growth and capital expenditure affect the value of a firm positively. However, dividends affect the firm value negatively, and both leverage of a firm and its managerial ownership have no effect on the value of the firm.

This chapter offers two contributions to narrative reporting literature in general and forward-looking disclosure in particular. First, it contributes to the body of knowledge on methodological developments in the estimation method in empirical tests. The study uses OLS regression with robust standard error clustered by firm to mitigate the residual dependence problems caused by time effect (heteroscedasticity) and firm effect (auto-correlation). This estimation method accounts for the residual dependency problems frequently neglected in market-based accounting research (Gow et al., 2010).

Second, prior empirical research assesses the value relevance of forward-looking

statements in UK narratives for predicting firm's future earnings (e.g., Hussainey et al., 2003; Schleicher et al., 2007; Wang & Hussainey, 2013). This study extends the literature on the informativeness of FLFD by examining the effect of the change in these statements on firm value. The findings indicate that new FLFD revealed in narratives does not enhance the investors' valuation of UK firms. These findings add to our understanding on the usefulness of forward-looking information in narrative reporting.

The study, despite of the robustness tests, has some limitations which have to be considered as potential avenues for future research. For instance, the study uses the future value of the firm as a proxy for the investors' response to changes in FLFD. Firm's Tobin's Q three months after the date of annual report is used to measure the future value of the firm. However the firm's Tobin's Q is commonly used measure for the value of the firm in disclosure studies (e.g., Hassan et al., 2009), it has some limitations. The market value of the firm may be closely associated with the economic status such as recession which may negatively affect the value of the firm (Mangena et al., 2012). Employing other measures for investors' response to information may be a potential area for future research. Future research may use a stock market reaction analysis either alone or in conjunction with future earnings to test investors' response to disclosed information.

### CHAPTER 6 : CONCLUSION

#### 6.1 OVERVIEW

This is the first study that uses the change in the level of FLFD over years for a large sample of UK FTSE all-shares firms over the period from 2005 to 2011 using the automated content analysis technique. The study, also, adopts the OLS with robust standard error clustered by firms and the year-fixed effect to overcome the residual dependence problems created by firm effect and time effect.

This study examines the extent to which change in firms' earnings performance influences managers of firms to the change in FLFD. In addition, it identifies the firm characteristics that may drive managers of firms to change FLFD from year to year. Finally, it examines the association between change in FLFD and the future value of a firm. These objectives provide an indication on the informativeness of FLFD in the UK narrative statements.

This chapter, therefore, is outlined as follows. Section 6.2 summarises the main findings set out in chapters 3, 4 & 5. Then, the main implications of the results are highlighted in section 6.3, followed by discussing the limitations of the study, and providing suggestions for future research in section 6.4.

### 6.2 SUMMARY

In order to achieve the objectives, the study measures the change in forward-looking financial disclosure (FLFD) in OFR statements from year to year. We refer to this variable as a change score. Before commencing in measuring the change score, all the OFR sections are identified and separated from the annual reports. Then, they (OFR sections) are converted into text files in order to be readable by QSR N6 software. The sentence is used as the unit of analysis; therefore, the OFR sections are parsed into sentences.

The change score is measured using the automated content analysis technique. Four main steps are performed to capture the changes in the level of FLFD over years. Chapter 3 details these four steps. For brevity, we summarize the key aspects below.

In the first step, forward-looking sentences from the OFR statements are extracted based on list of 33 forward-looking keywords. The final list of the keywords and extracting the forward-looking sentences are based on the following steps: (1) developing preliminary list of forward-looking keywords, (2) refining the preliminary list of forward-looking keyword, and approving the final keywords list, (3) writing command file, running the command, and saving the output. The output of this step is saved in a separate file entitled “Forward-looking Statements”

In the second step, financial-related sentences are extracted from the OFR statements based on list of 62 financial-related keywords. The steps with respect to forward-looking keywords are followed for the financial-related keywords. These steps include: (1) developing preliminary list of financial-related keywords, (2) refining the preliminary list of the financial-related keywords, and approving the final keywords list,

(3) writing the command file, running the command, and saving the output. The output of this step is saved in a separate file entitled “Financial-related Statements”

In the third step, forward-looking financial statements are extracted from the OFR statements. This is done by finding the intersection between the “Forward-looking Statements” output of step 1 and the “Financial-related Statements” output of step 2. The output of this step is saved in separate file entitled “Forward-looking financial Statements”. This output represents the level of forward-looking financial statements in a firm’s OFR statements each year (FLFD).

In the fourth step, the change in the level of FLFD over years is measured. The change in firm FLFD,  $\Delta FLFD$ , between OFR statements in period  $t-1$  and period  $t$  is equal to firm FLFD in period  $t$  minus the same firm FLFD in period  $t-1$ . In the empirical analysis, the study is not concerned with the direction of the change in FLFD. However, it is concerned with the existence and magnitude of such change in FLFD. The absolute values preserve the magnitude of changes. Therefore, the absolute change in FLFD,  $|\Delta FLFD|$ , is used. For simplicity, we refer to the variable,  $|\Delta FLFD|$ , as *changes score*.

The reliability and validity tests have been considered. Reliability test suggests that change score based on the automated content analysis is reliable. Whilst, the validity test adds credibility to the idea that: as long as the company changes its level of disclosure, it will disclose relatively new information. Hence, it ensures that the change score captures new information.

Thereafter, the study uses the change score to address the following three objectives. First, it examines the extent to which change in firms’ earnings performance influences managers of firms to change FLFD. In addition, it aims to identify which firm

characteristics may influence managers of firms to change FLFD. Finally, it aims to investigate investors' response to change in FLFD.

Chapter 4 addresses the first and second objectives. Accordingly, the main variables are classified into two groups: change in firm performance and firm characteristics variables.

The change in firm performance is measured using the changes in firm's return on equity ratio, over years. Whilst, firm characteristics include the following variables: firm size, competitive environment, litigious environment, managerial ownership, and auditor type.

Firm size is measured as the natural logarithm of the market value of equity at the end of the current year. The competitive environment is measured using Herf index. The general assumption in the literature is that the lower the Herf value, the less concentrated the industry, the higher the competition, and the higher the potential proprietary costs. The industry classification is used to identify firms that are exposed to high litigation risk. Accordingly, litigious environment is measured using dummy variable that is equal to 1 if the firm is in the technology industry and 0 otherwise.

In terms of managerial ownership, it is measured as the percentage of total shares in issue of 5% or more held by employees, or by those with a substantial position in a company that provides significant voting power at an annual general meeting. The auditor type variable is measured as a dummy variable that is equal to 1 if the firm is audited by one of the big-4 audit firms and 0 otherwise. Besides, the study controls for some economic environment variables that are identified as determinants of forward-looking disclosure in prior research. These variables include: firm leverage, dividend,

liquidity, and market risk exposure.

Furthermore, the study control for change in the length of the narrative document using change in its total statements. Finally, FLFD may be changed from the previous year because of the implementation of new narrative reporting requirements and accounting standards. Therefore, the year-fixed effect is used to control for change in FLFD due to this reason

The study estimates using the OLS regression with clustered robust standard errors and the year-fixed effect. This estimation method accounts for any residual dependence problems created by firm effects (auto-correlation) and time effect (heteroscedasticity).

The correlation analysis provides evidence that change in FLFD is statistically correlated positively with change in firm earnings performance. In terms of firm characteristics, there are statistical positive correlation between change in FLFD and some firm characteristics such as firm size, competitive environment, and auditor type. However, negative correlation exists with other firm characteristics such as litigious environment and managerial ownership.

The regression results suggest that firms change their FLFD in response to changes in their earnings performance. This result is consistent with the managers' incentives theories, suggesting that managers with new information relative to prior year are motivated to provide it voluntarily in order to reduce both information asymmetry and agency costs. The result is, also, consistent with prior empirical research that suggests that change in firm disclosure is associated with change in its performance (e.g., Lang & Lundholm, 1993; Miller, 2002; Abraham & Tonks, 2006; Merkley, 2014).

Afterward, the study uses the quartile ranking of absolute change in earnings

performance with 1 being the smallest absolute change group and 4 being the largest absolute change group. This allows examining whether firms with larger change in their earnings performance are likely to change FLFD more than those with smaller performance changes. The study finds that firms with larger change in their earnings performance are likely to change FLFD more than those with smaller performance changes.

Obviously, there is a weak statistical significance level (10%) that firms with larger change in their earnings performance are likely to change their FLFD more than those with smaller performance changes. This may be due to the qualitative soft talk nature of FLFD. This nature may encourage managers to use the previous year's FLFD as templates without making extremely significant changes, which in turn reduces the variation of change in FLFD.

In the further analysis, the study examines whether the association between change in FLFD and change in earnings performance differ based on the sign of earnings change. To this end, the sample is divided into two subsamples: well-performing and poorly performing firms based on the direction of change in firm ROE. Firms with positive change in ROE from the previous year are regarded as well-performing firms, while, firms with negative change in ROE from the previous year are regarded as poorly performing firms.

The regression model (1) is re-run for samples of well-performing and poorly performing firms, separately. The results indicate that a positive association exists between change in earnings performance and change in FLFD for both well-performing and poorly performing firms. However, this association is more positive and statistically significant for poorly performing firms compared to well-performing firms. This result

suggests that poorly performing firms are more likely to provide informative narrative disclosure than well-performing firms.

Holding constant changes in firm earnings performance, and examining which firm characteristics may influence managers to change FLFD over years, the study finds the following:

First, a positive association exists between firm size and the change in FLFD. In other words, larger firms are more likely to change their FLFD to greater degree than smaller firms. This may be because large firms are politically visible and so they are likely to update their disclosure periodically in order to avoid the political costs of being perceived as being ambiguous. In addition, large firms can afford the preparation costs of disclosure and have sufficient resources to update their disclosure, or small firms are more likely to cut and paste narratives from previous years to save the preparation costs.

Second, a negative association exists between competitive environment and change in FLFD. In other words, firms facing more competition are less likely to change their FLFD from the previous year. This result is consistent with the proprietary cost of disclosure expectation that firms in more competitive environment are likely to provide less informative disclosure in order to maintain their competitive position in the market. Consequently, these firms are less likely to change FLFD over years. The result is, also, consistent with prior empirical research (e.g., Brown & Tucker, 2011) who finds that firms facing more competition are less likely to change their narratives reporting in MD&A from year to year and consequently they provide less informative narrative reporting in their MD&A.

Third, a negative association exists between litigious environment and change in FLFD.

In other words, firms in more litigious environment are less likely to change FLFD from the previous year. The result is consistent with the litigation cost of disclosure prediction that firms in highly litigious environment tend to reduce their obligation to update their forward-looking disclosure from year to year in order to avoid litigation costs. The result, therefore, supports Healy and Palepu (2001) theoretical prediction that firms reduce their future oriented disclosure when they face risk of being penalised against their forecast.

Fourth, a negative association exists between percentage of managerial ownership and change in FLFD. This result suggests that firms dominated by managerial ownership are less likely to change their FLFD from the previous year, and, thus, provide less informative FLFD. Theoretically, this result is not consistent with agency theory that suggests that managerial ownership might serve to align the interests of firm management with the interest of its shareholders. However, it could be explained from management entrenchment perspective. Under this perspective, high managerial ownership can be counterproductive to the firm because managers are more likely to maximise their private controlling benefits by providing less informative disclosure (Randall et al., 1988).

Fifth, in terms of auditor type, the study finds non-significant association between auditor type and change in FLFD. This result suggests that there is no role of the auditor in overseeing FLFD in the UK narratives. The non-significant association between auditor type and change in FLFD could be explained from two different perspectives. First, these statements are qualitative in nature. This nature makes FLFD difficult to be audited. Second, the risks of ASB enforcement actions on auditors are small because narratives are soft talk not hard facts.

However, in the further analysis, when we distinguish between well-performing and poorly performing firms, the study finds a positive association between auditor type and the change in FLFD when firms are poorly performing. On the other hand, this result is not existed for either all sample firms or for well-performing firms sample. The result may suggest that the role of the auditor in overseeing the UK narratives is observable only when firms are poorly performing.

The results with respect to firm characteristics, especially firm size (LnMK), competitive environment (Herf), and litigious environment (Litig) and managerial ownership (%MO) are consistent with prior research (e.g., Brown & Tucker, 2011), which add validity that the change score capture new information. In other words, this result adds validity to the idea that changes in the level of disclosure (change score) captures relatively new information.

Chapter 5 addresses the third objective that examines the investors' response to change in FLFD.

To investigate the investors' response to changes in FLFD, firm value at three months of the annual report date is used as a proxy for investors' response. It is measured as the natural logarithm of firm Tobin's Q three months after the date of the annual report. Besides, the study controls for some factors that may affect the value of a firm. These factors include: firm size, firm current earnings, firm leverage, firm dividend, firm liquidity, firm growth, firm capital expenditures, and firm managerial ownership.

The study estimates using the OLS regression with clustered robust standard errors and uses the year-fixed effect. This estimation method accounts for any residual dependence created by firm effects (auto-correlation) and time effect (heteroscedasticity). Besides

the year-fixed effect, the industry-fixed effect is used to account for any dependence due to industries' effect.

The multivariate analysis suggests a negative association exists between change in FLFD and firm Tobin's Q. In other words, the result suggests that the value of the firm decreases as long as it changes its FLFD from the previous year. This result is consistent with the current study theoretical expectations. For instance, based on agency theory, the information released by change in FLFD decreases the information asymmetry and agency costs. This in turn reduces the uncertainty surrounding firm future performance and reduces the private benefits that controlling shareholders and management might get from controlling the firm which could increase the expected cash flow to investors. In addition, finance theory suggests that the information released as a result of change in FLFD from the previous year may help investors build up their expectations about the required rate of return and expected cash flows which in turn affect the value of a firm. Besides, the EMH suggests that share prices are adjusted up and down in response to information available. This in turn affects the value of the firm.

In the further analysis, the study examines whether change in FLFD can affect the values of firms with earnings increase and decrease differently. To this end, the regression model (2) is re-run for well-performing sample and poorly performing sample, separately. The regression results indicate that the future values of well-performing firms are not affected by their managers' decision to change FLFD. The result is consistent with the findings of Hassan et al. (2009) who find no association between a firm value and the disclosure of voluntary information. This may be due to the lack of the timeliness of the annual report.

With regard to poorly performing firms, the regression results indicate that values of

poorly performing firms decrease as long as these firms change their FLFD from the previous year. This negative effect could be explained from two different angles. First, managers may use their discretion in preparing narrative disclosure to strategically obfuscate the financial results – *that is actually poor* – and this may be perceived as a way of misleading investors about a firm actual performance. Consequently, investors respond negatively to disclosure. Second, information could cause noise to investors (Cheng et al., 2012). Therefore, it may affect negatively the value of a firm.

In terms of the control variables, the study finds the following:

First, a positive association exists between size of a firm and its value. In other words, larger firms exhibit higher future values than smaller firms. This is consistent with the theoretical expectations that larger firms have more skilled managers and large assets base which enable them to enhance their values (Beak et al., 2004; Klapper & Love, 2004). In addition, it is consistent with prior empirical research (e.g., Hassan et al., 2009).

Second, a positive association exists between firm current earnings and its value. In other words, firms with better current earnings are likely to have higher values in the future. Firms with good performance are perceived to have higher values because their investors expect this good performance to be maintained in the future (Chaney & Lewis, 1995).

Third, a negative association exists between firm dividend policy and its value. In other words, firms that pay higher dividend are likely to have lower values in the future. This result is consistent with Officer (2011) expectation that dividend initiating limits the ability of management to make future investments, which in turn lowers the value of the

firm in the future.

Fourth, a positive association exists between firm liquidity and its value. In other words, firms with higher liquidity are likely to have higher values in the future. Firms with higher liquidity will have more freedom in investments, and, consequently, higher growth opportunities and higher values in the future (Beak et al., 2004).

Fifth, a positive association exists between firm growth and its future value. In other words, firms with higher growth are likely to have higher values in the future. This is consistent with the expectation of Henry (2008) that growth of the firm is accompanied by better valuation.

Sixth, a positive relationship exists between firm capital expenditure and its value. In other words, firms with higher current capital expenditure are likely to have higher values in the future. The increase in capital expenditure creates more investments' opportunities, and, consequently, the value of the company will increase.

Seventh, the study finds that the future value of the firm is not affected by its current leverage level. In addition, there is non-significant association between the future value of a firm and its current percentage of managerial ownership.

The study runs a sensitivity analysis test to assess the robustness of the results on the usefulness of change in FLFD. In this test, it uses the industry median adjusted Tobin's Q as an alternative measure for firm value. Model (2) is re-estimated using the industry median adjusted Tobin's Q as dependent variable. The study obtains similar results to that in the main and further analyses.

### 6.3 RESEARCH IMPLICATIONS

The results of the current study provide important implications at the academic and research levels, and to regulatory bodies and other users of the narrative reporting statements of the annual reports. Therefore, the study has important practical and methodological implications as follows.

In terms of practical implications, the study has the following distinctive implications for regulatory bodies and for users of narrative reporting in the annual reports.

First, the results of the current study should be relevant to regulatory bodies within the UK. It has implications for the emphasis in the UK regulatory bodies (e.g., IASB) on setting clear best practise guidance for narrative reporting in OFR, business review and management commentary. In the UK, although, the topics of narrative reporting are broadly prescribed, managers have flexibility in terms of the amounts and contents of narrative reporting. This room of discretion may encourage managers of firms to strategically obscure the financial results of the company in their narrative discussion. In this case, narratives are a mean for managers to mislead investors. Thus, guidance has to be set for managers while preparing their narrative discussions in order to provide value relevant information to investors.

Second, the results have important implications for users of narrative reporting statements of the annual reports. The importance of the narrative discussion and analysis in the annual report depends concomitantly on firm performance. In the UK, the narrative discussion and analysis is not currently subject to external audit or assurance from independent party. The results suggest that users of the annual reports may desire some element of assurance that this narrative discussion of a firm is

consistent with its performance. The external auditors may be able and willing to provide such assurance. However, some enforcement actions from regulatory bodies may be required.

Third, there is some evidence acquired over long time period (e.g. Hussainey et al., 2003; Schleicher et al., 2007) that investors expect companies to provide timely and value relevant information. The results of the study call for more in-depth narrative discussion and analysis of a firm performance and financial position in order to reflect clearly the changes in its business economic environment. This enables investors to see clearly the company from the eyes of its board of directors which is consistent with the spirit of narrative reporting (See the principles of: ASB 2005, ASB 2006, and IFRS 2010). Providing disclosure that is consistent with firm performance (relevant disclosure) helps investors to modify and adjust any prior over estimation of the firm value (Healy & Palepu, 2011). In addition, it calls for more timeliness in the publication date of annual report. The annual report is the official disclosure medium of a firm, and lack in its timeliness makes it loses its importance.

Beside the practical implications, the study has some methodological implications. First, it is suggested that distinguishing between firms with earnings increase and firms with earning decrease is important because each category of them has its own different drivers. The result, therefore, support those studies (e.g., Schleicher et al., 2007) that distinguish between firms with earnings increase and earnings decrease. The current study finds that poorly performing firms provide more value relevant information to investors compared to well-performing firms. In addition, the role of the auditor in overseeing narrative reporting is observable only when the firm is poorly performing. Therefore, the results suggest that well-performing and poorly performing firms should

be analysed separately.

Second, the variations in FLFD between firms in the UK and the low explanatory power of model (1) indicates that there are other chances to expand the current study design by adding other explanatory variables that may reduce the unexplained variations in FLFD and enhances the explanatory power of the model. The explanatory variables, therefore, used in the current study continued significantly in the interpretations of the observed variations among UK firms. However, the study calls for more variables that may explain some variations in the FLFD over the period of the study (2005 - 2011). The explanations of these variables will be discussed in more details in section 6.4; the limitations and suggestions for future research.

The third methodological implication of the results of this study is utilising the OLS regression with robust standard error clustered by firms as shown in the empirical models of chapters 4 & 5. This estimation method helps to overcome any residual dependence problems created by time effect (heteroskadicity) and firm effect (auto-correlation).

### 6.4 LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

By utilizing the automated content analysis technique and the multivariate analysis (OLS with robust standard error clustered by firms), the current study examined to what extent change in firms' earnings performance influenced managers to the change FLFD of their firms. In addition, it identified the firm characteristics that influence firms' managers to change FLFD over years. Finally, it investigated the effect of such change in FLFD on the future value of a firm. This study, therefore, extends the empirical knowledge and contributes to forward-looking disclosure literature. The study, however, has some limitations which have to be considered as potential avenues for future research.

First, the change score employed in the current study is based on the idea that as long as the company changes its level of disclosure, it will disclose relatively new information. This idea is supported in prior research which suggests that change in the level of disclosure is associated with change in firm performance (e.g., Miller, 2000; Merkley, 2014). In addition, it is validated in the validity test (chapter 3). This means that when the company changes its level of disclosure, it will disclose new information to users. However, the change in the level of disclosure may not be the suitable measure to all the new information of a firm. This may be because a firm may keep its level of FLFD the same from year to year, but, this firm discloses relatively new information each year. Perhaps for this reason, it would be an interesting area for future research to look for other sophisticated measures of change in narrative reporting such as Turnitin software widely used to check for plagiarism. However, our change measure is not perfect; it is one step forward in understanding the behaviour of managers of firms while preparing the narrative discussion and analysis of their firm.

Second, the study uses firm earnings (return on equity ratio, *ROE*) as a measure for firm performance. The main limitation in this is related to the use of just only one variable to measure performance of a firm. The use of more than one variable to measure performance of a firm (e.g., return on equity; return on assets; earnings per share, profit margin) could be an area of interest for future research.

Third, the study uses five variables as main variables for firm characteristics. These variables are: firm size, competitive environment, litigious environment, managerial ownership, and auditor type. Some other variables have been suggested in disclosure studies. Therefore, using variables such as the number of analysts following the firm (e.g., Khalif & Souissi, 2010) or/and environmental incentives (e.g., Elshandidy & Shrikes, 2015) may be an interesting area for future research.

Furthermore, the study uses only two proxies for corporate governance mechanisms that are percentage of managerial ownership and auditor type. Not considering other corporate governance mechanisms such as the characteristics of the board of directors (e.g., Elshandidy et al., 2013) could be a limitation of the current study and, also, may be an area of interest for future research.

Fourth, the study uses Tobin's Q ratio as a measure for the value of a firm. However, firm Tobin's Q is commonly used as a measure for its value in prior disclosure studies (e.g. Ntim et al., 2012b), it has some limitations. For instance, the market value of the firm may be closely associated with the country economic status such as recession which may affect negatively the value of the firm (Mangena et al., 2012). Therefore, measuring a firm value using alternative measures of Tobin's Q such as scale efficiency and cost discipline (as suggested by Dybvig & Warachka, 2015), may be an interesting area for future research.

## CHAPTER 6: CONCLUSION

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In addition, the use of other proxies to measure investors' response to information disclosed by firms may be a potential area of interest for future research. For instance, future research may use the stock market reaction analysis either alone or in conjunction with future earnings to test investors' response to disclosed information.

Fifth, the study focuses only on narrative reporting statements in the UK. Other countries, however, could have different approaches for narrative reporting. Investigating narrative reporting (particularly FLFD) in other countries, such as Egypt or/and Gulf countries<sup>51</sup>, could be useful in understanding the incentives for providing informative narrative disclosure.

Furthermore, extending the current research design to include other countries may be an area of interest for future research. This may help in observing the impact of country characteristics (e.g., inflation; culture; legal system; political factors) on the informativness of narrative reporting.

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<sup>51</sup> These countries have characteristics that are different from those of developed countries (e.g., UK & US). Thus, by investigating narrative reporting in these countries, we may obtain different results.

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APPENDICES

APPENDIX 1: FORWARD-LOOKING COMMAND FILE

(build-tree "FWORD")

(search-text "likely" pattern-search? no whole-word? no case-sensitive? no node (11 1) node-title "\$likely")

(search-text "[future|will|eventual|well poitioned|well placed|shortly|soon]" pattern-search? yes whole-word? yes case-sensitive? no node (11 2) node-title "future\$")

(search-text "[look forward|looks forward|looking forward]" pattern-search? yes whole-word? yes case-sensitive? no node (11 3) node-title "looking forward\$")

(search-text "[look ahead|looks ahead|looking ahead]" pattern-search? yes whole-word? yes case-sensitive? no node (11 4) node-title "looking ahead\$")

(search-text "[year ahead|years ahead]" pattern-search? yes whole-word? yes case-sensitive? no node (11 5) node-title "year ahead\$")

(search-text "[next fiscal|next month|next months|next twelve months|next six months|next quarter|next year|next years|next period|next periods]" pattern-search? yes whole-word? yes case-sensitive? no node (11 6) node-title "next\$")

(search-text "[coming fiscal|coming month|coming months|coming twelve months|coming six months|coming quarter|coming year|coming years|coming period|coming periods]" pattern-search? yes whole-word? yes case-sensitive? no node (11 7) node-title "coming\$")

(search-text "[incoming fiscal|incoming month|incoming months|incoming twelve months|incoming six months|incoming quarter|incoming year|incoming years|incoming period|incoming periods]" pattern-search? yes whole-word? yes case-sensitive? no node (11 8) node-title "incoming\$")

(search-text "[upcoming fiscal|upcoming month|upcoming months|upcoming twelve months|upcoming six months|upcoming quarter|upcoming year|upcoming years|upcoming period|upcoming periods]" pattern-search? yes whole-word? yes case-sensitive? no node (11 9) node-title "upcoming\$")

(search-text "[following fiscal|following month|following months|following twelve months|following six months|following quarter|following year|following years|following period|following periods]" pattern-search? yes whole-word? yes case-sensitive? no node (11 10) node-title "following\$")

(search-text "[subsequent fiscal|subsequent month|subsequent months|subsequent twelve months|subsequent six months|subsequent quarter|subsequent year|subsequent years|subsequent period|subsequent periods]" pattern-search? yes whole-word? yes case-sensitive? no node (11 11) node-title "subsequent\$")

(search-text "[forthcoming fiscal|forthcoming month|forthcoming months|forthcoming twelve months|forthcoming six months|forthcoming quarter|forthcoming year|forthcoming years|forthcoming period|forthcoming periods]" pattern-search? yes whole-word? yes case-sensitive? no node (11 12) node-title "forthcoming\$")

(search-text "[anticipate|anticiaptes|anticipating|is anticiated|are anticipated]" pattern-search? yes whole-word? yes case-sensitive? no node (11 13) node-title "anticipate\$")

(search-text "[expect|expects|expecting|is expected|are expected]" pattern-search? yes whole-word? yes case-sensitive? no node (11 14) node-title "expect\$")

(search-text "[seek|seeks|seeking|is seeked|are seeked]" pattern-search? yes whole-word? yes case-sensitive? no node (11 15) node-title "seek\$")

## APPENDICES

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(search-text "[intend|intends|intending|is intended|are intended|intention|intentions]" pattern-search? yes whole-word? yes case-sensitive? no node (11 16) node-title "intend\$")

(search-text "[predict|predicts|predicting|is predicted|are predicted|prediction|predictions]" pattern-search? yes whole-word? yes case-sensitive? no node (11 17) node-title "predict\$")

(search-text "[we forecast|management forecasts|manager forecasts|managers forecasts|company forecasts|firm forecasts|is forecasting|are forecasting|is forecasted|are forecasted|normally forecast|normally forecasts|currently forecast|currently forecasts|also forecast|also forecasts|to forecast]" pattern-search? yes whole-word? yes case-sensitive? no node (11 18) node-title "forecast\$")

(search-text "[we plan|management plans|manager plans|managers plan|company plans|firm plans|is planning|are planning|is planned|are planned|normally plan|normally plans|currently plan|currently plans|also plan|also plans|to plan]" pattern-search? yes whole-word? yes case-sensitive? no node (11 19) node-title "plan\$")

(search-text "[we project|management projects|manager projects|managers project|company projects|firm projects|is projecting|are projecting|is projected|are projected|normally project|normally projects|currently project|currently projects|also project|also projects|to project]" pattern-search? yes whole-word? yes case-sensitive? no node (11 20) node-title "project\$")

(search-text "[we hope|management hopes|manager hopes|managers hope|company hopes|firm hopes|is hoping|are hoping|is hoped|are hoped|normally hope|normally hopes|currently hope|currently hopes|also hope|also hopes|to hope]" pattern-search? yes whole-word? yes case-sensitive? no node (11 21) node-title "hope\$")

(search-text "[we estimate|management estimates|manager estimates|managers estimate|company estimates|firm estimates|is estimating|are estimating|is estimated|are estimated|normally estimate|normally estimates|currently estimate|currently estimates|also estimate|also estimates|to estimate]" pattern-search? yes whole-word? yes case-sensitive? no node (11 22) node-title "estimate\$")

(search-text "[we aim|management aims|manager aims|managers aim|company aims|firm aims|is aiming|are aiming|is aimed|are aimed|normally aim|normally aims|currently aim|currently aims|also aim|also aims|to aim]" pattern-search? yes whole-word? yes case-sensitive? no node (11 23) node-title "aim\$")

(search-text "[we prospect|management prospects|manager prospects|managers prospect|company prospects|firm prospects|is prospecting|are prospecting|is prospected|are prospected|normally prospect|normally prospects|currently prospect|currently prospects|also prospect|also prospects|to prospect]" pattern-search? yes whole-word? yes case-sensitive? no node (11 24) node-title "prospect\$")

(search-text "[we believe|management believes|manager believes|managers believe|company believes|firm believes|is believing|are believing|is believed|are believed|normally believe|normally believes|currently believe|currently believes|also believe|also believes|to believe]" pattern-search? yes whole-word? yes case-sensitive? no node (11 25) node-title "believe\$")

(search-text "[2012-2013|2012/2013]" pattern-search? yes whole-word? yes case-sensitive? no node (11 26) node-title "2003\$2004")

(search-nodes (collect (11)) node (N 20) node-title "FWORD(2011)")

(delete-node (11))

### APPENDIX 2: FINANCIAL-RELATED COMMAND FILE

(build-tree "FINANCIAL")

(search-text

"[sales|revenue|revenues|return|returns|income|profit|profits|profitability|dividend|dividends|tax|taxes|margin|margins|EBI|EBIT|IBITDA|earning|earnings|gains|losses|expense|expenses|costs|cost of goods sold|COGS|cost of sales|depreciation|amortization|depletion|impairment]" pattern-search? yes whole-word? yes case-sensitive? no node (21 1) node-title "income statement\$")

(search-text

"[assets|liabilities|debt|debts|equity|capital|inventories|payable|payables|receivable|receivables|provisions|property, plant and equipment|investment property]" pattern-search? yes whole-word? yes case-sensitive? no node (21 2) node-title "balance sheet\$")

(search-text "[cash flows|cash inflow|cash inflows|cash outflow|cash outflows|free cash flow|free cash flows]" pattern-search? yes whole-word? yes case-sensitive? no node (21 3) node-title "cash flow statement\$")

(search-text "[liquidity ratio|current ratio|quick ratio|gearing|leverage|interest cover|turnover|return on equity|ROE|return on assets|ROA|return on capital employed|ROCE|return on investment|earnings per share|EPS]" pattern-search? yes whole-word? yes case-sensitive? no node (21 4) node-title "ratios\$")

(search-nodes (collect (21)) node (N 21) node-title "FINANCIAL")

(delete-node (21))