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Risk Disclosure and Re-establishing Legitimacy in the Event of a Crisis - Did Northern Rock Use Risk Disclosure to Repair Legitimacy after their 2007 Collapse?

Alan Edkins

ABSTRACT

Banks are exposed to a wide range of risk in their every day operation and in response to this they have developed various tools and strategies in order to help avoid, measure, or manage these risks. These tools and strategies are not always successful which has lead to several well publicised crises including amongst others the Barings bank collapse, Allfirst fraud, Santander fraud and more recently the collapse of Northern Rock and its subsequent nationalisation. In order for society to permit their operation firms require legitimacy, where by its actions must conform to cultural and social norms (Suchman 1995). Legitimacy and trust are vitally important and central to bank operations (Linsley and Kajuter 2008) therefore society is more likely to hold them to account (Ashforth and Gibbs 1990), meaning that in the occurrence of an legitimacy adverse risk event or crisis a banking organisation must enact strategies in order to repair and re-establish trust.

Whilst legitimacy theory and the use of voluntary disclosures as part of a strategy for restoring organisational legitimacy and reputation has received academic attention (Linsley and Kajuter 2008) there has been limited research on banking disclosures (Linsley and Shrives 2006) and even less done on disclosures issued as a response to an adverse risk event or crisis. The only previous study in this area (see Linsley and Kajuter 2008) focused solely on disclosures located in the annual report but in the concluding remarks identified that the annual report is not the only risk disclosure vehicle and that future research should consider looking at disclosures issued through alternative communication methods.

This study therefore will be on the use of disclosures in alternative communication methods (as suggested by Linsley and Kajuter (2008)) in the event of an organisational crisis. The research will aim to add to the still evolving academic understanding of the use of risk disclosure, as well as any part it may play in organisational legitimacy repairing strategies. This exploratory research may also help to identify possible new areas for further study.

This study will attempt to achieve these aims by comparing and contrasting Northern Rock Plc's before and after their spectacular collapse in 2007 to identify any changes in their risk disclosure in press releases, which have been highlighted as a potential candidate for research in past studies (see Lebar 1982) that, as with most others, have focused on disclosures solely in the annual report. The Northern Rock Plc collapse caused by the lack of wholesale market finance resulting from the 2007 subprime crisis was widely reported and caused substantial damage to the banks legitimacy. The study will first compare press release disclosures in the periods before and after the crisis, and if any changes are found then it will attempt to identify whether the changes were part of a strategy formulated to re-legitimise the bank or not. First the chapter comprises a review of the existing risk, risk disclosure and legitimacy theory literature as well as a definition of key concepts and background to Northern Rock and its legitimacy crisis. Secondly, the research methods are explained, hypotheses developed and choice of press releases for the basis of the study is justified. Finally, the results are analysed and finally conclusions are drawn and suggestions for further research are made.

LITERATURE REVIEW

Risk

As with any research it is first important to clearly define the key terms and concepts that will come together to form the main backbone of the work being done. Therefore because of this and as noted by Linsley and Shrives (2006), Risk Disclosure research requires 'risk' to be defined. This however can be a somewhat troublesome task due to the differing interpretations between for example; colloquial usage and corporate finance textbook definitions. The perceived meaning of the word has also changed over time from the pre-modern to modernist periods (Lupton 1999).

Such is the ambiguity surrounding the concept of 'risk' even the origins of the word are unclear (Lupton 1999) with Luhmann (1993) claiming that the word first surfaced in references made in Germany around the year 1650, with the possibility that the term was derived from the Latin word 'riscum' which had been in circulation for many centuries prior to 1650. Ewald (1993) like many other commentators linked the notion of risk to the dangers and perils that could afflict 'maritime ventures'. Ewald went on to claim that this early concept revolved around Acts of God and acts of nature such as "*storm, flood or epidemic*" (Lupton 1999: p.5) that completely excluded the idea of human error or responsibility. This view that risk was out of the hands of the individual essentially formed the basis of the pre-modern concept of risk.

Lupton (1999) outlined the fact that from a Sociologist's perspective the general view and understanding of the concept of risk began to change in the 17th century and these changes then accelerated in the 18th century. Lupton believed that the catalyst for this change was the emergence of modernity which in turn was driven by industrial change. Giddens (1998) saw modernity as being more dynamic than any other pervious social order and most

importantly included the idea that "*the world [was] open to transformation by human intervention*" (Giddens 1998; p.94). This opened the door to the path of thought that the natural and social world follow rules and laws which could be measured, analysed and thus even predicted. Therefore in the 18th and 19th Centuries the concept of risk began to take on more of a scientific element with the inclusion of mathematical notions of probability and statistics (Lupton 1999). Ewald (1993) went on to note that modernity extended the boundaries of the notion of risk and no longer was it exclusively found in nature but also in the conduct and actions of individual human beings and the relationships that exist between them. Linsley and Shrives concluded that the modernist notions of risk also included the idea that risk could either be related to positive or negative outcomes, as opposed to the pre-modern view of risk which only considered bad risk (Linsley and Shrives 2006).

When Risk is considered from the perspective of an Economist it is imperative that the difference between risk and uncertainty is recognised, as they are considered to be two different concepts. Frank Knight established the distinction between uncertainty and risk in his seminal work Risk, Uncertainty and Profit. Knight viewed risk as having outcomes that involved "*in some cases a quantity susceptible of measurement*" and attributed the word 'uncertainty' to scenarios where the outcomes were inestimable, unknown or "*of the non-quantitative type*" (Knight 1921; p.26, See also Reddy 1996: p.227 and Lupton 1999: p.7). Put simply to be considered as risk it must have a measurable probability associated with it. John Maynard Keynes' view of the differences between risk and uncertainty can be easily related to Knight's definition, however Keynes' distinction between the two is more complicated. It was Keynes belief that probabilities not only apply to possible outcomes but also to pairs of possible outcomes (Holton, 2004). Keynes (1937) offered a simple definition of uncertainty as being something ''*we simply do not know*'' (pp.213-14). John Keynes used the distinction between risk and uncertainty to argue that investor's behaviour should be

considered as being subject to uncertainty and not the laws of risk as they did not properly utilise probability or statistical analysis in their decision making and were instead more driven by "*animal spirits*" (Reddy 1996: p.229). Lupton (1999) however noted that in every day usage risk and uncertainty are essentially treated as the same concept.

For the purpose of this study a broad modernist view of risk will be utilised to identify risk disclosures. According to the literature, this would appear to be the most sensible definition to adopt as the material being used for analysis is most likely to contain what is described by Lupton (1999) as 'every day usage' of the concept of risk. The broad definition will include both positive risks (i.e. opportunity) and negative risks (i.e. hazard, harm, danger, threat etc.). Risk and uncertainty are inherently linked through ignorance (Kostov and Lingard 2003) and as such uncertainty will be considered as risk when identifying risk disclosures due to the lack of differentiation between the two concepts in modern every day usage.

Risk Disclosure

The voluntary risk disclosure debate in the UK started in 1997 when the Institute of Chartered Accountants in England and Wales released a discussion paper entitled 'Financial Reporting of Risk – Proposals for a Statement of Business Risk (Linsley et al. 2007). The ICAEW sought to address the issue that current risk disclosures were often incomplete and did not give a clear overall picture of the risks that businesses faced. The paper primarily proposed that a statement of risk should be included in the annual report that indentified and prioritised key risks, described the risk management of these risks and also detailed how the risks were measured. The paper also put forward the idea that disclosures should not only focus on past events but should also be "*forward-looking in its perspective*" (ICAEW 1997; p.1).

The Basel Committee on Banking Supervision have also released a paper that sought to address the importance of transparency and disclosures specifically in the banking sector (Basel 1998). The committee saw transparency as stemming from good disclosure and if this existed then the market would create a mechanism whereby banks that who have a subpar risk profile are automatically sanctioned (Linsley et al. 2006) Later papers issued by the Basel Committee (See Basel 1999, 2001 and 2004) have also sought to encourage banks to increase disclosure and to do so in more detail.

The ICAEW's 1997 paper also outlined some possible beneficial impacts of improved risk disclosure. The listed advantages included the encouragement of better risk management, ensuring the equal treatment of investors, improving the usefulness of financial reporting and most importantly reductions in the cost of capital. The paper argued that when information available to investors is inadequate for them to personally make a proper risk assessment, the investor responds by adding an additional premium upon the capital they are investing to cover any uncertainty that exceeds the normal industry level (ICAEW 1998). Christine Botosan's 1997 paper, on which the ICAEW paper's claims are based, indeed provided evidence of an association between increased risk disclosure and a declining cost of capital. Her research however also showed that the magnitude of the effect varied considerably depending primarily on the level of analyst following that a firm had. For a firm with a high analyst following there was no significant association, where as for firms with a low analyst following there was a clear association between the two factors (Botoson 1997; see also Hail 2002). Dietrich et al.'s experiments also provided evidence that indicated forward-looking disclosures were beneficial and could help towards improving market efficiency (Dietrich et al. 2001).

Linsley et al. (2007) however noted that the potential costs of improved risk disclosure were substantial and as such the professional bodies calls for improved voluntary

disclosure have been largely unsuccessful. Schrand and Elliot echoed this statement by concluding that because of a lack of evidence regarding the connection between disclosure levels and cost of capital there are no incentives for "*voluntary disclosure about risk*" (Schrand and Elliot 1998: p.274).

Another major concern regarded the professional bodies requests for 'forward-looking disclosures'. Linsley et al. highlighted the fact that directors were reluctant to publish this information as it is "*inherently unreliable*" and could open the door to legal action from investors who acted upon it (Linsley et al. 2006: p.269). Directors could also be reluctant to disclose information that they consider to be "*commercially sensitive and therefore of potential value to competitors*" (Linsley et al. 2006: p.269). Suggested exemptions for commercially sensitive items from disclosures could results in investors once again not getting a full picture on which to base their risk assessments, which essentially defeat the point of calling for improved voluntary disclosure in the first place. Companies with these exemptions could also produce 'boilerplate' disclosures that pass off all risks as commercially sensitive and thus only detail risk management procedures and not the actual specific underlying risks themselves (Linsley et al. 2007: p.195)

Skinner (1994) outlined the fact that firms disclose both good and bad news which supports the selection of a modernist view of the concept of risk for this study. Skinner (1994) states that managers who fail to disclose bad news in a timely manner may incur reputational costs and this is reaffirmed by Deegan and Gordan (1996) who argued that not disclosing bad news will lead to suspicion from investors that managers are hiding something.

Linsley et al.'s (2007) overview of current risk disclosure practice confirmed the view of professional bodies that organisations currently provide inadequate amounts of forward-

looking information. Linsley et al. (2007) also highlighted the fact that disclosed risks were generally not quantified and the disclosures themselves were often vague.

Martson and Shrives (1991) defined the annual report as being the "*main disclosure vehicle*" and it is this data source that has been the primary focus of the main risk disclosure studies to date. Whether or not the annual report is the main disclosure vehicle could however be contested by the fact that disclosures can also be made privately in meetings with investors and analysts (Craven and Marston, 1999). A study by Lang and Lundholm (1993) concluded that the disclosure level through the annual report is positively correlated to disclosures communicated to investors and the market through other media. Given the increased interest in risk disclosure, active voluntary disclosure debate and the connection amongst disclosure vehicles it is logical that as disclosures in annual reports have been shown to increase as part of legitimacy repairing strategies, alternative disclosure vehicle utilisation should have also increased and therefore should also be analysed. Linsley et al. (2006) concluded that risks can alter dramatically over time which can make the yearly format of the annual report an inappropriate choice of disclosure vehicle. Linsley et al. (2006) went on to state that "*useful risk information may need disseminating by some other method*" which again gives support to the idea that other disclosure vehicles should be analysed. These concluding remarks are echoed by Lebar (1982) who compared and contrasted the semantic properties of annual reports, the 10-K and press releases. Lebar found that whilst the three disclosure vehicles sometimes contradicted each other, press releases and the 10-K contained similar topics and semantic properties. Because of these similarities Lebar went on to ponder as whether analysts should given more attention to press releases as it also provides the timeliest information of all the risk disclosure vehicles. Solomon et al.'s (2000) empirical study of investor's attitudes towards risk found that institutional investors do not favour a regulated environment (such as the annual report) as a risk disclosure vehicle, which to some extent

contradicts the ICAEW's recommendations. These findings and concluding remarks from the aforementioned authors make press releases a good candidate for research.

Unlike the Annual Report there is no rules directly governing disclosure in press releases but they are covered by existing legislation. For example a company listed on the FTSE 100 would not be able to send out a press release containing new price-sensitive information without first making an announcement to the Regulatory New Service of London Stock Exchange. (Craven and Marston 1999)

Beretta and Bozzolan (2004) analysed the MD&A section of the annual report for 85 non financial companies listed on the Italian stock market with an emphasis on not only looking at how much is being disclosed ('Quantity') but also the 'Quality' of the disclosures. The authors took the view that semantic analysis of disclosures can determine whether or not the information being disclosed can actually help the outside investor. Beretta and Bozzolan identified that the majority of disclosed items tended to focus on either the past or present rather than the future.

Linsley and Shrives (2006) examined the nature of risk disclosure in an attempt to 'address the gap' between risk and risk management concepts and past empirical work that had been conducted that was identified by Solomon et al. (2000) and Schrand and Elliot (1998). Disclosures in FTSE 100 annual reports were tested and examined for relationships between the volume of disclosures, company size and company risk level. Evidence for a positive relationship between firm size and disclosure level was found which confirmed Beretta and Bozzolan's (2004) findings of their Italian study. Linsley and Shrives (2006) also found that only a small proportion of disclosures were quantified which again mirrors Beretta and Bozzolans (2004) findings (figures of 15.5% and 5.3% were recorded respectively). Linsley and Shrives indicate that the difference between the two figures could be attributed to

the use of a much broader definition of risk, but this however cannot be confirmed as Beretta and Bozzolan do not provide a definition of risk against which to compare. Linsley and Shrives also found a statistically significant level of forward looking disclosure which contradicts the findings of most other studies such as Kajüter (2001), Beretta and Bozzolan (2004), and Beattie et al. (2004).

Linsley, Shrives and Crumpton (2006) conducted an exploratory study of UK and Canadian banks. A positive association was found between levels of risk disclosure and both bank size and the number of risk definitions. They also found no statistically significant difference between the disclosure practice of UK and Canadian banks which is hardly surprising given the level of globalisation in financial markets. Again in line with Beretta and Bozzolan (2004)and Linsley and Shrives (2006) it is found that generally risk disclosures are broad statements and are not often quantified.

Linsley and Shrives (2006) considered disclosures to be risk disclosures "*if the reader is informed of any opportunity or prospect, or of any hazard, danger, harm, threat or exposure, that has already impacted upon the company or may impact upon the company in the future or of the management of any such opportunity, prospect, hazard, harm, threat or exposure*" (p.389). The CICA (2001) and ICAEW (2000) frameworks indicated that risk disclosures should focus on sources of uncertainty that affect volatility, the varying types of risk and on expected future performance (Beretta and Bozzolan 2004). Beretta and Bozzolan (2004) themselves drew on the CICA and ICAEW definitions but took a broader approach and defined risk disclosure as "*the communication of information concerning firms' strategies, characteristics, operations, and other external factors that have the potential to affect expected results*". This broad definition omits any mention of the 'risk' in the risk disclosure definition and sidesteps the tricky problem of having to define risk for their study. Whilst Linsley and Shrives (2006) very specific definition fits in closely with Lupton's

(1999) definition of risk and the subsequent definition being used in this research it was designed with the study of annual reports in mind and may not be the most appropriate framework to apply to the study of press releases. Press releases differ significantly in style and format to annual reports and are designed to be "*more readable*" (Lebar 1982 p.188). Therefore, for the purpose of this study Berretta and Bozzolan's (2004) definition of risk disclosure will be used. Disclosures will also be considered risk disclosures if they detail risk management activities.

Motivations for Disclosure

In their 2002 paper looking at 'Voluntary Risk Disclosure of Accounting Ratios in the UK', Watson et al. indentified three main motivations for voluntary disclosure: Agency theory, signalling theory and Legitimacy theory.

Agency Theory

According to Agency Theory in the case of an imperfect market there are information asymmetries between the principal and the agent. This is represented by the fact that investors may be unaware of the full range of risks face by the company and the methods used by the management to monitor and control them (Dowd et al. 2004). There is no costless or credible and credible way through which management can pass on their information as it will always be perceived as bias (Dowd 1994). Dowd (1994) goes on to state "*A situation can arise, therefore, where the bank is sound by management cannot easily persuade its customers*" as the public would meet any announcements with scepticism due to the perception of the fact that "*the management has an incentive to lie*" (p.302).

Agency theory therefore may be able to explain why companies voluntarily disclose information as managers could have an incentive to try and convince shareholders they are acting optimally (Watson et al. 2002). Dowd et al. (2004) highlights the fact that disclosures can not only decrease information asymmetries but do so in a way which is mutually advantageous to both parties. This is because through greater disclosure companies can reduce investor uncertainty which in theory should reduce the cost of capital (Watson et al. 2002). However for it to be true that Agency Theory is a motivating factor behind increased disclosure it must hold that increased disclosure reduces agency costs (i.e. through reduction of the cost of capital) and as previously mentioned whilst there is positive evidence for this is weak and varies depending on company characteristics (See Botosan 1997).

Signalling Theory

Signalling is a reaction to information asymmetries (Watson et al. 2002) which play a large role in financial markets (Dowd 1994). As mentioned previously under Agency Theory companies have information that investors and other shareholders do not (Barclay and Smith 2005). Watson et al. (2002) argue therefore than asymmetries can be reduced if one party makes actions that 'signal' the status of the company to the market. Signals can be made through disclosures, for example Watson et al. (2002) state that "*high quality firms will want to distinguish themselves from lower quality firms through voluntary disclosures*" (p.291).

Economic theory suggests that information discloses by an obviously biased source such as the management of a company will only be credible if there are significant consequences for misleading the market (Barclay and Smith 2005). Whether or not this is the case in the banking sectors is open to interpretation as in 2008 Bradford and Bingley openly "*misled its shareholders over the need for new capital*" and its exposure to the 2007 subprime crisis (Hosking 2008).

Watson et al. (2002) based their assumptions that signal theory would be a form of motivation for disclosure on the fact that firms would want to tell the market when they were performing well. Neither gave any consideration to scenarios where firms were performing badly or facing a crisis. Whilst Watson et al.'s (2002) work perhaps might indicate that Signalling Theory cannot be appropriately applied to firms actions in response to an adverse risk event Barclay and Smith (2005) offered a different perspective. Barclay and Smith (2005) believed that Signalling Theory could be used when management felt the company was undervalued. This can obviously be applied to a scenario where a company is in crisis but the crisis is not as severe or debilitating as customers, investors and other stakeholders believe. Barclay and Smith's (2005) study looked at the 'Capital Structure Puzzle' and use of Signalling Theory but found little evidence that management used financing decisions to signal superior information to the market.

Legitimacy Theory

In the field of risk the social dimension of trust has been proposed as being crucial for the past decade (Beck 1992). Muchembled (1985) supported this idea by theorising that societies create a system of strategies and beliefs essentially in an attempt to avoid or minimise unwelcome aspects of risk which could be construed as deviations from the norm. Lupton (1999) highlights the importance of these systems by stating that "*to lack such systems is to throw oneself upon the mercy of fate*" and "*to relinquish any sense of control*" (Lupton 1999: p.3).

Dowling and Pfeffer (1975) saw "*the congruence between social value associated with or implied by [organisational] activities and the norms of acceptable behaviour in the larger social system*" as being the basis for the idea of 'legitimacy'. Legitimacy is an example of society created strategy to deal with risk as described previously by Lupton

(1999) where "*society permits the firm to operate under constraints of a social contract*" (Linsley and Kajüter 2008: p.67). Ashforth and Gibbs (1990) note that stake holders have a much greater tendency to hold to account organisations where trust is central to the business such as in banking.

Suchman (1995) identified two distinct strands of literature regarding the application of legitimacy to organisational theory: strategic and institutional. From the strategic literature (see for example Ashforth and Gibbs 1990) managers are assumed to have a high degree of control of the legitimation process and alter their performance to meet society's expectations. Institutional researchers (see for example DiMaggio and Powell 1983) see legitimacy as not being an operational resource (Suchman 1995) but that instead cultural definitions and societal forces pressure firms in adopting similar forms and practices in order to increase their legitimacy (Linsley and Kajüter 2008).

Suchman (1995) defined legitimacy as an umbrella evaluation that is resilient to some events yet is dependent on a history of events. Thus when a firm is first created, as it has no history it needs to first establish legitimacy (Linsley and Kajüter 2008), maintain it (Ashforth and Gibbs 1990) and finally develop strategies to repair it if is damaged (Suchman 1995).

Deegan (2002) outlines the fact that due to managers own individual perceptions of the concept of legitimacy they will respond to 'breaches' of legitimacy differently. For the purpose of this study the focus will be on breaches in legitimacy caused by crisis, where a crisis will be defined as "*any event or condition that threatens the survival of the organisation*" in line with the definition used by D'Aveni and MacMillan (1990: p.635) in their study of Crisis and the Content of Managerial Communications.

The main motivation for the legitimacy aspect of this dissertation Linsley and Kajüter's (2008) paper that looked at restoring reputation and repairing legitimacy at the AIB

bank after the Allfirst fraud in 2002. Linsley and Kajüter analysed risk disclosures in the delayed 2001 annual report and then interpreted their findings in order to identify the role that disclosures played in the larger legitimacy repair strategy. Drawing on work from Suchman (1995), Elsbach, Ashforth and Gibbs four different main legitimacy repairing strategies each with their own sub-strategies were identified by the authors. Linsley and Kajuter's findings are also complemented by Staunton and Staunton's (2002) review of annual report research that identified 18 studies that have explored the link between disclosures and legitimacy with several specifically looking at disclosures in the annual report being used as a method to repair legitimacy (i.e. Patten 1992). When trying to identify any link between risk disclosure and legitimacy repair strategies it is Linsley and Kajüter's findings that will be used as a foundation for analysis and interpretation.

Historical Background of Northern Rock and Crisis

Northern Rock was founded in 1965 after merger of Northern Counties Permanent Building Society and Rock Building Society and subsequently became Northern Rock PLC in 1997. Initially it was expected that the newly formed small bank would be taken over by one of its larger rivals but it remained independent and experienced strong growth, gaining promotion to the FTSE 100 index in 1999. At its height Northern Rock PLC had an 18.9% share of new lending in the United Kingdom, loans and assets of £113bn and deposits from customers of £24bn. Unlike most banks, which obtain their money from customers making deposits into savings accounts, Northern Rock was built around its mortgage business (BBC 2008a).

Reduction in lending activity caused by the effects of the ongoing 2007 subprime mortgage crisis resulted in Northern Rock PLC not being able to obtain the wholesale market financing it required. Due to this lack of available funding on the inter-bank lending market the Bank of England was required to step in on September 14th 2007 to assist in funding its

operations (Bank of England 2007). Despite it being judged to be solvent and exceeding the regulatory capital requirements (FSA 2007) the news of the Bank of England assistance created a customer panic which prompted a run on the bank and by September 17th an estimate £2 billion has been withdrawn from the bank (BBC 2007).

On February 17th 2008 it was announced that Northern Rock PLC was to be temporarily nationalised using powers passed in the Banking Special Provisions Bill 2008, as all the private takeover bids that had been put forward were deemed not to offer sufficient value for money for the tax payer (BBC 2008b). All Northern Rock PLC shares were also suspended before the start of trading on February 18th 2008 (HM Treasury 2008).

In February 2007, seven months prior to it becoming public that the bank was in crisis, Northern Rock's share price reached a year peak of £12.51, which reflected the strength of its loan book and confidence in its future prospects. At the point of Nationalisation when the shares were suspended they were worth little over £1.

Time Line of Important Events	
Late July/Early August 2007	Banks become reluctant to lend to each other due to market fears over exposure to potential losses on high-risk US "sub-prime" mortgages.
August 29th 2007	FSA chairman Sir Callum McCarthy informs Chancellor Alistair Darling of "*quite substantial problems*" at the bank.
September 12th 2007	Becomes public that Northern Rock has requested liquidity support from the Bank of England.
September 13th 2007	Funding is received
September 14th 2007	Share price drops 32% and customers instigate a run on the bank
December 13th 2007	Adam Applegarth Leaves as CEO
January 12th 2008	Ron Sandler appointed as CEO
February 18th 2008	Northern Rock Nationalised

Source: Adams (2008).

METHODOLOGY

Content Analysis

Risk disclosure studies frequently use some form of content analysis (Linsley et al. 2006) in order to identify instances of Risk Disclosures within Disclosure Vehicles such as the annual report, Form 10-K or press releases. Content Analysis is an approach to document and text analysis that seeks to quantify content in terms of predetermined categories and in a systematic and replicable manner (Bryman and Bell 2007). It also allows inferences to be made about the intentions and attitudes of the authors by identifying specific characteristics (Morris 1994).

Content analysis can be a very beneficial research tool as it is an unobtrusive technique (Morris 1984) that allows for the study and reconstruction of the perceptions and beliefs of the texts authors (D'Aveni and MacMillan 1990). Thus content analysis can be used as a proxy to gain insight into the otherwise usually inaccessible top level decision makers thought processes (Short and Palmer 2007). Short and Palmer (2007) also outline the fact that even when specific authorship of the text is uncertain (as would be the case with press releases for example) there is widespread agreement that executives will be heavily involved with their preparation which still makes them worthy of analysis.

One of the main problems of content analysis is that the analysis can only be as good as the text on which it is based (Bryman and Bell 2007). In order to try and limit the effect of this issue Scott's recommendations from his book, *A Matter of Record* (1990), will be implemented. Scott recommended that documents should be assessed based on their authenticity, credibility and representativeness in order to determine whether or not they are 'sound'.

Morris (1994) outlined three different broad approaches to content analysis: 1) Human Scored Scheme, 2) Individual Word Count Systems and 3) Artificial Intelligence Systems. Most recent risk disclosure studies have utilised the human scored schema approach where coders are trained to classify text according to preset classification categories. The human scored schema approach can depend greatly on the qualifications and expertise of coders and if research results are to be valid then the individuals and methods involved in their production must be reliable (Krippendorf 1980). Human coders can also struggle to remember complex coding rules making it difficult to for a preset category classification framework to be applied consistently across different pieces of text (Morris 1994). This problem can be amplified when a study uses multiple coders which leads to higher levels of subjectivity being introduced as it is nearly impossible to develop a coding process that does not entail some degree of personal interpretation (Bryman and Bell 2007). Manual content analysis such as human scored schemes and individual word count systems can be a time consuming process (Short and Palmer 2007) and this problem can be exacerbated by the having different teams of coders analyse overlapping samples as in D'Aveni and Macmillan (1990).

Computer Aided Content Analysis

Whilst a full comparison of the methodological and philosophical differences between the use of human coders and computer analysis is beyond the scope of this research, it is however important to highlight some of the advantages and disadvantages of employing computerised analysis. Computer aided content analysis has generally not been used in strategic management research but has seen widespread use in other academic disciplines (Morris 1994). Computer based analysis is very advantageous due its near perfect stability, speed and cost effectiveness (Short and Palmer 2007). When these facts are related to Krippendorf's (1980) idea that reliability is determined by stability, reproducibility and accuracy it gives

rise to the idea that by definition computer aided analysis is superior in terms of reliability (which in turn increases the likelihood of result validity) to manual content analysis.

Unlike manual content analysis techniques, computer aided analysis based on pre-existing search rules and algorithms are systematic and reliable and thus, there are no issues regarding the problems of any subjectivity or bias from human coders (Davis, Pigor and Sedor 2006). Morris' 1994 comparative study of manual and computer aided content analysis found that although computer aided methods were more accurate the different was not statistical different. It is worth to note how other that both computer hardware and software has developed considerably since 1994, which means that Morris' results might no longer hold true.

Morris (1994) also highlighted a number of issues regarding computer aided content analysis. These include a lack of natural language processing capabilities, an insensitivity to linguistic nuances such as negation, irony, and tone, the inability of software to resolve references back and forth to words elsewhere in the text and the danger of word crunching, or transforming rich meanings into meaningless numbers.

DICTION 5.0

DICTION 5.0 is a Windows-based program that uses a series of 31 predefined dictionaries that search for words and language relating to the following characteristics: tenacity, levelling, collectives, numerical terms, ambivalence, self-reference, praise, satisfaction, inspiration, blame, hardship, denial, aggression, accomplishment, communication, motion, cognitive terms, passivity, familiarity, spatial awareness, temporal awareness, present concern, human interest, concreteness, past concern, centrality, cooperation, rapport, diversity, exclusion, and liberation. The dictionaries, which contain no duplication and vary in size from 10 to 745 words, have been selected to identify frequently encountered words in

public discourse (Hart 2000). Five master variables are then calculated by "*concatenating*" the scores calculated from the use of the 31 dictionaries. The master variables include; Activity, Optimism, Certainty, Realism and Commonality (Hart 2000 p.41). The formulae for the Master Variables can be found in Appendix 1.

The first variable 'activity' is based on the work of Charles Osgood and examines language featuring movement, change, as well as the implementation of change and avoidance of inertia which have all been related to a host of strategic behaviour concepts. 'Optimism' is based on the work of James Barber who highlighted the fact that optimism was a key factor in understanding political personality (Short and Palmer 2007). It is defined as "*language endorsing some person, group, concept or event or highlighting their positive entailments*" (Hart 2000 p.43). In business communications 'Optimism' has been associated with overconfidence and excessive pride in CEO's (Hayward, Rindova and Pollock 2004). 'Certainty' derives from work by Wendell Johnson on general semantics (Short and Palmer 2007) and involves language that indicates resoluteness, inflexibility, completeness and a tendency to speak with authority (Hart 2000). Interpretation of the certainty variable should be done with caution as it can be affected by cultural aspects of research subject's home country. For example many business managers in the United States use overstatement in oral communication to show their confidence and assertiveness, whereas in other countries such as China and Japan, business managers typically use understatement to show their modesty (Alexander et al. 1999). 'Realism' stems from work done by John Dewey and examines language describing tangible, immediate and recognisable matters. The final master variable 'Commonality' examines language that highlights "*the agreed values of a group and rejects idiosyncratic modes of engagement*" (Hart 2000 p.37) and is based on the work of Etzioni (Short and Palmer 2007). See Hart (1984, 1987, 2000 and 2001) for a more thorough discussion of the development of DICTION.

Unlike most other computer based text analysis programs DICTION 5.0 was designed by a communications researcher and focuses on the subtle power of word choice and verbal tone (Hart 1984). DICTION uses 31 predefined dictionaries, containing over 10,000 search words, to analyze a passage and the construction of its dictionaries was based on careful attention to linguistic theory (Bligh, Kohles and Meindl 2004b). The program is designed to identify subtle aspects of language that even the trained human eye might not readily perceive (Bligh, Kohles and Meindl 2004b) which allows much better identification of semantic features such as optimism and pessimism than would be possible if the subjective analysis of a human coder was used instead (Davis, Piger and Sedor 2006). DICTION has overcome the major limitations of computerized content analysis (Morris, 1994) and has established its instrument reliability and validity (Alexander, Davis, Zhao and Ober 1999) making it a viable tool to use in this study.

Beretta and Bozzolan (2004) stated that "*We contend that, in analysis of the disclosure of risks made by public companies, attention has to be paid not only to how much is disclosed but also to what is disclosed and how*" (p.270). Beretta and Bozzolan (2004) refer to this as the "*quality of disclosure*" (p.266) and the use of the DICITION software represents a new method of measuring this dimension, as it can accurately assess as the underlying tone of the document, more so than a human coder could.

One of the features of the DICTION software is the availability within the program of normative values for comparative purposes in order to allow researchers to develop a more in depth and greater understanding of the piece of text being studied (Hart 2000). These normative values were generated by running a sample of texts through the software and for more accurate comparison have been divided into six Classes: Business, Daily Life, Entertainment, Journalism, Literature, Politics, and Scholarship. These classes are then further subdivided further into thirty-six distinct types. For the purpose of this study the

Corporate Relations sub category will be used. The normative values for this category are based on a sample of 63 pieces of text comprising of official mission statements, public pronouncements, and C.E.O. speeches on behalf of major American corporations from the 1960s through the mid-1990s (Hart 2000). It has however been identified that use of these comparatives must be done with caution (Sydserff and Weetman 2002) as the sample relates only relatively large US companies between the 1960's through to the mid 1990's (Hart 2000).

The suitability of DICTION 5.0's formula for calculating the Certainty score in regards to the study of business communications has also been called into question (Sydserff and Weetman 2002). Alexander et al. (1999) went as far as altering the formula so that it in their eyes better represented the features of business communication. The formula was also altered however so that it better accommodated text samples that were originally given orally. As no oral text samples are being used in this study the default DICTION 5.0 formulae will be used. This decision is supported by the fact that other studies such as Yuthas, Rogers and Dillard (2002, 2005) also used the original formulae and made no changes.

Sample Selection

This study will look at Northern Rock PLC's press releases between July 2005 and August 2008 as this is the full range of archived material. Press Releases are a useful disclosure vehicle as they can be used to quickly communicate information regarding current business challenges and developments to stakeholders as opposed to disclosures in the annual report that can only be released once a year, generally long after any developments have taken place.

All major UK banking institution have recently suffered as a result of the effects of the 2007 Sub Prime Crisis but out of all the UK banks the Northern Rock PLC crisis and

subsequent collapse has been by far the most spectacular. The high profile collapse and ensuing government involvement should make Northern Rock PLC a good research study candidate.

As the focus of the study will be on Northern Rock's voluntary risk disclosure press releases any disclosures that are regulatory requirements will be ignored. The Press Releases were sourced from the Newsroom on the Northern Rock corporate website. There were 98 press releases in total archived for the specified time period. Press releases whose sole focus was to inform customers of new product updates (i.e. in regards to mortgage and savings rates) were removed from the sample as preliminary analysis showed that they contained no disclosures, and also because the investor was not amongst the intended audience. This resulted in the removal of 47 press releases from the sample. Press releases whose primary intention was to notify the recipient that an annual report had been released were also removed. Preliminary analysis showed that these press releases simply contained a carbon copy of a section of the annual report. Seeing as the language and style of the annual report differ from press releases (Lebar 1982) it was felt that including these in the analysis encroach on the validity of any results. This resulted in the removal of 2 press releases from the sample leaving a total of 49 to be analysed.

Due to the small sample of suitable press releases statistical tests should be used with caution. A viable comparative study of the press releases of multiple banks is also made impossible due to the lack of a bank that can be used as the control case. This problem is caused by the fact that the ongoing 2007 liquidity crisis has had such a wide reaching global effect that no major banking institution has been left unaffected and the majority (if not all) have experienced some form of crisis. Therefore, for this research, an event study format will be adopted looking at Northern Rock PLC's press releases before and after its collapse.

Upon investigation of the DICTION 5.0 dictionaries it was found that the dictionary used to identify language associated with 'spatial terms' contained the word 'Northern' which is of course apart of the study subjects company name. The 'spatial terms' score is used to calculate the Realism master variable and the prevalent usage of the company name in press releases could lead to biased scores being reported. As the study is not a comparative one the effect of this problem should be limited but none the less the problem should be kept in mind when analysis is being conducted.

HYPOTHESES

There have been no prior studies published that have sought to examine the link between organisation crisis and the tone of disclosures in press releases. Consequently in developing the hypotheses below it was not possible to draw directly upon prior risk research and test previous authors hypotheses. It is however possible to draw on previous risk disclosure research that have looked at disclosures in the annual report and adapt their hypotheses for the purpose of this study. Hypotheses 1 and 2 will seek to address both the quality and quantity aspect of risk disclosures as outlined by Beretta and Bozzolan (2004) in order to determine whether not Northern Rock altered their approach towards disclosures in press release.

Quantity

Linsley and Kajuter (2008) found that after being subjected to a crisis (in the form of a serious fraud) Allied Irish Bank made a considerable amount of disclosures regarding the crisis in their next annual report. They even went as far devoting an entire section in the annual report to the topic. In line with these findings it would be expected that Northern Rock would issue more press releases that contain disclosures in the post-crisis period than in the pre-crisis period. This expectation is also supported by Agency and Signalling theory as it is

logical to assume that the degree of information asymmetries between Northern Rock and its investors would have increased as the crisis hit.

In order to analyse the 'quantity' aspect of risk disclosure in line with Beretta and Bozzolan (2004) simple descriptive statistical analysis will firstly be used to try and identify any trends in the number of press releases that contain risk disclosures issued during the time frame being studied. In order to assess whether or not any trends indentified by the descriptive statistics are significant the Chi-Square test will be used.

The quantity hypothesis will take the following format:

$$H_1 = Quantity\ of\ Pre\ Crisis\ Disclosures\ \neq Quantity\ of\ Post\ Crisis\ Disclosures$$

Quality

Davis et al. (2006) found that managers purposefully use different types of languages in earnings press releases to convey information to the market, and that the market would respond to the type of language being used. Whilst Davis et al. (2006) only looked at optimistic and pessimistic language it does provide a ground work on which to build a hypothesis, as it provides evidence that language usage is an important element of narrative disclosures and that managers knowingly manipulate it. In line with this fact, it is viable to test whether or not the type, or more specifically in this case the tone, of language being used changes across the pre and post-crisis periods. Based in part on findings by Davis et al. (2006) the expectation is that there will indeed be a statistically significant change in tone and use of language across the two periods.

In order to test the quality aspect of disclosures the following hypotheses will be tested:

$$H_2 = Pre\ Crisis\ Activity\ Variable\ Mean\ \neq Post\ Crisis\ Activity\ Variable\ Mean$$

$$H_3 = Pre\ Crisis\ Optimism\ Variable\ Mean \neq Post\ Crisis\ Optimisn\ Variable\ Mean$$

$$H_4 = Pre\ Crisis\ Certainty\ Variable\ Mean \neq Post\ Crisis\ Certainty\ Variable\ Mean$$

$$H_5 = Pre\ Crisis\ Realism\ Variable\ Mean \neq Post\ Crisis\ Realism\ Variable\ Mean$$

$$H_6 = Pre\ Crisis\ Commonality\ Variable\ Mean \neq Post\ Crisis\ Commonality\ Variable\ Mean$$

Motivation for Disclosures

Hypothesis 3 will be a conditional hypothesis based on the outcome of hypotheses 1-6. If as expected the preceding hypotheses show that quality and quantity dimensions of risk disclosure changes after the crisis has occurred then hypotheses 7-9 will revolve around determining the motivation for the change in disclosure practice and whether the change can be attributed to Legitimacy theory, or if another motivating factor such as Agency Theory or Signalling Theory (as outlined in the Literature Review) was responsible.

The motivation for risk disclosure hypotheses will take the following format:

$$H_7 = Change\ in\ Disclosure\ Pratice\ can\ be\ Attributed\ to\ Agency\ Theory$$

$$H_8 = Change\ in\ Disclosure\ Pratice\ can\ be\ Attributed\ to\ Signalling\ Theory$$

$$H_9 = Change\ in\ Disclosure\ Pratice\ can\ be\ Attributed\ to\ Leigitmacy\ Theory$$

DATA ANALYSIS

Quantity

Descriptive statistics were used to first identify any trends in the quantity of disclosure containing press releases in relation to the pre and post-crisis periods. Appendix 2 clearly shows that the rate at which disclosure containing press releases were issued clearly increased significantly in the post crisis period (from 12th September 2007 onwards). As can be seen from the data this increase was not a short term spike and in fact the increased issue rate continued until the end of the study timeframe. A Chi-Square test was then used to see if the differing quantity of disclosures made in the two periods were statistically significant or not. The results (see Appendix 3) show that the different between the two recorded frequencies is highly significant. Appendix 4 shows further analysis of hypothesis 1 when the data is broken down in to the pre-crisis, post-crisis but pre-nationalisation and post-nationalisation periods. From the data it can be seen that the each period resulted in an elevated level of disclosure containing press releases being released. The findings were in line with expectations and based on these results we can accept the Hypothesis 1; that the quantity aspect of Northern Rock's approach to risk disclosures in press releases has altered post-crisis.

It could however be questioned as to whether using the number of press releases as a proxy for quantity is the most accurate method. The problem lies in the fact that one press release could contain multiple disclosures regarding different topics and another could simply contain one single disclosure but each press release would have an equal weighting when added to the overall tally. Therefore whilst counting individual disclosures in each press release and using their frequency as a proxy for quantity would in theory be a more accurate, in practice it would be a very tricky task as the risk disclosures in the press releases studied were often quite vague, referred to in passing and inter mingled. It would also reintroduce the problems of human subjectivity in category classification that this study attempts to avoid by

using computer aided content analysis. There is also no general way of defining units of information (Arrow 1996) so no method is going to be perfect.

Quality

Data across the entire study timeframe will be first analysed in order to identify overall trends and then data will be analysed by set periods outlined in the methodology. The time series plots for all the master variables can be found in Appendix 5 to 9. The vertical dotted line indicates the date the crisis became public. The plots show associations between all master variables and time with the exception of one. It is accepted that the R^2 for the best fine line plots are low, the primary purpose of the graphs is to only serve as an indication that a potential relationship is present. Activity and Certainty showed signs of a positive correlation, Commonality and Optimism showed signs of a negative correlation, and Realism showed no sign of correlation and remained static across both periods.

The Activity plot indicates that the use of language associated with movement, change, the implementation of change and avoidance of inertia has increased. The identified relationship between the Activity and strategic behaviour concepts (Short and Palmer 2007) could be interpreted as meaning that Northern Rock's strategic activity have also increased over time.

The Certainty plot indicates that the use of language related to resoluteness, inflexibility, completeness and a tendency to speak with authority has also increased over time.

The Realism plot suggest that the use of language associated with describing tangible, immediate and recognisable matters has remained static across the entire period being looked at. As highlighted in the Methodology the word 'Northern' appears in one of the dictionaries

used to calculate the Realism master variable. The prevalent usage of the word could have severely biased the results. The only way to ascertain if this has actually happened is to remove the word from all press releases and re-run the analysis. Doing this however would also alter other parts of the master variable calculations which are based on how many times nouns or noun derived adjectives are used in order to infer 'Insistence'.

The Commonality plot indicates that language associated with groups agreeing on the same values and rejecting of idiosyncratic behaviour has decreased. This could indicate that Northern Rock's agreement with other stakeholders often mentioned in press releases such as Shareholders, Customers and the Government as well as the market has decreased over time. The R Squared value of the best fit line for the Commonality plot indicates however that out of all the associations observed this is the weakest.

The Optimism plot offers the strongest association seen and shows that the use of language which takes a positive view on people, groups or concepts has decreased. This downward trend in Optimism could have been caused by factors other than the crisis Northern Rock faced. The fact that optimism has been associated with overconfidence and excessive pride in CEO's (Hayward et al. 2004) could be a very important factor in explaining the results. Adam Applegarth who was CEO of Northern Rock until 13th December 2007 was known for having a bullish attitude and has largely been credited for implementing a high risk strategy that originally paid dividends but exposed the bank to the sub-prime market in America. The strategy has since been described by some business commentators as "*spectacularly, recklessly overconfident [in] assumption*" (Ringshaw and Smith 2007). The departure of Adam Applegarth from Northern Rock could therefore have had a large influence on the Optimism scores recorded.

Quality (Pre Crisis vs. Post Crisis)

A two tailed Mann-Whitney U test was used to assess the means of the DICTION 5.0 master variable scores in order to determine whether or not the tone (and thus quality) of disclosures changed after the Northern Rock crisis. The fact that there are unequal amounts of data suitable for testing on either side of the crisis makes the Mann-Whitney U test an ideal choice as it is not based any assumptions regarding the distribution of data. A two tailed test was used as the master variable scores could have either increased or decreased.

The test results (see Appendix 8) show that changes in the Activity, Optimism and Certainty variables across the two periods are statistically significant at 95%, where as the changes in Realism and Commonality are not statistically significant. These results fall in line with expectations based on the observed overall trends for the whole study time frame. Therefore we accept Hypotheses 2, 3, and 24, and reject Hypotheses 5 and 6. At a 90% confidence interval changes in all variables with the exception of Realism become statistically significant. Based on these findings it can be said that there is a significant change in tone and use of language across the two periods.

Further Analysis of Quality

In order to further investigate the results the pre and post-crisis intervals were altered to include three distinct intervals: pre-crisis, post-crisis but pre-nationalisation, and post nationalisation.

The Mann Whitney U test results for the pre-crisis vs. post-crisis but pre-nationalisation results (see Appendix 11) mirror the original two period test in terms of master variable changes that are statistically significant.

The pre-crisis vs. post-nationalisation (see Appendix 12) results show that unlike the original test the Activity variable is no longer statistically significant at a 95% confidence

interval (but would be at a 90% confidence interval). All other results show a similar picture to the original test. This shows that whilst use of Activity associated language (which is in turn is associated with strategic activity) increased immediately after the crisis but fell immediately after nationalisation. This is an interesting result as these changes in Activity related language could be linked to the fact that once nationalised Northern Rock essentially no longer had shareholders which it needed to communicate with. This however is merely speculation and would need more research and in depth observation in order to say definitively what caused changes in the data. This speculation is however contradicted by the results for the post-crisis but pre-nationalisation vs. post-nationalisation results (see Appendix 13) that suggest very strongly that there is no significant difference between all DICTION 5.0 master variable scores across the two periods.

Motivation for Disclosures

It has been established through the testing of hypotheses that Northern Rock did indeed changed their approach towards disclosures made in press releases in the pre and post crisis periods. Thus the task of trying to establish whether these changes were part of a legitimacy repairing strategy or due to some other motivating factors arises.

Linsley and Kajüter (2008) noted that in the 2002 Allfirst fraud the restoration of trust was central to the AIB's strategy of regaining and repairing their legitimacy. This is done by disclosing generous amounts of information regarding the crisis "*as this suggests it has nothing to hide and can be considered as honest*" (Linsley and Kajüter 2008 p.75). Northern Rock's significant increase in disclosure containing press releases in the post-crisis period could be interpreted as a similar action to AIB's, where by the Northern Rock board released as much information as possible in an attempt to regain trust and indicate that the problems were being addressed.

It is clear from other Northern Rock events such as the replacing Adam Applegarth with Ron Sandler as CEO, as well as appointing a new Chief Risk Officer that a strategy designed to restore legitimacy was in place. The dismissals following the crisis is evidence that the Northern Rock was trying to demonstrate that it was acting in a way which it believed was expected by its shareholders. This could be considered as a symbolic pursuit of legitimacy (Ashforth and Gibbs 1990).

Whilst the analysis can indicates that a strategy to re-establish the banks legitimacy was probably in action and that the change in approach to risk disclosure was probably a part of it, it cannot determine which of the specific strategies designed to repair legitimacy that are outlined in the literature (see for example Ashforth and Gibbs 1990; Elsbach and Sutton 1992; Suchman 1995), was implemented. In order to be able to accurately determine which strategy was implemented the actual content and context of the press releases would have to be analysed not just the tone of language used as was done in this study. This would require the use of manual content analysis and human coders which as previously mentioned, this study attempted to avoid due to the potential reliability problems (Krippendorf 1980). Alternatively further future investigation of the DICTION 5.0 master variables and their relationship to legitimacy strategies could potentially identify links between changes in certain variables and specific strategies.

Whilst there is evidence that the motivation for change in disclosure practice could be explained by Legitimacy theory there is also evidence that Agency and Signalling Theory could also have been a motivating factor behind disclosures. This is because of the similarities between the three theories. Watson et al. (2002) even went as far as purposefully omitted Legitimacy Theory from their analysis of voluntary disclosures because "*the authors believe[d] agency, and in particular signalling theory, adequately cover the theoretical underpinning*" (p.293). There are also considerable overlaps in all three theories but

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particularly between Signalling and Agency theory, with the only major difference being that information asymmetries are not required to be present under Agency Theory (although it is implied) (Morris 1987). Given that in this test case there are information asymmetries present and that using DICTION 5.0 as the primary tool of analysis fails to consider the context dimension there is no enough evidence to either accept or reject Hypotheses 7-9 and thus one cannot definitively say which motivation for disclosure (if any) was responsible for the change in quantity and quality of Northern Rock's disclosure practices.

The inability to either accept or reject the hypotheses and the limited evidence that supports all three motivations is in line with Watson et al.'s (2002) findings. Watson et al. went on to point out that "*disclosure is ultimately the result of a human decision, and therefore can never be explained by company variables*" indicating that the use of one tool or methodology (in this case the sole use of DICITION 5.0) to analyse data is not sufficient and this fact is an accepted flaw of this dissertation.

CONCLUSIONS

A review of the existing literature indicated that most past risk disclosure studies had focused on the annual report although some had indicated in their concluding remarks that other risk disclosure vehicles might have been worthy of analysis none had done so. Therefore the study has also been successful in the fact that it has identified that there is some worth to analysing other risk disclosure vehicles than the annual report, and the way in which they are utilised. This adds to the still evolving academic understanding of the use of risk disclosure, as well as any part it may play in organisational legitimacy repairing strategies.

Analysis of risk disclosures containing press releases in the pre and post-crisis periods reveals that Northern Rock altered not only the volume of press releases that were released but also the type of language that was used in them. These changes have been shown to be

statistically significant. Based on the identified factors that indicated the presence of a legitimacy repair strategy in Linsley and Kajüter's (2008) study of the AIB banking crisis it can also be inferred that Northern Rock had also implemented a strategy to repair legitimacy due to similarities in their actions (i.e. increase in disclosures and boardroom changes). Whilst there are similarities with the findings of Linsley and Kajuter (2008), due to the limitations of the methodology used to analyse the data, it cannot be definitively said whether or not Agency, Signalling or Legitimacy Theory was ultimately responsible for the change in disclosure practice.

Whilst no definitive conclusions could be drawn regarding the motivation for disclosures the findings regarding the change in Quality and Quantity dimensions are in line with Davis et al.'s (2006) conclusion that managers knowingly alter the language they use in earnings press releases in order to manipulate the market's expectations of firm future performance. Whilst the motivation behind in the change in language usage was not an earnings surprise (as in Davis et al. 2006) it still confirms Beretta and Bozzolans (2004) view that the 'quality' of disclosure and not just the 'quantity' should be considered through the analysis of semantic properties as it can give investors a greater insight into the company and allow them to more accurately assess its risk.

As mentioned in the previous section, whilst analysing the sample press releases to identify those that contained risk disclosures it was found that for the most part that risk disclosures were often vague, mentioned in passing or intertwined with each other. Classifying disclosures as specific risk disclosures therefore was a difficult task and in hindsight it may have been more prudent to focus the study on disclosures as a whole and not just risk disclosures. Not only would this have made analysis easier but it would also allow the tricky problem of defining 'what risk actually is' to be side stepped. These findings are

echoed by Dowd et al.'s (2004) concluding remarks; *"The Bottom Line? True Risk Disclosure would appear to be rather like the proverbial free lunch: it doesn't exist."* (p.17).

Whilst conducting analysis of the DICTION 5.0 output it became apparent that the 'export to SPSS' feature does not function and as such all data had to be entered into SPSS manually before it could be analysed. Whilst manually entering data was feasible for the five master variables it was unfeasible to enter the results for the 31 variables on which the master variables are based. Manually entering 7200 pieces of data would take a considerable amount of time and also most likely introduce high a degree of error into the results. Analysis of the individual dictionary scores would have vastly increased the scope of the study and allowed the semantic properties of the press releases and how they change after a crisis to be examined in much more detail.

The strengths and limitations of using DICTION 5.0 as a method have also become apparent. Whilst DICTION 5.0 can identify semantic features of text that are worthy of analysis which would not be apparent to human coders it cannot analyse the actual context or content of the text in order to determine its meaning. Therefore, it can be concluded that DICTION 5.0 could be a valuable tool in future research but if it is employed, then it should be done so in conjunction with traditional manual content analysis so that the results from each method can be used together in order to give a more encompassing and accurate assessment of data. It is also difficult to draw definitive generalised conclusions based on a single case. Future studies would benefit from conducting a much larger comparative study of companies that have faced an adverse risk event.

APPENDICES

Appendix 1: DICTION 5.0 Master Variable Formulae

Appendix 2: Graph showing the cumulative frequency of press releases issued over time

Appendix 3: Chi Square Test Results for Pre-crisis vs. Post-crisis

Appendix 4: Frequency of press releases issued broken down into three periods

Appendix 5: Time Series Plot of Activity Master Variable

Appendix 6: Time Series Plot of Certainty Master Variable

Appendix 7: Time Series Plot of Realism Master Variable

Appendix 8: Time Series Plot of Commonality Master Variable

Appendix 9: Time Series Plot of Optimism Master Variable

Appendix 10: Pre-crisis vs. Post-crisis Mann Whitney U Test Results

Appendix 11: Pre-crisis vs. Post-crisis but Pre Nationalisation Mann Whitney U Test Results

Appendix 12: Pre-crisis vs. Post-nationalisation Mann Whitney U Test Results

Appendix 13: Post-crisis but Pre-nationalisation vs. Post-nationalisation Mann Whitney U Test Results

APPENDICES

Appendix 1: DICTION 5.0 Master Variable Formulae (Hart, 2000)

<u>The Certainty Score</u>

Formula: [Tenacity + Leveling + Collectives + Insistence.] -[Numerical Terms + Ambivalence + Self Reference + Variety] TENACITY: All uses of the verb to be (*is, am, will, shall*), three definitive verb forms (*has, must, do*) and their variants, a s well as all associated contraction's (*he'll, they've, ain't*). These verbs connote confidence and totality.

<u>The Optimism Score</u>

Formula: [Praise + Satisfaction + Inspiration] -[Blame + Hardship + Denial]

<u>The Activity Score</u>

Formula: [Aggression + Accomplish men t + Communication + Motion] -[Cognitive Terms + Passivity + Embellishment] AGGRESSION: A dictionary embracing human competition and forceful action. Its terms connote physical energy (*blast, crash, explode, collide*), social domination (*conquest, attacking, dictatorships, violation), and* goal-directedness (*crusade, commanded, challenging, overcome*). In addition, words associated with personal triumph (*mastered, rambunctious, pushy*), excess human energy (*prod, poke, pound, shove*), disassembly (*dismantle, demolish, overturn, veto)* and resistance (*prevent, reduce, defend, curbed*) are included.
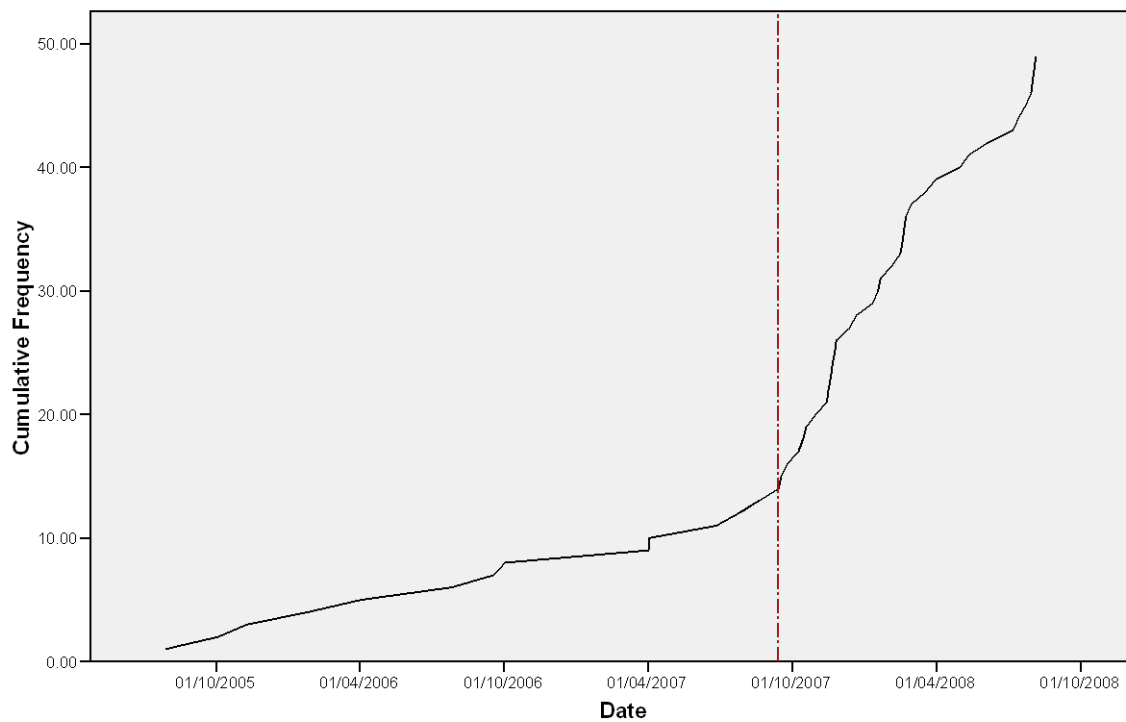
<u>The Realism Score</u>

Formula: [Familiarity + Spatial Awareness + Temporal Awareness + Present Concern + Human Interest + Concreteness] -[Past Concern + Complexity]

<u>The Commonality Score</u>

Formula: [Centrality + Cooperation + Rapport] -[Diversity + Exclusion + Liberation]

Appendix 2: Graph showing the cumulative frequency of press releases issued over time
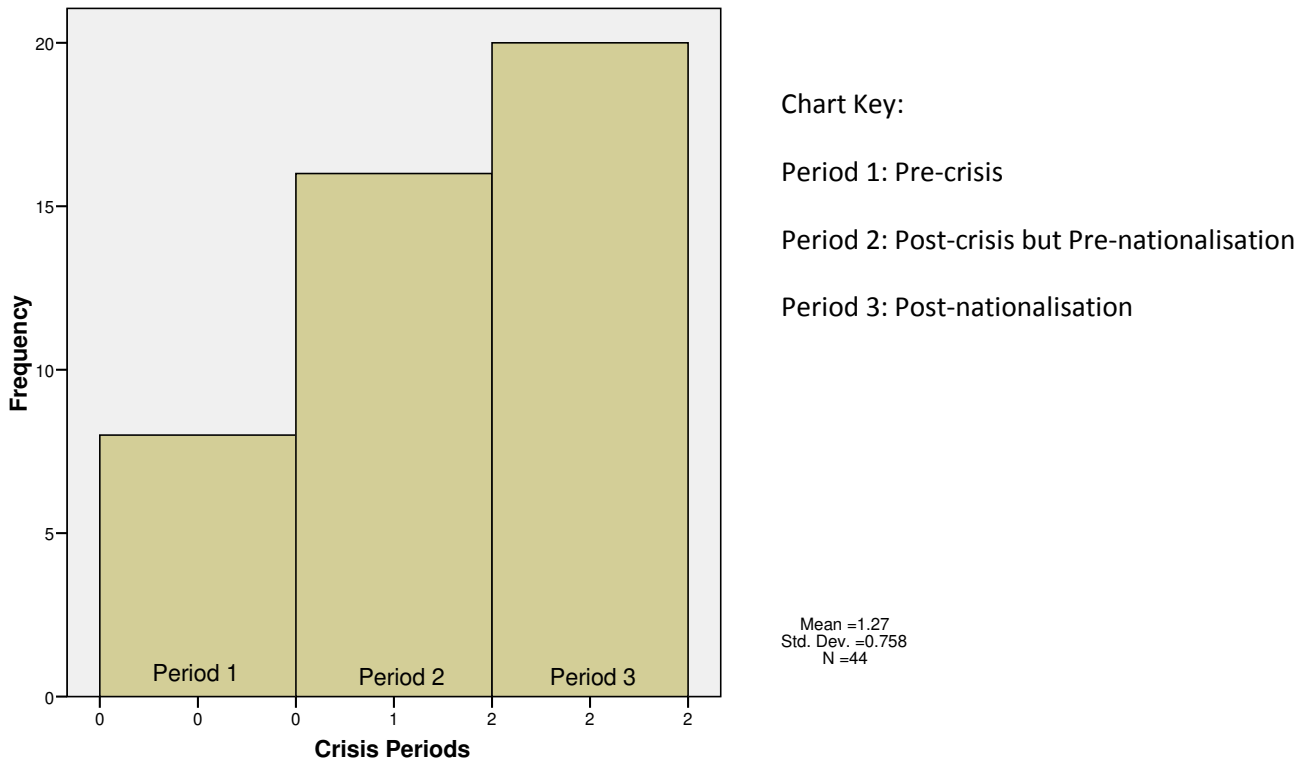

Appendix 3: Chi Square Test Results for Pre-crisis vs. Post-crisis

	Observed N	Expected N	Residual
Pre-Crisis	13	24.5	-11.5
Post-Crisis	36	24.5	11.5
Total	49		

	Crisis
Chi-Square(a)	10.796
Df	1
Asymp. Sig.	.001

Appendix 4: Frequency of press releases issued broken down into three periods

Chart Key:

Period 1: Pre-crisis

Period 2: Post-crisis but Pre-nationalisation

Period 3: Post-nationalisation

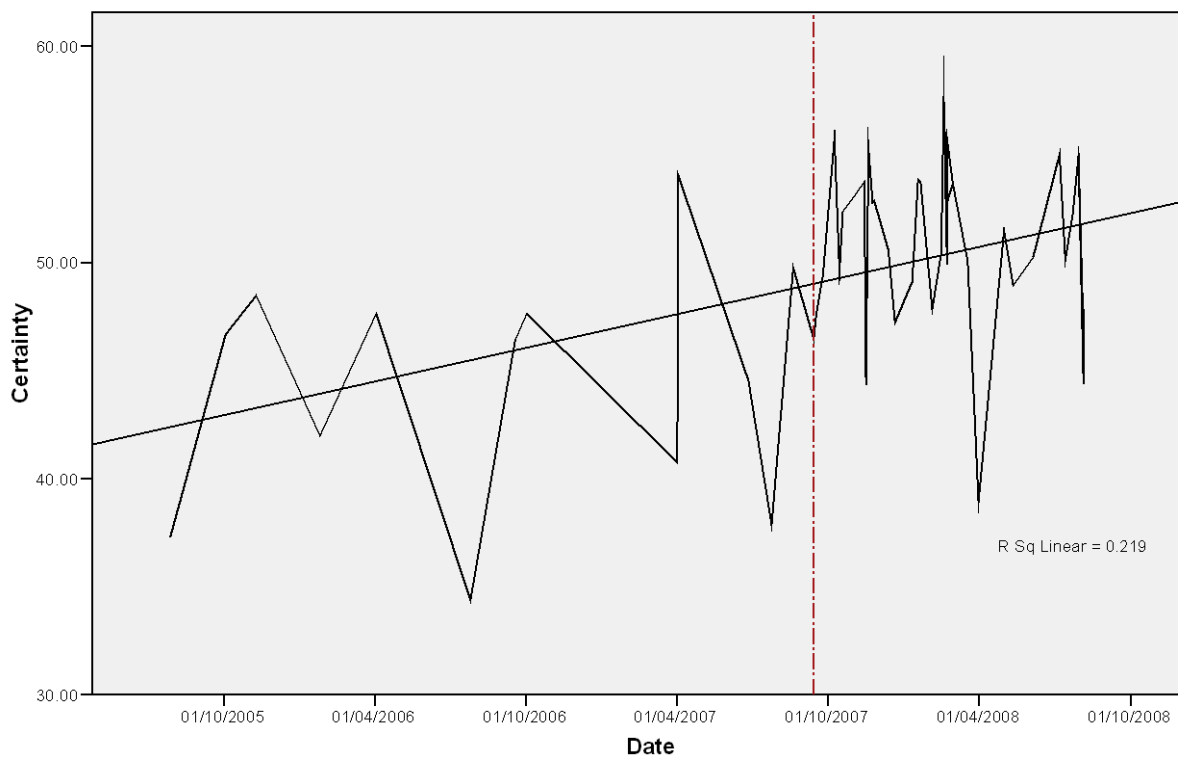Mean =1.27
Std. Dev. =0.758
N =44

Note: Data range was normalised in accordance with time elapsed between crisis and nationalisation. This resulted in periods of 5 months being analysed.
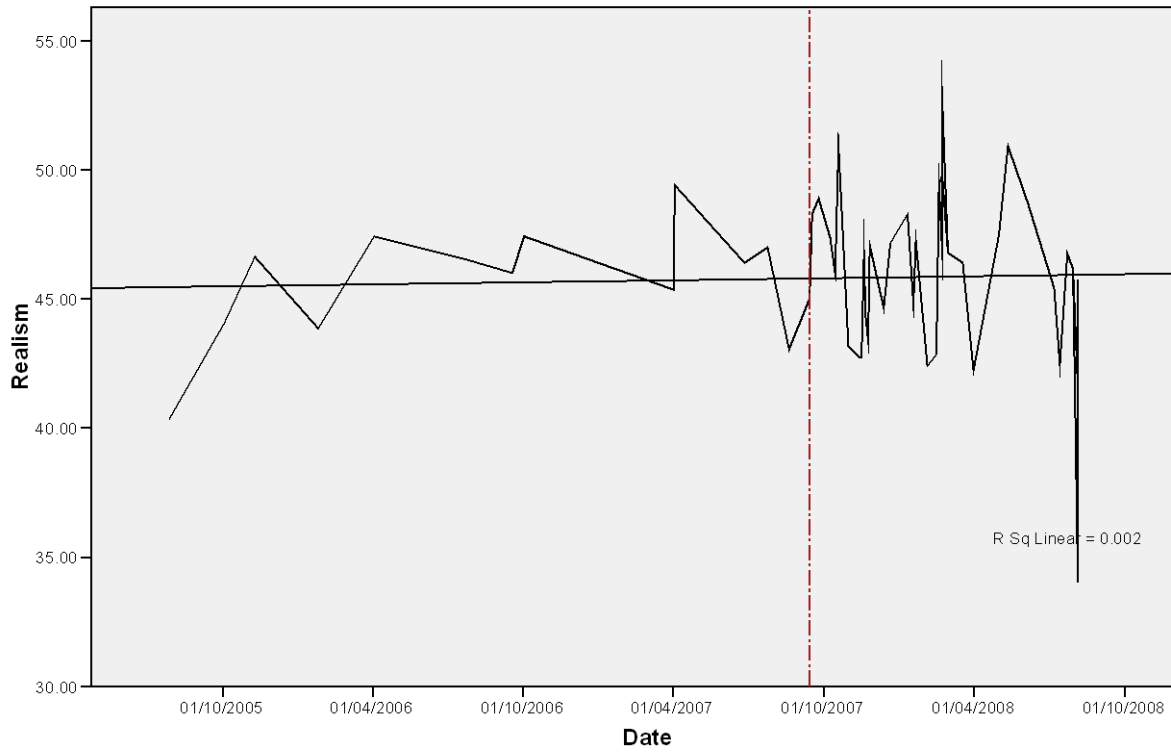
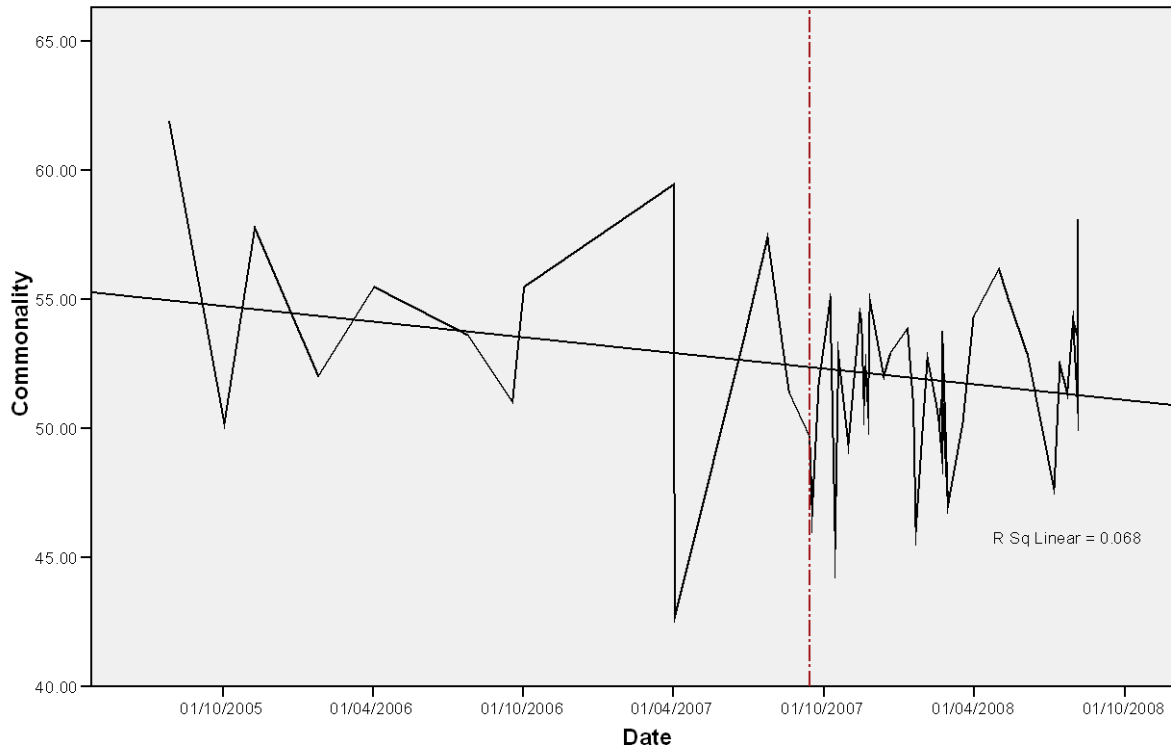**Appendix 5:** Time Series Plot of Activity Master Variable
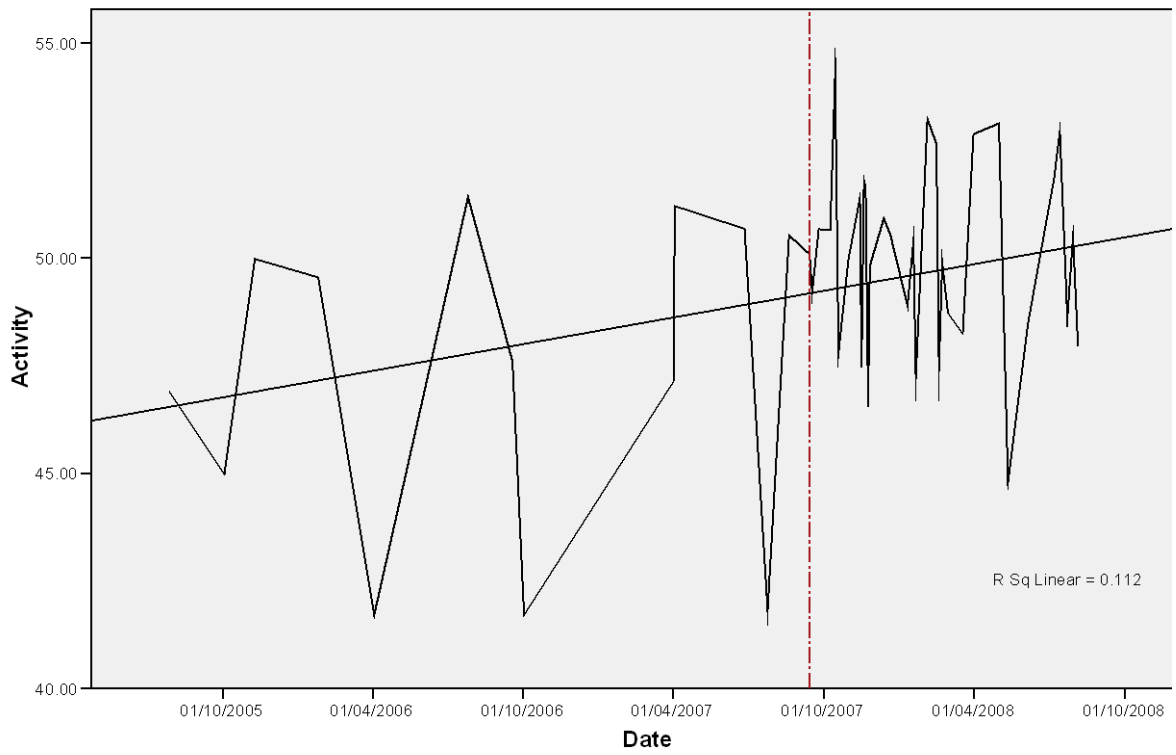
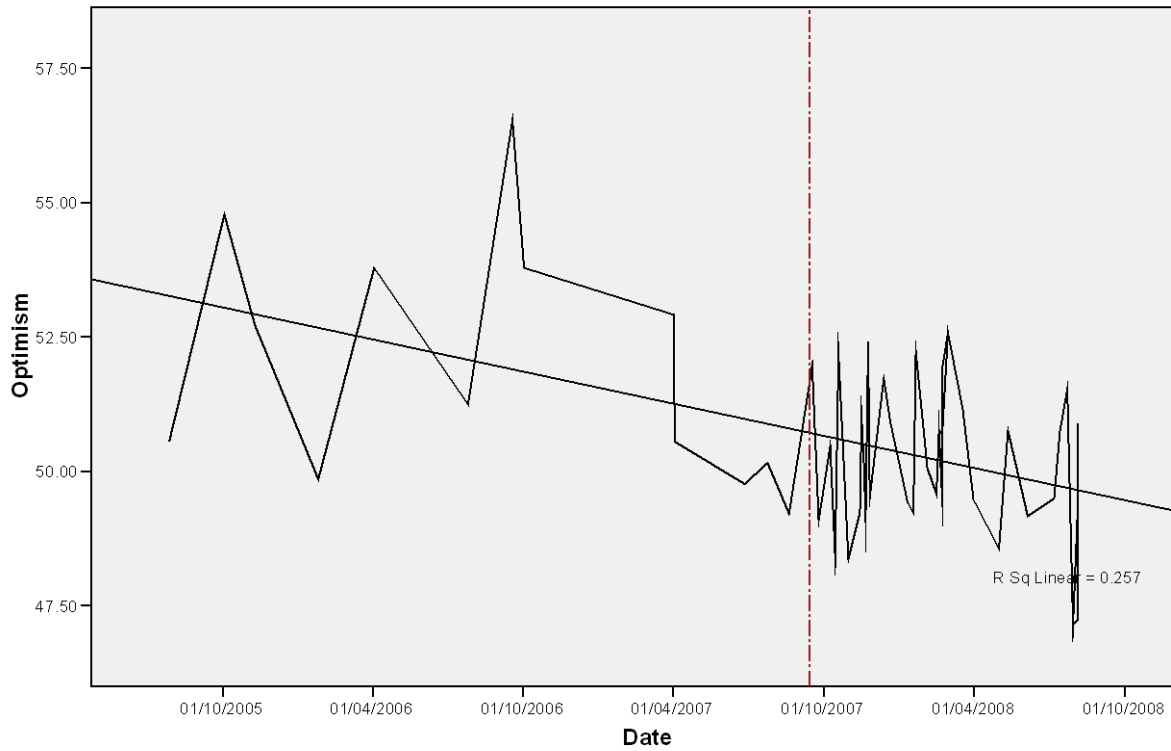**Appendix 6:** Time Series Plot of Certainty Master Variable

Appendix 7: Time Series Plot of Realism Master Variable

Appendix 8: Time Series Plot of Commonality Master Variable

Appendix 9: Time Series Plot of Optimism Master Variable

Appendix 10: Pre-crisis vs. Post-crisis Mann Whitney U Test Results

	Activity	Optimism	Certainty	Realism	Commonality
Mann-Whitney U	145.000	125.500	75.000	222.000	150.000
Wilcoxon W	236.000	791.500	166.000	313.000	816.000
Z	-2.016	-2.457	-3.601	-.272	-1.902
Asymp. Sig. (2-tailed)	.044	.014	.000	.786	.057
Exact Sig. (2-tailed)	.044	.013	.000	.793	.057
Exact Sig. (1-tailed)	.022	.006	.000	.396	.029
Point Probability	.001	.000	.000	.004	.001

Appendix 11: Pre-crisis vs. Post-crisis but Pre Nationalisation Mann Whitney U Test Results

	Activity	Optimism	Certainty	Realism	Commonality
Mann-Whitney U Wilcoxon W Z	60.000 151.000 -1.930	57.000 193.000 -2.062	36.000 127.000 -2.982	97.000 188.000 -.307	66.000 202.000 -1.667
Asymp. Sig. (2-tailed)	.054	.039	.003	.759	.096
Exact Sig. [2*(1-tailed Sig.)]	.056(a)	.040(a)	.002(a)	.779(a)	.101(a)
Exact Sig. (2-tailed)	.054	.039	.002	.770	.098
Exact Sig. (1-tailed)	.027	.019	.001	.385	.049
Point Probability	.002	.001	.000	.008	.002

Appendix 12: Pre-crisis vs. Post-nationalisation Mann Whitney U Test Results

	Activity	Optimism	Certainty	Realism	Commonality
Mann-Whitney U Wilcoxon W Z	85.000 176.000 -1.658	68.500 278.500 -2.267	39.000 130.000 -3.353	125.000 216.000 -.184	84.000 294.000 -1.695
Asymp. Sig. (2-tailed)	.097	.023	.001	.854	.090
Exact Sig. [2*(1-tailed Sig.)]	.102(a)	.022(a)	.000(a)	.870(a)	.094(a)
Exact Sig. (2-tailed)	.100	.022	.000	.863	.092
Exact Sig. (1-tailed)	.050	.011	.000	.432	.046
Point Probability	.002	.001	.000	.007	.002

Appendix 13: Post-crisis but Pre-nationalisation vs. Post-nationalisation Mann Whitney U Test Results

	Activity	Optimism	Certainty	Realism	Commonality
Mann-Whitney U	143.000	151.000	156.000	153.500	154.500
Wilcoxon W	353.000	361.000	292.000	363.500	364.500
Z	-.541	-.287	-.127	-.207	-.175
Asymp. Sig. (2-tailed)	.588	.774	.899	.836	.861
Exact Sig. [2*(1-tailed Sig.)]	.604(a)	.789(a)	.912(a)	.838(a)	.863(a)
Exact Sig. (2-tailed)	.604	.783	.906	.845	.869
Exact Sig. (1-tailed)	.302	.392	.453	.422	.434
Point Probability	.011	.006	.006	.007	.006

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